

# eBusiness

## a complete text



Colin J Holcombe

eBusiness: A Complete Text

by

Colin J. Holcombe

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by Colin John Holcombe

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## 1. INTRODUCTION

How companies succeed in the challenging world of ebusiness is the theme of this book: the business models they adopt, the programs and services they employ, and how the mix of theory, technology and business skills works out in practice. All types of ebusinesses, large and small, are covered, and the emphasis is on the practical: what specifically is done, how, and using what tools and services.

The book provides a complete course on Internet business, from broad principles to specific applications. On completing the sections, readers will be able to:

1. Satisfy the requirements for many business studies courses that cover the digital economy.
2. Grasp the underlying principles on which all digital transactions are built.
3. Read with the necessary insight the articles and studies appearing in the business and academic press.
4. Appreciate the extent and power of the evolving ebusiness revolution.
5. Assess, improve and extend any ebusiness they may be required to manage.
6. Build their own ebusiness with some likelihood of success.

Emarketers and businesses will find the book an immense help in:

1. Choosing the appropriate models for their own business.
2. Selecting the right tools and services to build or extend that business.
3. Improving the business to compete effectively.

Structure of this Book

The book has some 190 modules grouped as:

1. Social Dimensions: history, social and ethical issues of the Internet.
2. Ebusiness Prospects: B2C, B2C and M-commerce prospects

worldwide.

3. Research and Planning: what has to be researched, analyzed and written up.

4. Gaining an Online Presence: small, corporate, B2C and B2B businesses.

5. Marketing: methods of promoting the online business.

6. Technical Aspects: how Internet tools and services work.

7. Models and Strategies: business models and strategies adopted by Internet companies.

8. Learning from Others: case studies and cautionary tales.

9. Resources: technical, academic and business sources worldwide.

10. Review and Questions: questions to test the reader's grasp of sections.

## eBusiness and eCommerce

Authorities disagree in their use of these terms, but in this book, *ebusiness* refers to all digital transactions and *ecommerce* to digital transactions of a financial nature. In this simple definition, no distinction is made between transactions occurring *within* or *across* the boundaries of an organization.

Similarly, where possible, the term ebusiness etc. has been used in place of e business, e-business, and the like.

## Section Contents

## **2. SOCIAL DIMENSION**

1. Scope of the Internet
2. Business to Business Successes
3. Business to Customer Successes
4. History of the Internet
5. Regional Differences: India and China
6. eBusiness Law
7. eBusiness Tax
8. Cyber Crime
9. Cyber Wars
10. The Death of Print
11. Intellectual Property Issues
12. Online Privacy
13. Governance of the Internet
14. Welfare Issues
15. Internet Prospects

The Internet is a social arena, and therefore governed by custom, business practices and national legislation. Many conflicts between civil liberties, business and national security issues are being fought online, and their resolution may well shape the world we come to live in.

Book Contents

## 2.1 SCOPE OF THE INTERNET

So pervasive is the Internet today {21} that it's difficult to appreciate what's been achieved in twenty short years. Over a trillion web pages are thought to exist, {1} a meaningless figure until we realize that someone spending just one second on each page would need 32,000 years to surf existing web space. Beyond the accessible web lies the deep web, perhaps even larger — no one really knows what's locked away in government, institutional and business intranets and databases. {2}

### Ubiquitous

The web is everywhere. Web pages serve youngsters following their music bands, students gathering material for their essays, families following their member's activities through social media sites, journalists researching their articles, academics putting up course notes for students, the elderly looking up details of the drugs prescribed them . . . the list is endless. {20} More used than search engines for websites are emails (over 3 billion accounts {3}) and social media sites.

Beyond social media, emails, and web pages, the Internet has a host of other uses, including:

Business intelligence systems

Blogs

Cloud computing

Content management systems

Distance learning

Expert systems

Internet TV

Music & video

Search engines

Video conferencing

Wikis

### Transnational

No country is without Internet access, and the information it conveys has the potential to make the world a better informed, friendlier and more democratic place. {4} Most languages are supported: their current Internet usage is: {5}

Language	Rank	Millions of Users
English	1	536.6
Chinese	2	444.9
Spanish	3	153.3
Japanese	4	99.1
Portuguese	5	82.5
German	6	75.2
Arabic	7	65.4
French	8	59.8
Russian	9	59.7
Korean	10	39.4
Others	-	350.6

### Transpersonal

eCommerce is no longer aimed at the cost-conscious shopper or computer geek, but caters for all ages, social groupings and incomes. Examples:

1. Children: Millsberry, Candystand and KidSites.
2. Games: Online Games, Zapak and AlbinoNinja.
3. Thrift Stores: ThriftShopper, Goodwill and Salvation Army.
4. Fashion: Tiffany, Dior and Vogue.
5. Luxury: Christie's Real Estate, Sotheby's and Cruise Critic.

### Standardized

Throughout its vast extent, the Internet runs on standard network protocols. A web page created in Russia is seen in a broadly similar fashion in China and the USA, depending a little on operating system, browser and VDU settings. Mobile phones displays are more variable, reflecting differences in the HTML markup language supported.

Mobile phone access is important, expanding rapidly in countries of limited PC ownership: {6}

### Media Rich

Web pages carry text, graphics, sound and/or video files. To them can also be attached PDF, Excel and Powerpoint pages. Practically any sort of computer file can be sent FTP across the Internet, or attached to an email.

#### Interactive

Increasingly, the web is becoming interactive, with sites being created by a two-way flow of information between site owner and viewer. With social media sites like Facebook and MySpace, that information flow is multidimensional as friends add their own information and links.

The Internet has not only changed the way we do business but is slowly reorganizing the nature of societies: how they interact and view themselves.

Superficially, the world is largely as it was a decade ago. Online purchases account for only 4% of retail trade in America, {7} and though most organizations of any size have an Internet presence, often with blogs and newsletter services, much is still window-dressing, with the same attitudes prevailing in boardroom, office and factory floor. Subtly, all that is changing. Companies can no longer afford to remain faceless entities, nor ignore the customer when the competition is only a click away. A relentless public relations war is being waged, with web visitors expecting real people behind the words.

#### Information Laden

For the first time in history, information has escaped the control of government, guilds and professions, becoming plentiful, cheap and usefully accurate.

Businesses can put detailed brochures online for negligible cost. Stores give their locations online, with opening times, management staff, terms of business and returns policies. Government departments place important regulations online, including forms and frequently asked questions (faqs). Patients can access their test results online. In many

countries, companies and individuals can file their income tax reports and monthly VAT figures online, and no doubt the departments have their own expert systems for flagging suspicious entries.

Even the stigma of the Internet article is beginning to disappear. Wikipedia has none of the Encyclopedia Britannica's style, accuracy and authority, but its range is wider, material is more easily accessed, and it's free. Academics often publish on open access, {8} the more so as subscriptions {9} to scholarly journals increasingly burden library budgets. {10} In fast-moving areas of research, the biological science and medicine in particular, work can be outdated before even the reviewers finish their assessments. Researchers also write blogs, which bridge the gap between the further reaches of study and the interested layman. {11} A more democratic world.

Given only a few minutes on the web, the net citizen can trawl a wide range of public opinion, and find exactly what their MP or congressman said on a particular issue. News the mainstream press will not cover, sometimes of fundamental importance to business and everyday citizens, can be read in depth. Conservative, {12} liberal, {13} socialist, {14} economic {15} religious, local, international newspapers — all are available, many of them free. Hundreds of newspapers around the world offer online English editions, and there are many free applications {16} that will machine-code translate from most languages: not perfect, but sufficient to give a sharper picture than the US or European press may provide.

Customizable

Content and its presentation are increasingly being shaped to individual needs, particularly in business-to-business ecommerce, which is over ten times the size in revenues of the more familiar business-to-customer variety. {17} Department stores, factories and assembly plants interact with their suppliers, ensuring that parts are manufactured on time, inventories are kept to a minimum, and any unexpected

change in market expectations or supply holdups are immediately transmitted through the network, and plans updated accordingly.

#### Self Generated

Media sites enable individuals to create and share their content on a many to many basis. Such are examples of Web 2.0 sites, which: {18}

1. Rely on the self- and user-generated content of ordinary citizens.
2. Are easily searched and referenced.
3. Encourage social interaction.
4. Require broadband connectivity.
5. Attract enormous audiences (offering companies unusual opportunities for targeted selling).
6. Provide platforms for applications that may be free or fee-based.
7. Have uncertain profitabilities.

#### Change in Kind

Large fortunes are still made with novel ideas, and companies can change hands for sums unrelated to their present value, but, by and large, ebusiness is conducted on the same lines as traditional business, and similar business models apply. Indeed, it is business which is the overriding factor. As the case studies will show, many products with obvious benefits were not snapped up immediately but had to be promoted by sustained and expensive marketing, well beyond the means of the average company. Venture capital companies were necessary, small companies were acquired by larger, or companies had to be floated on the stock exchange, an expensive process, fraught with uncertainties and subject to the whims of business sentiment over which even the underwriters had little control.

Some {19} believe these features constitute a change in kind, indeed a revolution. Customers can now make informed

choices, and compare notes, in a way not possible when prices and full specifications could be withheld and choice was often restricted by geography and advertising channel. The growth of online communities also makes possible sites unimaginable two decades ago. Sites like:

#### Facebook

A very popular social media site to which users can post text, photographs and videos of themselves and friends. The site was receiving over 203 million visitors/day in June 2011.

#### Second Life

A virtual 3-D world where users create avatars that populate a world with properties, vehicles, furniture and a host of other virtual items. In the fourth quarter of 2010, over 750,000 unique users from around the globe spent more than 105 million hours experiencing Second Life while exchanging Linden dollars, Second Life's currency, worth more than \$165 million in its economy.

#### Wikipedia

A free encyclopedia, far surpassing in content commercial encyclopedia like Encarta and Britannica. Contributions must be factual and non-promotional, are produced and edited by volunteers, and no money is made by advertising. In June 2011, the English Wikipedia alone had over 3,655,964 articles: the combined total was over 1.74 billion words in 9.25 million articles and approximately 250 languages.

#### Digg

Digg is a social bookmarking system that allows users to 'tag' web pages and share the tags with others. Visitors can vote on pages, and winners are promoted to the front page of Digg, where millions can view the page and comment. The site was receiving over 3.8 million visitors/day in June 2011. {19} {20} {21}

#### Questions

1. Describe the eight features that characterize the Internet today.

2. What are the main uses of the Internet?
3. Why are smart phones so vital to the increased use of the Internet? Give some figures for likely use in 2015.
4. How is content being self-generated? Give some examples.
5. Why do some believe that the latest developments argue for a revolutionary change in the Internet? Do you agree?

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## Section Contents

## 2.2. B2B ECOMMERCE SUCCESSES

Even from early dotcom days, business to business transactions were destined to be important. 'According to studies published in early 2000, the money volume of B2B exceeds that of e-tailing by 10 to 1. Over the next five years, B2B is expected to have a compound annual growth of 41%. The Gartner Group estimates B2B revenue worldwide to be \$7.29 trillion dollars by 2004.' {1} The same article identified B2B ventures as company web sites, product supply and procurement exchanges, specialized or vertical industry portals, brokering sites and information sites.

Today, that list has expanded, and can be grouped in two categories:

Structure

### 1. Business to Business

B2B companies sell to other companies, notably:

1. E-Distributors that sell goods and services direct to companies.
2. E-Procurement companies that create and sell access to digital markets.
3. Digital exchanges (electronic marketplaces) where hundreds of suppliers meet large commercial purchasers.
4. Industrial Consortia ( industry-owned vertical marketplaces) that serve specific industries.
5. Private Industrial Networks (Private Trading Exchanges or digital networks) that coordinate the flow of information between companies that do business together.

### 2. E-Commerce Enablers

Companies that enable Internet business between companies, by supplying:

1. Computers and servers.
2. Operating systems.
3. Routers.

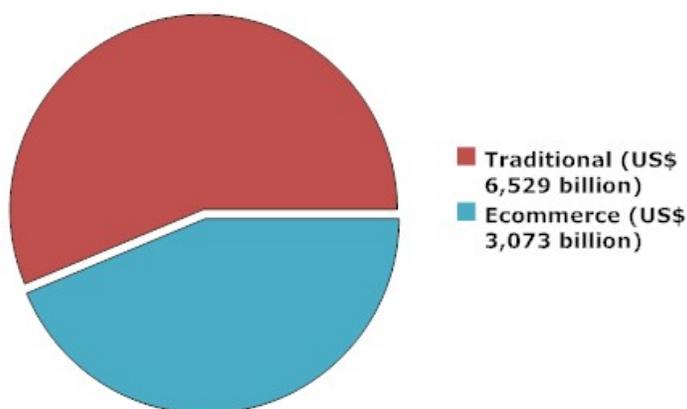
4. Ecommerce systems.
5. Customer relationship management software.
6. Encryption software.
7. Streaming and rich media software.
8. Payment systems.
9. Performance enhancement software.
10. Databases.
11. Site hosting.
12. Search engine optimization.
13. Marketing advice.
14. General ecommerce advice.

### Current Situation

That the 10 to 1 ratio is still roughly correct. The US Census Office E-Stats report of May 26, 2011 disclosed the following:

Revenues in US\$ billions Year	Total			Ecommerce		
	B2B	B2C	Ratio of B2B to B2C	B2B	B2C	Ratio of B2B to B2C
2008	11,630	10,840	1.07 to 1	3,482	292	11.9 to 1
2009	9,602	10,412	0.92 to 1	3,073	298	10.3 to 1

US B2B Revenues 2009 {2}



Also worth noting:

1. US ecommerce revenues are now appreciable: the figures for 2009 were \$3,073 for B2B and \$ 298 billion for B2C.
2. Fortunes of B2C and B2B ecommerce sectors are not necessarily linked: while the first increased 2% from 2008 to

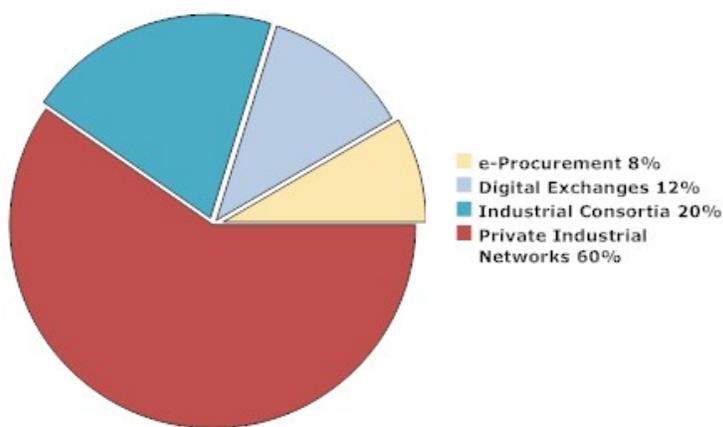
2009, the second fell by 11.7%.

2. Within the B2B sector, manufacturing made up \$1,862 billion and merchant wholesale \$1,211 billion in 2009 ( from \$2,171 billion and \$1,311 respectively in 2008).

4. Supply chain management is important: eshipments were 42% of all manufacturing shipments in 2009, up from 40% in 2008.

Accurate figures are notoriously difficult to obtain, but B2B appears to dominate ecommerce in Europe, {4} and is growing fast in emerging Asian markets. {5}

US B2B Ecommerce 2009 {3}



## Questions

1. Why is B2B ecommerce so important?
2. Give a detailed, two-fold grouping of B2B ecommerce constituents.
3. Analyze the current US electronic economy.

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## Section Contents

## 2.3 B2C ECOMMERCE SUCCESSES

Ecommerce has been outstandingly successful in five areas: media, travel, real estate, financial advice and job placement services. In no case was success easily achieved, however. Some sites had brushes with the law, many had a bumpy ride, and most needed large advertising spends.

### Online Media

The download of music files, and then video, soon became a favourite Internet pastime. Many sites — Grokster, Morpheus, Bearshare, iMesh, Kazaa and other — were illegal, and shown so by the US Supreme Court in its June 2005, and have gone out of business. {1} Even the owners of Pirate Bay, located in Sweden, were found guilty of violating Swedish copyright law, and sentenced to fines and custodial sentences by the First Swedish Court of Stockholm in April 2009. {2} Apple iTunes, {3} Amazon {4} and others have made music and video files easy to purchase, but millions, young people in particular, continue to use illegal Peer to Peer networks. {5}

### Online Travel

Online travel companies are transaction brokers, providing not just hotels and transport but complete vacation packages. Traditionally the suppliers — large airlines, cruise operators, hotel chains, car rental services — did not sell directly to the public, but through intermediaries called global distribution systems (GDSs), who in turn sold to travel agencies. GDSs bought reservations in bulk, sold on their ‘inventories’ at large markups to travel agencies, who sold individual packages to the public at further though generally smaller markups. {6} Several business models applied, but online travel companies generally offered cheaper rates by putting the public directly in contact with suppliers, cutting out two levels of middlemen. {7}

The larger online travel companies (TripAdvisor, Yahoo Travel, Expedia, Travelocity, Priceline, Orbitz, etc.) receive

millions or tens of millions of visitors monthly {8}) and are companies with considerable financial muscle. Even the less-well-known have large websites, with information updated automatically in realtime. Simple exercises with keyword programs show this clearly. For the search phrase ‘Flights from New York’ there are 42 searches made each day, for example, and the number of competing sites is 980. {9} The top-ranking five sites have these statistics: {10}

Site	Google Page Rank	No. of Referring Domains	Total Backlinks to All Pages on Site	No of Pages Comprising Site {11}
Expedia	5	180,711	105,142,012	982,000
JetBlue	7	45,483	2,094,815	1,180
Tripadvisor	6	280,096	85,328,646	55,800,000
Travelocity	3	116,893	30,781,704	107,000
Cheapflights	5	43,714	2,900,761	3,250,000

## Online Real Estate

Real estate is big business. The USA had 130.6 million housing units in 2010, of which 6.3 million were for sale or rent. {11} Real estate brokers and sales agents numbered some 518,000 in 2008, {12} and real estate advertising spend was

\$20.2 billion in 2010. {14} In 2008 alone, the US government allocated over \$900 billion to special loans and rescues related to collapse of the housing market. {15}

Online real estate sites not only gave potential purchasers a ready access to information on prices — plus local amenities, schools, etc. through Google earth — but galvanized estate agents into offering more professional and flexible services. {16} {17} {18} Simple exercises with keyword programs are again helpful. For the phrase ‘New York Real Estate’, there are 131 searches made each day in the US, and the number of competing sites is 4.4 million. {9} The top-ranking five sites have these statistics: {10}

Site	Google Page Rank	No. of Referring Domains	Total Backlinks to All Pages on Site	No of Pages Comprising Site {11}
Elliman	5	5,629	251,888	161,000
New York Times	8	1,344,024	313,842,649	4,250,000
Trulia	6	108,162	19,798,732	47,800,000
Halstead	5	7,234	227,277	10,500
Corcoran	6	14,037	7,011,769	316,000

## Online Financial Services

Once financial data was readily available, the stage was set for cheap electronic transactions. {20} The companies that prospered were the first movers, companies like Ameritrade, Datek, E\*Trade and Schwab. Acquisition costs were high in the early days, but have fallen as online companies were joined by traditional brokerages. {21}

Today's companies are large, efficient and highly competitive. For 'Financial Services' there are 627 searches made each day in the US, and the number of competing sites is 17.7 million. {9} The top-ranking five sites have these statistics:

Site	Google Page Rank	No. of Referring Domains	Total Backlinks to All Pages on Site	No of Pages Comprising Site
Primerica	5	15,478	308,552	24,300
Wikinvest	4	31,406	1,863,174,903	3,380,000
Financialservices	6	1,345	8,169	989
FRBServices	6	6,644	241,416	2,390
ING	6	1,477	8,401	4640

{10}

## Online Employment Agencies

Another early beneficiary of the web were job placement companies, in which, as in financial services, there has been much consolidation, with the larger companies outdistancing their smaller rivals. Today's companies are highly diversified {22} and make extensive use of selection software. {23}

## Factors for Success

Nothing succeeds like success, and today's thriving B2C online businesses:

1. Empowered customers, giving them direct access to information that was previously restricted, available for a fee or commission.
2. Cut out middlemen and their profits.
3. Started early, aimed for market share, and invested in technology as it became available.
4. Have large, well-designed and -staffed websites that are beyond the resources of the average company. {19}

#### Questions

1. List five areas in which online businesses have been particularly successful. Suggest why.
2. You're assessing the business plan of a new entrant into the online travel sector. Where would you be especially critical?
3. How could a new online real estate company be successful in today's difficult economic climate? What business model might be successful?
4. Your online brokerage company is losing customers. How could you compete with the big boys, and what sort of budget might be required?

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Section Contents

## 2.4 HISTORY OF THE INTERNET

The Internet began with research of a peculiarly theoretical nature: how to send information efficiently over networks so the information got to its destination without being scrambled, attenuated or lost. That achievement is the fruit of communications science: a highly technical field needing a good grasp of advanced mathematical procedures. {1} {2}

The long road to success needs to be emphasized. No one envisaged the Internet in its first phase of development. 1961 to 1974 was a period of innovation, driven by pure and applied research, and the need to link mainframe computers on separate university campuses.

What galvanized the US Government were the security issues. A simple circuit of information centres was vulnerable to terrorist or nuclear attack. Knock out one section, and whole circuit goes down, leaving battle commanders literally in the dark. Much better would be a diffuse network of circuits, with inbuilt redundancies continually offering different pathways for information. {3} The period 1975 to 1995 was therefore one of institutionalization. Funded by the US Department of Defense and the National Science Foundation, development was directed towards a military communications system robust enough to survive a nuclear war. In 1986, the NSF assumed responsibility for the resulting ARPANET (Advanced Research Projects Agency Network), and spent \$200 million over the following ten years to create a civilian equivalent.

1995 onwards saw the commercialization phase in which government agencies encouraged private corporations to expand the Internet backbone and extend services to PC owners: individuals, private institutions and business. Profit and market share were the driving forces.

USA eCommerce from 1995

The USA forged the ecommerce revolution, and still leads in ecommerce services, software and entrepreneurial skills. Phenomenal successes have been mixed with spectacular failures, and if the overall picture is complicated, there is much in the American experience to provide lessons and pointers. {4} Ecommerce started in the mid-nineties, accelerating rapidly through 1999, when large sums could be raised for nebulous and untested notions. Shares traded at unsustainable levels {5}, making fortunes for ecompany bosses and canner investors. {6}

The bubble burst in early 2000, when shares tumbled to a fraction of their previous values and funding ended. The eighteen months to late 2001 were tough for most concerned, whether emarketers, investors or financial institutions, and were exacerbated by the US recession. Of the estimated 7-10 thousand Internet companies receiving funding to 2000, some 501 were shut down in 2001, and another 1283 taken over. {7} Nonetheless, online revenues increased {8}, even if profit did not. Gradually, in one group or another, it became apparent ecommerce was surviving {9}, even picking up. {10}

Then came September 11<sup>th</sup> and corporate accounting scandals. The ecommerce recovery continued, but with patchier results in the business to customer sector. {11} Marketing reports continued to be optimistic, with Forrester predicting worldwide online revenues of 3.2 trillion US dollars by 2004 {12}, for example, but these were reigned back to the sensible: to \$105 billion by Jupiter Research in 2003. {13} The hype was over, but ecommerce remained an essential and growing part of the US economy.

#### USA Lessons Learned

Successful ecompanies fell into several categories. There were those who became market leaders — Amazon, Cisco — by starting big at the right time, and by continuing to invest heavily in technology. There were those with forward-looking managements that have brought in customer relationship management and supply chain management technologies,

with corresponding staff reorganization and training: their reward was better-run enterprises, with cost savings and increased competitiveness. There were companies, large and small, that have moved their business online, building on existing supply relationships and customer services. And there were those who have brought new businesses online by exploiting market niches and local trading situations. Few of these developments were without difficulties, and some are still learning to adapt to a new and ever-changing environment.

For an unhappy majority of larger companies, however, ecommerce was a frustrating affair. If their websites had not actually lost money, they hadn't fulfilled expectations either, nor repaid the considerable money and effort expended. Lessons were hard earned, and perhaps were obvious from the beginning, {14} but the experience was not being thrown away. Ecommerce continued, but with phased objectives, and sounder notions of costs and benefits.

That left the smaller companies. Some followed the herd and were swept up in the 1998-2000 dotcom land-rush. Some simply thought they'd 'have a go', unaware that ecommerce is anything but easy money. They underestimated the expertise and management effort needed to get the website right, not to mention maintaining and developing it. Capital was cheap, and financial control never caught up. The websites usually achieved orders, but the fulfillment process was painful for everyone. Some ebusinesses were developed for sale, but the dotcom era ended before they could be brought to market. And software houses that were light-years ahead woke up to find themselves suddenly dead when orders and financing evaporated. {15}

But once ecommerce had been shown to work for some, debate turned to how, to what areas, and with what success. {16} Gradually the obvious truth emerged that ecommerce is a business like any other business. {17} Amazon notwithstanding, ecommerce companies had to watch the bottom line. Success came slowly. Effort, planning,

knowledge, experience, commitment and resources were all essential. {18} The one advantage ecommerce possessed was its supporting medium, the Internet, which provided information, case histories and guidance for those who had the sense to use them.

Largely unreported outside specialist websites was the growth in business to business ecommerce, which went through many painful developments, but eventually paid its way, its revenues coming to dwarf those of B2C ecommerce. {19}

European eCommerce from 1999

Europe started slowly. Though the area had the potential to reach \$1.6 trillion in online trade by 2004, Forrester {20} estimated in 1999, the region had been slow to adopt the necessary site personalization, channel integration and technology.

The best of European ecommerce sites were as good as their American counterparts, but many — probably the majority — were lost money in the period 2000-02. Indeed, a survey by the British Chamber of Commerce {21} suggested that three-quarters of smaller firms and more than half of medium ones surveyed had seen no return on the £1,000 to £100,000 spent on their ecommerce site. Only a tiny fraction of retail sales were made online, and many visitors were only window-shoppers. {22}

Country	Ecommerce as % of total retail sales	Country	% Online window shopping	Country	% Internet users buying online
Sweden	0.68	Finland	28	Sweden	27
UK	0.37	Netherlands	28	Norway	26
Netherlands	0.34	Sweden	23	UK	22
Germany	0.30	Norway	22	Germany	21
Belgium	0.16	Spain	16	Netherlands	18
France	0.14	France	14	Finland	16
Italy	0.09	Germany	14	France	8
Spain	0.06	Italy	14	Spain	8
Portugal	0.06	UK	13	Italy	7

Problems included:

1. Language barriers.
2. Multiple currencies, somewhat eased by adoption of the Euro.
3. Differing tax and VAT regimes.
4. Uncertainty over current and pending legislation on ecommerce taxation.
5. Lack of cross-border, logistical support.
6. Poor IT infrastructure.
7. Conservative banking attitudes.
8. Restricted choice of software, payment service providers and merchant account providers.

Much of that changed in the following few years, but the July 2002 Economist Information Unit {23} could still rank preparedness for ecommerce in Europe as follows (USA scoring 8.41)

Country	Index	Country	Index	Country	Index
Netherlands	8.40	Norway	8.17	Greece	7.03
UK	8.38	Austria	8.10	Portugal	7.02
Switzerland	8.32	Ireland	8.02	Czech Republic	6.45
Sweden	8.32	Belgium	7.77	Hungary	6.05
Denmark	8.29	France	7.70	Poland	5.52
Germany	8.25	Italy	7.32	Slovakia	5.00
Finland	8.18	Spain	7.07	Romania	4.00

Europeans spent an average of €430 online between August and October 2002, only slightly less than the €543 per head spent by Americans over the same period. {24} The three years following saw the UK and Germany emerge as ecommerce leaders in Europe, the larger companies lagging a year behind those in America. {25} {26} Outsourcing continued to accelerate, with the level of deal activity rivaling that in the US. The UK still stands out as Europe's dominant market, but outsourcing has gained ground in Germany, Spain, and France. {27}

The Economist Information Unit updated their rankings in 2005 to include such matters as broadband access, innovation and the penetration of mobiles and public-access wireless ‘hotspots’. Preparedness for ecommerce in Europe then stood as follows (USA scoring 8.73): {28}

country	index	country	index	country	index	country	index
Denmark	8.74	Germany	8.03	Portugal	6.90	Slovakia	5.51
Sweden	8.64	Austria	8.01	Estonia	6.32	Latvia	5.11
Switzerland	8.62	Ireland	7.98	Slovenia	6.22	Lithuania	5.04
UK	8.54	Belgium	7.71	Greece	6.19	Bulgaria	4.68
Finland	8.32	France	7.61	Czech Republic	6.09	Romania	4.19
Netherlands	8.28	Spain	7.08	Hungary	6.07		
Norway	8.27	Italy	6.95	Poland	5.53		

The average UK online shopper would spend €1,744 online in 2006 and €2,410 in 2011, driving UK eCommerce from €43bn in 2006 to €76bn in 2011, a Computing report predicted, {29} and a RNCOS report entitled *UK Supermarket Analysis (2007-2010)* found that online sales in UK were expected to account for more than 19% of the combined retail sales by 2012, exceeding £62 billion. {30} In general, however, European ecommerce lagged behind its retail counterparts in the US. {31}

Then came the recession, which threw most forecasts into the melting pot. Nonetheless, a Forrester Research report noted that European online retail sales grew 18% in 2010, and would grow 13% in 2011, reaching €92bn. Some 72% of the British online population shopped the web in 2010, amounting to €30bn, a €5bn increase from 2009. {32}

#### eCommerce in Other Countries

Each country and political block has seen its own pattern of Internet and ecommerce growth. Generalizations are difficult, much depending legislation, government initiatives and local enterprise. Any western company entering these markets will need to purchase specific marketing reports (which do not generally provide free summaries now, and/or maintain them

long online), undertake detailed studies in their own market sector, and find local representation.

### US Development Phases: Summary

DEVELOPMENT OF THE INTERNET		
YEAR	EVENT	SIGNIFICANCE
1961-1974	INNOVATION PHASE	
1961	Leonard Kelenrock's paper on 'packet switching'.	Packet switching concept introduced.
1972	Email invented by Ray Tomlinson and program written by Larry Roberts.	Email application born.
1973	Bob Metcalf devises Ethernet and LANs.	Client/server computing born: XeroxPark Labs use LANs.
1974	TCP/IP protocols proposed by Vint Cerf and Bob Kahn.	Networking independent of hardware now possible.

### Questions

1. Briefly describe the three phases in the development of the Internet.
2. Provide a brief history of American ebusiness over its last, commercial stage.
3. How does the European history of the Internet differ from that of America?
4. What are the difficulties in predicting Internet use in different countries? Give some examples.
5. What, in your view, are the most important Internet developments of the last five years?

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#### Section Contents

## 2.5 INDIA AND CHINA

Differences in government initiatives, infrastructure, business experience and culture intervene to make e-business vary with the country concerned. China with India offers an instructive comparison, the world's largest communist country with the world's largest democracy. Both have large and growing Internet populations. Both face immense problems of poverty, and inequalities between urban and rural Internet access. Both were exposed to the technology at about the same time, but have taken different paths to implementation. China was ahead of India in IT skills and infrastructure, but thought to be behind in e-readiness. {1} The global slowdown has changed expectations, however, and with internal investment {21} has come a rapid growth in Chinese e-business in selected areas. {2} {10} {19} The broad picture in 2010-11: {4} {5}

Country	Population (millions)	Internet Penetration	GNI Per Capita
USA	313	78.2%	\$47,020
India	1,189	8.4%	\$3,560
China	1,338	36.3%	\$7,570

### Infrastructure

China developed the Internet in three phases. From 1987 to 1993 only a few scientific research institutions were allowed access. From 1994 to 2002 the access was widened, and the government encouraged electronic government, electronic business, distance education, distance medical treatment, and a digital library (the country adding 106 million landlines, 163 million cell phone subscribers, and 36 million new cable television subscribers). From 2002, most services were available to Chinese citizens. {3}

In contrast, India added only 15 million land-lines between 1999 and 2002, and there are considerable disparities between states. Outsourcing to India of call centres further stretched the infrastructure to breaking point in many cities, causing power outages, increased IT costs, and a need for

qualified graduates. Although Prime Minister Vajpayee proclaimed that 'IT is India's tomorrow' as early as 1998, and the government promoted several initiatives to help connect rural villages, including small-scale rural telephone exchanges and very low cost computers (SIMPUTER: hand-held and battery-operated) accessible to poor, often illiterate users, the Internet models are beginning to look quite different from those in industrial countries. {3}

### Regulatory Policies

Chinese universities joined the Internet six years after those in India, but policy makers soon realized its potential. {3}

Businesses were also encouraged to be competitive in world markets, and there are today more Chinese Internet users than north American. Government regulation is more intrusive in China than in India or the USA, and censorship apparent. Internet penetration in urban areas was six times of that in rural areas in 2006, and the disparity was expected to continue as employment concentrated in manufacturing areas. {3}

India is a country of rapid growth, and one well known for call centres, online business support, and IT skills, but Internet use lags considerably behind that of China, despite low-cost broadband access and cheap computers. The government has encouraged the development of the Internet and information technology through various incentives, however, and by exempting the industry from burdensome regulations and controls. Some 23% of its budget was allocated to IT development, solar power encouraged, and cyber-cafes located near railway stations. Unfortunately, while Internet backbone costs have dropped, last mile costs remain high. Government is less controlling in India, and rather than urge 'leapfrogging' over western experience, may act more as a catalyst in developing sustainable industries that fit local conditions. {3}

### Cultural Issues

Business in both China and India is traditionally much more person-to-person than in the west, and additionally suffers from mass poverty, illiteracy, and (in India particularly) endemic corruption.

For reasons of national pride and prestige, China has focused on increasing the number of people using the Internet. A much smaller fraction of India's population has taken to the Internet, but that part is well-educated, media-savvy, youngish and generally middle class. {3}

Chinese cultural characteristics that influence IT adoption include a preference not to live in debt, a desire to touch and feel articles before buying them, a fear of a disappointing shopping experience, security issues with providing credit or debit card numbers to strangers, and an ineffective distribution system where purchased items can be delayed or lost in transit. Entrepreneurship is more acceptable in India, and the poverty-stricken rural areas are being targeted for IT development, women in particular being encouraged to develop web-based businesses. {3}

### Web Pages

China and India use different languages and different Internet search engines, though the Chinese online marketplace Alibaba has recently entered the India market. {7}

Chinese and Indian web pages tend to be livelier than their western counterparts: more crowded, brighter colours, less regimented. Even the colours have different connotations: {8}

Colour	China	USA
Black	death, darkness, glory, winter, north	death, darkness, mourning
White	bad luck, mourning, age, autumn, west	cleanliness, hygiene, virginity
Red	joy, wealth, summer, south, (and recently) government, authority	danger, forbidden, war, sexuality
Yellow	emperor, earth, middle kingdom (and recently) pornography	caution, envy, avarice, cowardice
Blue	cold, illness	sky, water, reliable, authentic, corporate integrity
Brown	misfortune	laziness, old fashioned
Grey	cheap, dull	elegance, sobriety
Gold	royal, wisdom, perfection	money, sun, friendliness
Green	life, vitality, springtime, east	nature, hope, environmentally friendly

Ranking	Use	Percent	Ranking	Use	Percent
1	Online music	86.6%	9	Blog / personal space	23.5%
2	Instant messaging	81.4%	10	Online shopping	22.1%
3	Online video	76.9%	11	Online banking	19.2%
4	Search engine	74.2%	12	Online stocks / fund management	18.2%
5	Online news	73.6%	13	Online education	16.6%
6	Internet games	59.3%	14	Online payment	15.8%
7	Email	56.5%	15	Online job hunting	10.4%
8	E-government	25.4%			

## Internet Habits

Indians prefer email and surfing to online shopping, being generally reluctant to use credit cards. {3} Chinese users are predominantly young (18-30) and with high school education: their preferred use of the Internet is: {8}

## Mobile Phones

Chinese mobiles are generally lower-end second-generation, but a host of Chinese companies are launching self-developed smartphones. {16} Mobile phone use and predictions are: {9}

Country	2009 PCs in use (millions)	2009 SIM cards (millions)	Predicted 2015 SIM cards (millions)	% Compound annual growth in SIM card use 2009-15
USA	283	279	372	5%
India	55	507	953	11%
China	267	769	1,151	7%

## eCommerce

Travel {11} and electrical goods are the main market sectors for Indian ecommerce, but there is increasing interest in jewellery and textiles, {12} and in health and beauty products, cars, real estate and investment. {11} eBay had over 13,000 registered Indian companies in 2011, and Amway India, part of the \$9.2-billion US-based direct selling company, was finalizing plans for a new manufacturing base in 2011. {12}

Online sales in China reached 4.5 trillion yuan (\$684 billion) in 2010 {14} {17}, and are expected to rise steeply. {18} eBay sales alone in the Asia-Pacific region attained \$4 billion, the top five categories sold by eBay mainland Chinese sellers being clothing and accessories, jewelry, gems and watches,

mobile phones and accessories, computers and consumer electronics. {15}

### Challenges

To the usual business problems in China and India — lack of business trust, an indifferent delivery system, officialdom and government corruption — ebusiness brings added challenges. Rural sections of the country have little or no Internet access. Where access exists, it can be relatively costly. Overseas IT investment is restricted and/or regulated by political considerations. Internet payment providers are few and not wholly trusted. Ecommerce does not distinguish between goods and services, creating tax difficulties. Cyberlaws are still under development, and some provisions are controversial. Each country has its own business culture, which may not transfer easily to the net. In many rural areas, the pressing concern is not business but basic survival. {6}

### Questions

1. Outline the main differences between China and India in their histories of ebusiness.
2. What are the main uses of the Internet in India?
3. How have international developments changed ebusiness in China?
4. Compare ebusiness in China and India now.
5. Describe a recent important ebusiness development in China and India. Why are they so different?

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## 2.6 EBUSINESS LAW

Like any other business, ecommerce is governed by law and accepted practice. The cross border nature of the Internet has added a new layer of difficulty, however, and many issues are still awaiting resolution. The resources below are not exhaustive, and very far from providing adequate summaries of the legal position — which of course varies from country to country. Naturally, even the detailed information provided in these sites does not supersede expert advice, but does show how the law tends to regard the issues, which in turn should companies to:

1. Keep well within the law in the first place.
2. Know how seriously to take threats of litigation from disgruntled competitors.
3. Prepare the case before seeing their lawyers.

### Ethical Issues

The three strands of ethical decisions are:

1. Responsibility: individuals, companies, institutions and governments act as free moral agents, and are therefore responsible for their actions.
2. Accountability: those individuals etc. can be held accountable to others for the consequences of their actions.
3. Liable: those individuals etc. are subject under law (due process) for the consequences of their actions.

Law is a complex matter, but a company venturing into uncharted waters may get some handle on the consequences by grouping questions into these categories:

1. Who or what will be harmed, precisely, and to what extent?
2. What social, ethical and/or political values will be called into question?
3. Who has an interest in the outcome (stakeholders)?
4. What other options are open, and could be sensibly taken?

5. Is this the sort of action that could be consistently taken by all parties at all times?

Few actions benefit everyone, but a red flag will be raised by:

1. Injuries in category one that are insufficiently outweighed by benefits to them and third parties.
2. Infringement of values in category two that seem likely to damage a company's public standing.
3. Stakeholders in category three who are numerous and/or powerful.
4. Sensible alternatives not been taken in category four.
5. Any action in category five.

## Contracts

Companies expect web designers etc. to honour their contract, and so need to check before signing that all aspects are covered, and that adequate arbitration procedures exist for the disagreements that may arise. The contract should cover:

1. Description of assignment.
2. Timetable and penalties for missed deadlines.
3. Payment schedule.
4. Copyright and data ownership.
5. Warrantees: guarantees that site will perform as planned.
6. Confidentiality of information.
7. Non-solicitation agreement.

Large software houses typically make thousands of contracts, sometimes without a proper negotiation that brings together the requisite level of skill, knowledge of the law, market savvy, risk analysis, and sales psychology. {22} Nonetheless, contracts are legally binding promises based on the idea that making commercial promises enforceable is both fair and beneficial to society. Contracts serve two purposes. Firstly, they act as a guidebook for the parties concerned, who periodically consult them to learn their rights and determine what actions are required or optional, allowed or forbidden.

Secondly, they act as legal rules for a judge, jury, or arbitrators in deciding a dispute between the parties and awarding legal remedies. As such, contracts can make or break a company, and need to be written intelligently, specifying fully what needs to be specified without locking the parties into fruitless litigation. More detailed treatments {1} will show how very complicated contracts can be, and costly in damages for noncompliance and/or litigation fees. Standard contracts (cheaply available on the Internet) may be an expensive economy.

Consulting contracts deserve special scrutiny, as a 1997 study found that IT managers considered over 60 percent of their IT development projects to be 'unsuccessful'. {22} A great deal needs to be tied down exactly, particularly the warranties and who owns what on project completion. Offshoring to India or China increases the need for caution, fairness, escrow services, assessments, let-out clauses, testing and intellectual property considerations.

Licensing in some areas of software development (e.g. Salesforce) is being replaced by services, requiring yet another form of contract.

## Copyright and Intellectual Property

Though more observed in the breach, most material on the Internet is copyright-protected — images, designs, music and video clips. Ideas and information cannot be copyrighted, only their particular expression, but companies will certainly get an attorney's letter if they lift large sections of text from other sites.

## **Data Protection and Privacy Policy**

Companies are responsible for keeping customer credit card information secure if payment is not wholly handled by a credit card processing agency. Equally demanding, and good deal more perplexing, is complying with the data protection legislation that the EEC seems determined to foist on

ecommerce merchants. Many UK companies are probably breaking the law, though prosecution seems a long way off.

## **Domain Names**

What happens if the domain name you've crafted your site around turns out to be the trademarked product of someone else? You were granted the domain by the relevant authority, but that doesn't mean you can legally use it. Check trademarks first. Look carefully at domain names similar to yours, particularly those of public companies. You may be able to convince the courts that you had a prior claim, but you won't want the hassle or legal fees. To avoid diluting their Internet name, companies generally acquire the .net and .biz domains as well as the .com.

## **Privacy Statements, Etc.**

Websites need full and accurate privacy statements. Also essential are terms of use, copyright notices, checkback clauses, guarantees and/or shipping costs on ecommerce sites, and standards of behaviour on blogs, bulletins and chat sites.

## **Open Source**

Open source, an alternative to the proprietary licensing model, is an increasingly popular licensing and distribution method that grants a:

1. License to the source code for a program along with the binary version.
2. License to make derivative works using the source code without paying a license fee.
3. License to make and distribute unlimited copies of the program, including the source code, the binary product, and derivative works without paying a license fee.

Errors and security 'holes' are more easily fixed by this licensing method, and users are less dependent on an original licensing company. Open source is not free of license control however, and this specification of what can and cannot be done with the software (often involved) takes many forms. Terms and conditions need to be read very carefully if

companies are to retain ownership of what they built in good faith with such software.

## **Encryption**

The EEC and UK Government proposals continue to restrict the use of encryption in emails.

## **Linking**

It's a courtesy but not a legal requirement to ask permission before adding a link to the home page of another site. If by linking to a specific page and not the home page (i.e. deep linking) a company bypasses information that the website owners regard as vital (e.g. promotions, advertisements, disclaimers) it is essential that the source remains clear. Ditto for framed pages, or the owners may attempt to sue.

## **Meta Tags**

Companies may be tempted to include a popular site's domain or brand name in their keywords metatag. Don't. It may increase their traffic, but the courts have taken a dim view of this practice.

## **Defamation**

Owners of websites are generally immune from defamation (libel) suits for user-supplied content in posting such as blogs and chat. {22}

## **Disclaimers**

Companies should add a disclaimer to their site if they don't want to be sued in matters beyond their control.

## Data Privacy

In general, US companies will be complying with privacy legislation if they:

1. Provide users with the fair disclosure regarding web and Internet collection of personal data.
2. Are honest with Internet users, have an adequate privacy policy, and actually do what they promise.
3. Follow the special (and very strict) laws relating to children under 13.

4. Follow special rules that may apply to regulated industries such as banking and health care.
5. Follow any state laws that may apply.

#### Disclosure

No representative of an organization can reveal material information to a select audience in violation of rules laid down by Government bodies, which is the SEC (Security and Exchange Commission) in the States. {25} Fairness is the keyword. By 'material information' is meant anything that could affect the organization's financial condition, ranging from quarterly earnings to new product information. When material is disclosed, that material must be disclosed simultaneously in the case of intentional disclosure, and promptly in the case of unintentional disclosure.

#### International Considerations

Because US companies can be sued in a foreign company for breaches in national legislation, contracts need to be drawn up in cooperation with legal specialists in the countries concerned. VAT and local taxes are usually the responsibility of the purchaser, but licensing arrangements, withholding tax, duties of a sales agent and a host of other matters again need planning and sensible contracts. Export controls may also apply if products:

1. Threaten US national security, e.g. aerospace, defense, nuclear, or robotics
2. Involve advanced technologies that may have defense or intelligence applications.
3. Include any form of encryption.
4. Are destined for countries where trade sanctions are in force: Angola, Cuba, Cote d'Ivoire, Iran, Iraq, North Korea, Sudan, Liberia, Zimbabwe, Sierra Leone, Syria, and Myanmar.

#### Questions

1. Provide three rules of thumb regarding the law as it applies to the Internet.
2. What should a contract with a web design or programming company cover?
3. Name six areas relating to intellectual property on the Internet.
4. How would you be wise in using any material apparently available for free on the Internet?
5. What do you understand by data privacy, and how does US legislation compare to that of France?
6. Briefly describe the legal considerations that apply to US companies with international business contacts.
7. Provide a checklist that a website is complying with US law.

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## Section Contents

## 2.7 eBUSINESS TAX ISSUES

Companies are affected by a multitude of tax issues, but online businesses commonly need advice in two areas: corporation tax and sales tax (or VAT in European companies). Sources are listed below, but companies will also need expert opinion from time to time, which, if not cheap, avoids being stung later with fines and court fees. Local tax offices can also help, at least in clarifying a company's tax obligations as the state regards them.

Sales tax and VAT are generally written into the shopping cart, which may need to be amended for changes in rates or unusual situations. {16} {17}

### Corporation Tax

Countries like the British Virgin Islands offer an offshore status that provides a very advantageous tax situation. Should you register your ecommerce business offshore? That's perfectly possible, but you won't escape USA (or European) tax liability unless your whole business is transferred abroad. You will still fall under 'US residence jurisdiction' if your company retains an office, property, employee in the USA, or even a traveling representative who is resident for extended periods in the USA. You could even find yourself facing double taxation, levied in the 'tax haven' and in the USA. Tax experts may give you varying advice, but for an unbiased opinion on the US scene it's essential to consult one residing in the USA, as it's a criminal offense to help a company or individual evade US tax.

Needless to say, you are even less likely to win your court battle with the revenue authorities if you simply rent an offshore server to host your website. Or if you act as US middleman in goods and services traded between Asian countries. US companies and individuals pay US tax on their earnings worldwide, subject to certain allowances and reciprocal tax arrangements. Finally, of course, whatever you

do, you must keep proper records, or Uncle Sam will estimate a tax liability for you.

Other countries have a similar residence jurisdiction, incidentally. Subject to any double tax treaty, a company is charged UK tax: {13}

1. On the worldwide income of a company incorporated in the UK, and
2. On the income arising in the UK of any company not tax-resident in the UK.

A company incorporated outside the UK may also be UK tax-resident if it is 'centrally managed and controlled' from the UK. HM Revenue & Customs takes the view that neither a website nor a server of itself signifies a permanent establishment, but other OECD Member States see matters differently.

### Sales Tax

Sales tax applies in 45 US states, and is imposed on the buyer and collected by the seller when 'nexus' or sufficient contact exists between the locations of buyer and seller. The Internet has complicated matters enormously, as a seller in one state may purchase through a website hosted in a second state from a seller located in a third state an item of merchandise that is warehoused in a fourth state. Who pays the sales tax, and to which state? It was to avoid multiple sales taxes, and prevent states levying extra taxes to compensate for lost revenue, that Congress introduced ITFA, or Internet Tax Freedom Act. Passed in 1998, the Act has now been renewed. The key words are extra or multiple taxes. Existing sales taxes still very much apply, but ecommerce can't be burdened with new taxes. The situation is broadly as follows:

1. Buyer and seller located in the same state: seller collects the sale tax for the buyer and remits to the state.
2. Buyer and seller in different states where the seller has a presence (office, warehouse, employee, or representative) in the buyer's state: seller again collects sales tax on behalf of

the buyer and remits to the buyer's state.

3. Buyer and seller in different states where the seller does not have a presence in the buyer's state: buyer has the responsibility of paying sales tax to his state.

#### Value Added Tax

European countries have their own nuisance tax: VAT or value added tax. Rates and terms of application are still not 'harmonized' across the EU countries (i.e. made the same), but companies do not need to register for VAT unless their turnover exceeds a certain figure. Nonetheless, to receive reimbursement for the VAT paid on behalf of customers, companies must submit their VAT claims at the end of the month, paying the VAT collected in the current month less the VAT collected and paid the previous month. Matters become much more complicated when selling into and out of the European Union, and the Internet adds difficulties of its own. The situation is commonly represented as:

1. Sale to non-EU country and goods are zero-rated: import tax but not VAT is payable.
2. Sale to non-EU country and goods are not zero-rated: customers are responsible for paying import tax and the VAT of their own country.
3. Sale to EU country and goods are not zero-rated: no VAT or import is payable if certain requirements are met. Otherwise seller should impose VAT.

In fact the situation is a little more complicated, but can be broadly summarized under three headings.

#### **Sale of Physical Goods to Business or Private Consumers**

Internet sale does not alter basic VAT regulations. Physical goods are deemed to be made in the place from where they are despatched. Thus UK-manufactured goods sent to a EU member state would have VAT is paid at the UK level unless the customer is VAT registered, when they would be zero rated if certain conditions were complied with, notably

obtaining the VAT number. VAT is also payable if the business level of sales to private customers in that member state has exceeded the distance selling threshold, when the UK business must register for VAT in that member state and account for VAT on the sales there.

### **Sale of Intangible Goods or Services to Business**

Intangible goods are treated as services, and for VAT purposes these services are deemed to be supplied where the customer is located. Intangible goods include supply of websites, web hosting, distance maintenance of programs and equipment, software supply and updating, supply of images, text, information, database contents, music, films, games, broadcasts of a political, cultural, artistic, sporting, scientific, educational or entertainment nature, distance teaching, online auction services and Internet service packages. If the supplier and customer belong in the same EU member state, the supplier accounts for the VAT. If they belong to different states, a 'reverse charge' procedure operates, i.e. the customer pays VAT at the local rate. The reverse charge procedure also applies to sales from outside the EU: an American supplier for example would expect a French business to pay VAT.

Overriding these provisions is a 'use and enjoyment' provision, which stipulates that:

1. If the services are largely used and enjoyed *outside* the EU, then no VAT is payable, but
2. If the services are largely used and enjoyed *inside* the EU, then VAT *is* payable by the EU customer.

### **Supply of Electronic Services to Private Customers**

In general, supplies to private customers are treated as made where the supplier is located. If, however, the customer is located inside the EU but the supplier is not, then the supplying business will need to account for VAT. Thus a UK customer will be subject to UK VAT if the supplier is located *in* the UK or *outside* the EU. If the supplier is located *in* another EU member state, however, VAT will be paid by the *supplier in* that other Member State.

Use and enjoyment provisions do not apply to private customers. VAT would be paid by an American company supplying to a private UK individual, for example.

From 1 January 2015 the rules will change so that:

1. The place of supply will be the place where the *customer* is based.
2. UK suppliers will account for VAT *in the UK* for supplies to private customers in other member states.

For specific answers companies will need to work diligently through the sites below, and not be too misled by the simplifications inherent in storefront programs.

### Withholding Tax

Many international companies operate through foreign subsidiaries, which establishes a legal barrier between the US company its foreign operations. The parent company is less likely to be subject to foreign governmental regulation, foreign taxation, contractual obligations and debts incurred by the foreign operations. Withholding tax is still a possibility, however, the subsidiary being required to withhold and pay over to the local government a percentage of the royalties as income tax, usually 10-15% but sometimes as much as 30%. Happily, reciprocal US tax agreements with many countries have removed or diluted this double taxation, but there remain countries (Taiwan, Singapore, Korea, China, etc.) outside these agreements where the only recourse is expert local tax advice. {18}

### Questions

1. What are the three areas of tax most affecting ecommerce?
2. How are state taxes handled in ecommerce? Give some examples of company compliance and noncompliance with the regulations.
3. What are the general provisions of Value Added Tax as it applies to European ecommerce?
4. Your (American) company has started selling educational

films into the European Union. What VAT would it expect to pay? What steps should it take to ensure compliance with the regulations?

5. What tax and other advantages could be enjoyed by a. a UK subsidiary and b. a Korean subsidiary of an American corporation?

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## Section Contents

## 2.8 CYBER CRIME

As ebusiness has grown in scope and sophistication, so has cyber crime. Few systems are so secure that criminal or negligent activity by IT staff is impossible, and a balance has to be found between security needs and practicality.

Nonetheless, cyber crime would be greatly reduced if simple security routines were adopted and kept under proper supervision.

### Statistics

Cyber crime is widespread and serious. {1} Some 73% of Americans have suffered some form of cyber crime (against 65% globally, the worst being Brazil at 83%). Some 66% of hackers are American, 10.5 % are British and 7.5% are Nigerian. The average cost per fraud claim is \$233 for debit/credit card fraud, \$610 for auction fraud, \$800 for non-delivery/payment of/for merchandise and \$1,600 for Nigerian letter fraud. The most basic security measures would reduce these figures, but it appears that 83% of people do not use a separate email address when purchasing online, 69% of people do not back up regularly, 62% of people do use strong passwords or change them regularly, and 60% do not use a browser search adviser.

Commercial figures are notoriously unreliable because companies are reluctant to alarm customers by reporting problems, but a breakdown by the Computer Security Institute in 2009 was {2}:

Attacks Against Computer Systems	Prevalence	Type	Prevalence
Virus	50%	Abuse of wireless network	14%
Insider abuse	44%	System penetration	13%
Laptop theft	42%	Financial fraud	12%
Unauthorized access	29%	Web application misuse	11%
IM misuse	21%	Password sniffing	9%
Denial of service	21%	Proprietary information loss/theft	9%
Bots	20%	DNS attacks	8%
Customer data theft	17%	Website defacement	6%

Information is typically sold on, often to the many thousands of underground sites which offer the following to accredited criminals {3}:

Rank for Sale	Category	Percentage for Sale	Range of Prices
1	Bank account credentials	18%	\$10-1,000
2	Credit cards with CVV2 numbers	16%	\$0.50-\$12
3	Credit cards	13%	\$0.10-\$25
4	Email addresses	6%	\$0.30/MB -\$40/MB
5	Email passwords	6%	\$4-\$30
6	Full identities	5%	\$0.90-\$25
7	Cash-out services	5%	8% -50% of total value
8	Proxies	4%	\$0.30-\$20
9	Scams	3%	\$2.50-\$100/week for hosting: \$5-\$20 for design
10	Mailers	3%	\$1-\$25

Cyber crime and abuse comes in many shapes:

#### Malicious Code

Malicious code or malware are threats to computers and their security posed by spyware, viruses, worms, trojan horses and bots. They are very widespread: Microsoft found that its security products had identified nearly 95 million unique malicious files in the second half of 2008 alone.

#### Viruses

Viruses are small computer programs that can replicate themselves and spread to other computers. Some are relatively benign, simply displaying a message, but others are malign indeed, causing programs to run incorrectly, files to be destroyed and hard disks reformatted. Viruses are commonly classified as:

*Macro:* infect only the specific programs for which they were written.

*File-infecting:* infect executable files such as .exe and .dll files.

*Script:* written in scripting languages like Perl or VBScript.

## **Worms**

Instead of infecting a relatively small number of files, worms infect whole computers rapidly. The Slammer worm, which targeted a known vulnerability in Microsoft's SQL Server database software infected over 90% of Internet-connected computers within ten minutes of its release on the Internet, disabling supermarket cash registers and Bank of America cash tills.

## **Trojans**

Trojans are malware masquerading as something the user may want to use or install that then perform unexpected actions, typically allowing backdoor access to the computer

## **Bots**

Bots (short for robots) are malicious programs covertly installed on computers attached to the Internet. Unknown to their owners, these computers can then be controlled by third parties. Collections of these computers (battens) are commonly used for denial of service attacks. Semantec identified an average of 75,000 active bot-infected computers per day in 2008, an increase of 31% on the previous year.

## **Unwanted Code**

Generally benign, but unwanted is the host of adware that companies surreptitiously install on visitors to their sites, enabling them to monitor potential customer behaviour and sometimes to redirect them to send to sites of their choice (browser parasites). Spyware is more dangerous, as it can record and send to third parties the keystrokes constituting passwords or confidential data.

## **Phishing and Identity Theft**

Phishing is the illegal, online attempt to obtain confidential information for financial gain. One popular example is the 'Nigerian letter email scam', which typically asks for a partner's banks details, purportedly for the account to receive large sums of money, though of course to be looted. Another is the seemingly valid PayPal request that account details be

re-entered: the request emanates not from PayPal but a rogue site purporting to be PayPal. Once details are given, the real PayPal account is again emptied.

#### Credit Card Theft/Fraud

Credit card fraud is less widespread than supposed, but occurs most often when credit card information is stolen from corporate data stores. One of the most serious was the 2003 looting of 47.5 million debit and credit card details from TJX Companies, the owners of 2,500 US retail stores. The theft was not discovered until 2006, and not reported until 2007, by which time the information had been sold on to underground sites and so to criminal elements, who made hundreds of thousands of illegal purchases. {6}

#### Spoofing

Spoofing involves masquerading as someone else. Hackers commonly cloak their identity with fake email addresses or websites (the latter also called 'pharming'). Fake or spam blogs ('splogs') are set up solely to improve the search engine rank of associated sites. More serious are sites appearing to be the official website of a company, but in fact are copies, stealing the legitimate business, or taking the money but not delivering.

#### Denial of Service

Denial of service attacks overwhelm a server by thousands or millions of page requests that come from bot-infected computers around the world. When these computers are widely distributed, the ensuing shutdown is termed a distributed denial of service, and can result in serious losses. Many major companies have suffered such attacks, requiring them to take expensive preventive measures and extend their back-up services.

#### Sniffing

A sniffer is an eavesdropping program that is used legally by government surveillance agencies and by telecom companies to identify network bottlenecks, but by criminal elements to obtain proprietary information. Email wiretaps are small programs hidden in an email message that allows subsequent messages forwarded with the original to be monitored. Under the US Patriot Act, the FBI can compel ISP to install such software on their servers simply by certifying to the secret Foreign Intelligence Surveillance Court (FISC) that the information sought is relevant to an 'ongoing criminal investigation'.

### Insider Abuse

Many, perhaps most, security breaches occur through negligence, poor procedures and in some cases the criminal activities of a company's own employees. Some 44% of companies surveyed in the 2009 Computer Security Institute study believed that insider abuse had been responsible for financial losses in the previous year. {2} Much goes unreported, or even undetected.

### System Failures

Design flaws in server and client software provide points of weakness which hackers and criminals periodically exploit. All operating systems and browsers unfortunately possess such flaws, which are continually being plugged by 'patches' or updated versions. In a single week in August 2009, the US Computer Emergency Readiness Team (US-CERT) discovered no less than 153 vulnerabilities in server and application software, 69 of them rated as 'high severity'.{2}

### Questions

1. How serious is cyber crime? Give some statistics.
2. How is illegally obtained information sold on?
3. Describe five types of malicious code. What practical measures should be implemented?
4. What other security threats do online businesses face?

5. Companies do a good job in updating their software to eliminate code weaknesses. Discuss.

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#### Section Contents

## 2.9 CYBERWARS

The Internet is a public place, and someone innocently shopping on eBay will share the line with major corporations, banks and financial institutions, government organizations, the military, the security forces, criminals, hostile governments, other shoppers and citizens exchanging emails, tweets and a host of other services. Nothing prevents traffic from being lost, scrambled or sent into the wrong hands beyond a relatively simple set of network protocols and auxiliary security measures.

Given that the Internet is used for such a diverse and conflicting range of purposes, it's not surprising that security is now an area of potential conflict. What need is there to launch missiles or blow up buildings when installations can be shut down in seconds and organizations paralyzed by simply breaching their Internet security? What was once a theoretical possibility is now an urgent reality, and attacks thought to originate from China and North Korea suggest that the next war could very well be fought online. All major institutions have suffered security breaches at one time another, and these seem only to become more serious as expertise and money are devoted to their analysis. {1}

Today's threatscape is constantly changing, adapting to countermeasures and continuing to successfully pursue various missions ranging from identity theft, to criminal and nation-based corporate espionage, and, in the case of a worm called Stuxnet, to sabotage. {3}

### Today's Reality

Many trends are making Internet security more problematic:

1. Increasing numbers of people are using the Internet. Even for PCs, China has become a larger market than the US.
2. The Internet has become more diffuse (and security porous) with the move from mainframe computers to PCs, mobile devices and smart phones.

3. Hacking tools are becoming more sophisticated: even novices can use them to devastating effect. {2}.
4. Malware is increasing in extent, type and effectiveness.
5. Computer literacy is increasing, and so is peer pressure to 'break into systems for fun'.
6. Distinctions are becoming blurred: teenage hackers, criminal organizations and hostile governments are blending into an amorphous but serious threat to everyone who uses the Internet. {1}

### Companies

Companies are increasingly at threat from: {8}

1. Malware, malicious code that can destroy programs and data.
2. Loss of laptop or mobile device: data, even encrypted, can fall into the wrong hands and cause embarrassment, legal proceedings or worse.
3. Phishing: emails purporting to come from trusted organizations can elicit passwords, bank details, etc.
4. Unprotected networks and wireless Internet networks: sensitive information or customer data breaches can be phenomenally expensive.
5. Disgruntled insider/employees: information can be stolen and systems sabotaged.

Security systems need to be installed {9} and rigorous procedures followed.

When companies step into the public arena, however, and upset sectors of public opinion, reprisals pass into cyberwar with security breaches by hackers and denial of service attacks. {10}

### Government Organizations

The problems faced by private companies are much increased with government organizations. By their very nature and political associations, such organizations must offend

some of their own countrymen and become a target for hostile government attention. {11}

A March 2011 Market Research Media report suggests that the US Federal Cybersecurity market is valued at \$55 billion and will grow at about 6.2% p.a. {12}

The market is driven by:

1. Ever-increasing number and severity of cyber attacks.
2. Dramatic expansion in computer interconnectivity.
3. Exponential increase in the data flows and computing power of the government networks.
4. Perception that the United States is dependent on information technology.
5. Developments in the existing cyber security approaches and technologies.
6. Emergence of new technologies and approaches.

The Military

The military envisage cyberwar as a real war, {2} not a shutting down of installations but an cyber attack on such installations prior to war by conventional means. The installations run the command and control systems, manage the logistics, enable the staff planning and operations, and form the backbone of the intelligence capabilities. Most command and control systems, as well as the weapon systems themselves, are connected to the Global Information Grid (GIG) or have embedded computer chips. Airplanes constantly receive and send targeting information. Air Defense and Artillery are guided by computers systems, adjusting their fight to Global Positioning System (GPS) updates to reach their target. Indeed the Intelligence Surveillance and Reconnaissance (ISR) systems gather so much information that the challenge becomes one of sifting through to find the most important data. Today's infantry has communication gear, GPS, tracking devices, cameras, and night vision devices. Computer chips are used throughout, and any production holdups would be serious. Loss of GPS satellites

would also critically remove many advantages on the battlefield. {3}

Cyberwar would impact on the very principles of war, namely objective, offensive, mass, economy of force, maneuver, unity of command, security, surprise, and simplicity. {3}

Acknowledged probes and attacks on US military installations include:

1. Moonlight Maze: started in 1998 against the Pentagon, National Aeronautics and Space Administration (NASA): possibly originated in Russia.
2. Solar Sunrise: started in 1998: originally thought to be Iraqi but in fact came from 'a couple of kids in California'.
3. Titan Rain: discovered in 2003, against the DoD and Defense Industrial Base: assumed to be at state level.
4. Buckshot Yankee: a 2008 worm attack introduced through thumb drives on DoD networks: thumb drives were discontinued on such networks.

Military installations are subject to the same threats as other systems: malware, denial of service, insider activity, etc.

Besides imposing the usual security measures, the US Military is exploring or undertaking:

1. Agreements or understandings with other powers through organizations like Computer Emergency Readiness Teams (CERT), Department of Homeland Security (DHS) and NATO.
2. Cyber arms control, adopting the mutual destruction model that saw the world through the cold war.
3. Cyber treaties under the auspices of the UN.
4. A Cyberspace Policy Review that creates organizational bodies and responsibilities to put practical policies in place.

Similar moves are afoot in Russia, China, India, France, Israel, Brazil, South Korea, and Estonia. {3} China has accused the US of cyberwar tactics against its Internet-search engine Baidu, {26} and of meddling in middle east countries. {27}

Constant Battle

Threats are real and ongoing. Some of the best-known attacks:

2000. Mafaboy shuts down major commercial web sites.

2001. Code Red worm hit, designed to conduct DoS against the White House.

2001. Kournikova virus hit.

2003. Titan Rain: probably from China.

2003. SQL Slammer worm reached its peak in three minutes.

2004. Love Letter email attack hit.

2007. First Cyber Storm Exercise: hackers linked to Russian government bring down the web sites of Estonia's parliament, banks, ministries, newspapers, and broadcasters.

2007. Storm Worm infects thousands of (mostly private) computers in Europe and the United States.

2007. Chinese intrusion into British Security Service, and offices of French Prime Minister and German Chancellor.

2008. Operation Buckshot Yankee caused US military to stop using thumb drives.

2008. Databases of Republican and Democratic presidential campaigns hacked by unknown foreign intruders.

2008. Government and commercial web sites hacked in Georgia.

2009. FAA computer systems hacked.

2009. Ghost Net: espionage tools attributed to China implanted on government networks of 103 countries.

2009. Plans for new presidential helicopter found on file-sharing network in Iran.

2009. Conficker worm infiltrates millions of PCs worldwide.

2009. Hackers download data on the F-35 Joint Strike Fighter.

2010. Operation Aurora: Google hacked by China.

2010. WikiLeaks releases US embassy cables.

2010. Stuxnet worm attacks SCADA devices. {3}

There were more than 300,000 reported attacks on US installations in 2010. {13} China claimed nearly 500,000 attacks at its computers in the same period. {28}

Legislation

One obvious approach is legislation to make cyberattacks a criminal offense: {14}

**Virginia Computer Crimes Act: 1984.**

Felony: to use a computer to commit fraud, to maliciously access a computer without authorization, and to damage, copy, or remove files.

Misdemeanor: to use a computer to examine private files without authorization.

**Computer Fraud and Abuse Act (CFAA): 1986**

Felony: unauthorized access to a Federal computer system with the intent to steal or commit fraud or inflict malicious damage.

**Electronic Communications Privacy Act: 1986**

Electronic communications are private.

Unauthorized access to and disclosure of private communications is unlawful.

**Communications Assistance for Law Enforcement Act (CALEA) : 1994**

Law enforcement and intelligence agencies can conduct electronic surveillance.

**Freedom of Information Act: 1996**

Guaranteed access to data held by the state. Nine exemptions apply, including state security, commercially sensitive information, medical records, etc.

**National Information Infrastructure Protection Act: 1996**

Denial of Service (DoS) attacks illegal.

**Gramm-Leach-Bliley Act: 1999**

Authorized widespread sharing of personal information by financial institutions such as banks, insurers, and investment companies.

**Safety and Freedom through Encryption (SAFE) Act: 2000**

Relaxed US export controls on encryption.

**Computer Security Enhancement Act: 2000**

Hacking into federal government systems is illegal.

### **Electronic Signatures in Global and National Commerce Act: 2000**

Allowed electronic signatures in legal documents.

### **Patriot Act: 2001**

Drastically increased federal police investigatory powers, including the right to intercept email and track Internet usage. {25}

### **Homeland Security Act: 2002**

Centralized federal security functions to meet post-cold war threats and challenges.

### **Can-Spam Act 2003**

Created offenses of spamming, hiding the source of spams and sexually explicit spamming not marked as such.

### **Intelligence Reform and Terrorism Prevention Act: 2004**

Promoted a culture of information sharing among intelligence agencies and federal departments.

Set up a five-member Privacy and Civil Liberties Oversight Board to protect privacy and civil liberties.

### **US Safe Web Act: 2006**

Increased FTC's financial redress for spamming, Internet fraud and deception.

Improved FTC's cooperation with overseas counterparts.

Ensured law enforcement authorities were proactive, with perhaps one in four of hackers now working for the FBI. {17}

Most countries have similar legislation. {18}

### **New Storage Techniques**

A partial solution is new storage techniques, like that of Cleversafe, {19} which splits data into 'slices', and stores each slice at a different geographic location. Somewhat similar are Bitvault, {20} Wuala, {21} and the Tahoe Least-Authority Filesystem. {22} All make it difficult to copy information in one swift operation.

## Increased Awareness

Two things are currently needed:

1. Better awareness of cyber attack: its realities and preventive measures.
2. A more open debate on cyber security before an unnecessary 'arms race' is foisted on US citizens. {29} {30} {34}

## Questions

1. Cyberwars belong to science fiction. Discuss.
2. How does the US military regard cyberwar, and why?
3. Outline, with the relevant acts, the legislative approach to its dangers.
4. What practical measures could be taken?

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## Section Contents

## 2.10 THE DEATH OF PRINT

Digital has not so much killed off print media as exposed flaws in the business models of publishers. The leading US media companies saw a 6.1% gain in revenues from 2010 to 2011, for example, but newspapers continued their decline, and results were mixed in the book and magazine publishing markets. {1} UK print media fared even worse. {18}

### Newspapers

Newspapers have declined in circulation and profitability as the public increasingly takes its news and information from the Internet. Many local US newspapers have been obliged to close, or go online: 46% are already charging for some online content, and another 39% plan to do so. {2} *The Times* now charges for online content, indeed has tried several models in recent years. {3} Helpful to newspapers have been the iPad and similar tablet computers, {4} as readers will pay for the convenience of reading on such devices, but reading patterns are changing. Online readers do not turn to the once popular (and advertising-rich) home and garden, travel and automotive sections, but go direct to Homes and Gardens, Bing Travel and Edmunds. {5}

The traditional newspaper business model is failing because newspapers, especially when local: {6}

1. Have not invested in technological change, but simply extended advertising spread by acquiring other newspapers. The bond with the reader — i.e. through cultivating newsstand sales and subscriptions: customer relationships — has weakened.

2. Became bland and safe, more lapdogs than watchdogs. Afraid to upset readers, government officials and advertisers, journalism no longer aspired to any serious duty, turning even important issues into trivia or shallow party propaganda. {31}

3. Were no longer expressions of the community, allowing even ‘forthcoming events’ to be taken over by free webzines and blogs.

4. Are pervaded by an outdated camaraderie: afraid of change, slow to learn alternative technologies, unconcerned about security.

5. Have badly laid-out online versions which don’t put the reader first: cluttered with irrelevant material, hard to search and navigate.

Changes are inevitable. {7}

#### Books: Publisher’s Perspective

The number of US book titles almost doubled between 2002 and 2010, with hefty increases in fiction, biography, poetry & drama and science. {8} {9} Nonetheless, book publishers are not prospering, for a combination of reasons:

1. Most titles make a loss, often not recouping the author’s advance. {10} Some 98% are indeed noncommercial. {28}

2. Amazon has forced steep book price discounts on the market and threatened retailers: the US has only one major bookseller left: Barnes and Noble. {11} {32}

3. Amazon’s Kindle has increased competition from ebooks. {12}

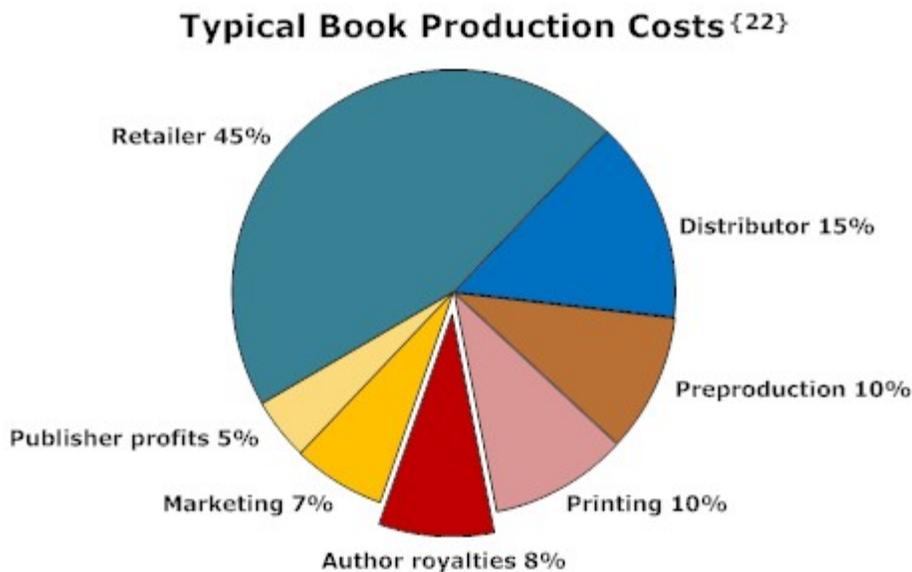
Declining profits have forced publishers to concentrate on what will sell in bulk: textbooks, celebrity memoirs, self-help, cooking and gardening books. Thoughtful fiction, together with poetry and art books, accounts for only 3.3% of the market.

{13} The average first novel, attractively written and favorable reviewed in leading newspapers, will sell only a few thousand copies over its shelf life. {14} Ditto for computer books. {11}

Publishers can afford to carry only a few new names on their lists, and generally focus on that small percentage of writers who pay their salaries. {16}

Equally bleak was the academic publishing scene, even before digital started making inroads. A 1997 review of sales by the prestigious Cambridge University Press found: {15}

Of 18,000 titles offered, more than 8,000 sold less than 500 copies a year, and 3,500 sold less than 10. On average, 1,500 new titles appeared each year but the average title sold 32 copies a year. CUP turned to Pod publishing of slower-moving titles.



Academic books often need to be subsidized by grants and/or by their authors, a subject of anguished debate on academic sites and blogs. {17}

#### Books: Author's Perspective

Books are the product of a long historical process, and the finished product relies on many specialist skills and services. The work has to be researched and written, proofed, typeset, a cover designed, printed, reviewed, warehoused, distributed and sold through booksellers throughout the country or abroad. Costs pile up, and what's left over for authors can be very modest — 10% of retail price at best. Contracts are becoming more onerous to writers even as their share of the proceeds decreases. Books are tailored to particular markets, and are therefore restricted to safe themes and obvious treatments. Manuscripts must be delivered on time, year in and year out, and writers make themselves available for tours, chat-shows, book-signings and the like. Problems with copyright and libel are becoming exclusively the author's

responsibility, as agreements allow the publisher to sidestep these issues. {13}

Many writers earn far more from reviewing, teaching, adjudicating competitions, giving talks, running workshops, and/or appearing on radio than from royalties on their publications. {19} Twenty odd years ago, some 70,000 new books were published each year in Britain, of which 6,000 were novels. Twenty percent of the novels had some claim to literary respectability. {20} There were big-earners, multimillionaires even, but only 300 full-time novelists made over £8,000 p.a., with another 300 supplementing income from journalism, and another 900 supplementing income from some other literary activity. Figures from other countries were equally depressing (e.g. 1250, 750 and 1750 respectively for the States), {18} and these will not have improved recently.

Rebecca Brandywyne spoke for many when she remarked: 'the hard reality is that the vast majority of authors cannot earn even a comfortable—much less a luxurious—living from their writing careers, and, unless they have access to other sources of funding (such as a working spouse, investments and dividends, or an inheritance), are frequently compelled to take other jobs as their primary means of financial support.' She provided a worked example: a mass-market paperback book of 25,000 copies printed, an average return rate of 50%, an average \$6.50 cover price, and an average 6% royalty rate. Royalties would amount to \$4,875, less agent fees of \$731.25, leaving the author a before-tax profit of \$4,143.75. {21}

Many authors turn to self publishing, which the Internet has facilitated through websites and various applications: MS Word, InDesign, Acrobat and web page compilers. Instead of selling their copyright, which the publishers may or may not use as they see fit, authors retain copyright and undertake the publishing themselves, selling through Amazon {23} or their own websites. Considerable flair and marketing skills are required for this approach, however, and though 'long tail' publishers can survive by selling a dozen copies a year of

work by 100,000 authors, the individual authors clearly cannot. The professional writer may largely disappear. {24}

### Print Prospects

Three trends are emerging:

1. Growth of ebooks, now 13% of the US fiction market and expected to rise rapidly from its current few percent in Europe, China and Brazil. {34}
2. Improving Print on Demand technology: even today a high street printer can turn out a professional-looking document from a file submitted by hand or over the Internet. {25}
3. Increasing book piracy (as other forms of media piracy): many popular works are already available through Bit Torrent and other sources. {26} {27} Booksellers and publishers are seriously threatened, and though their rights are protected by severe penalties, prosecution may only strengthen suspicions that middlemen are furthering their own interests more than those of the artists, performers and authors they purport to serve. Readers in future may well accept a lower standard of proofing and typesetting to see the lion's share of sales go to authors, such as still survive.

### Questions

1. Why is the publishing industry in general so gloomy about prospects? Are they justified in this?
2. What are the reasons for the decline in traditional newspaper sales, and what could be done to reverse the trend?
3. Why are book publishers focusing on more restricted market segments?
4. What can authors do towards making themselves more marketable?

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## Section Contents

## 2.11 INTELLECTUAL PROPERTY ISSUES

Intellectual property includes copyrights, trade-marks, domain names, patents, trade secrets, and nondisclosure agreements. In general, the same laws and accepted business practices apply online as in traditional business, but while the Internet has rendered some matters difficult to interpret, police and enforce, it has also strengthened others.

Agreements allocate valuable intellectual property. Digital products are easy to copy, and can therefore make or lose large amounts of money. Contracts allow sharing of opportunities and transfer of risk, and need careful scrutiny by specialist lawyers who are knowledgeable, skilled and experienced. {1}

This section provides only a broad outline. Detailed guides exist, and companies will need to take legal advice on occasion.

### Copyright

Copyright exists to protect intellectual property. There needs to be some (if only modest) originality. The main points are: {2}

1. Copyright applies to text, software, film, musical and dramatic expression, choreography, architecture and much else of a man-made, creative nature. {1}
2. By copyright is meant the right to reproduce, to rent or sell copies, to perform, display, or play the work in public, and to create works based on the work in question. {1}
3. Protection applies for 75 years after the original creation (later extended to 95 years for corporate-owned work, and to life plus 70 years for individual creations.) {6}
4. Facts and ideas cannot be copyright-protected, but their expression can and is.
5. Copyright is automatically the author's the moment the work is created, but registered copyright gives advantages in litigation against infringement — strengthens the case and

may get attorney's fees awarded. Damages can be awarded even if not proved. {1}

6. Copyright of works made by a company employee ('works made for hire') commonly belongs to the company.

7. Copyright of works made by an independent contractor will belong to the contractor if a nonexclusive clause applies.

(California law requires independent contractors to be treated as company employees, however, when it's necessary to engage a company, not an individual, and get the copyright properly assigned.) That contractor (or his or her heirs) has the right to revoke the transfer or license 35 years after publication or 40 years after the transfer or license grant, whichever comes first. {1}

8. Once copyright is sold (e.g. for a novel), the original seller loses control over whom that copy can be sold on to (first sale rule).

9. Copyright may apply to databases, but only to the arrangement in the database, not the content itself — unless protected by digital management rights (see below).

10. Even providing links to copyright-infringed material (as Napster did) is illegal. {1}

11. The 'notice-and-take-down' provision offers some 'safeharbour' against inadvertent copyright infringement under Section 512 © the DMCA (see below): offender agrees to promptly take down any copyrighted material they're alerted to. (The company must register an agent for this purpose with the US Copyright Office.) The 'safeharbour' does not apply to other countries. {1}

12. Copyright applies even if the original is greatly modified, when indeed multiple infringements may apply. (But often flouted in background music to YouTube contributions, etc., which employ Section 512 © the DMCA as a defence.)

13. A computer program code is copyrighted, but companies can legally produce an equivalent program by independently deriving the code (a so-called 'clean room' operation) but not by reverse engineering. {1}

14. Increasing publicity and owner's sales is no defence against copyright infringement.

15. Compensation is often based on the court's view of the financial damage inflicted plus fees arising.

### **Public Domain**

Works not subject to copyright are in 'the public domain.' Anyone can copy, distribute, and make derivatives of such works freely and without permission. The public domain includes works on which the copyright has expired, US government works, and works assigned by the copyright owner to the public domain.

### **Fair Use**

So that material can be used in reviews and for educational purposes, the laws of copyright are ameliorated in what is called 'fair use', which very broadly applies in the following circumstances. Copyright is relaxed when original material: {3}

1. Is used for reviews or non-commercial purposes.
2. Does not damage the interests of the copyright holder.
3. Is properly attributed.
4. Consists of less original material: factual reports and news stories will be less protected than a film or novel.
5. Comprises a small part of the original source (generally no more than a paragraph of a book, or short video clip).

Unfortunately, copyright and fair usage are shadowy areas, immensely complicated in detail, {1} and the usual advice is to avoid later problems by getting permission in writing from those legally holding the copyright. Some argue that copyright enriches promoters and middle men more than original creators, {4} and/or the commercialisation of creative expression in 'neutral' media is a repeated history of monopoly control. {21} {22}

### **Moral Rights**

France and countries signatory to the Berne Convention recognize 'moral rights', which include the right to have a copyrighted work accurately attributed to the author, even if published anonymously, and/or its economic benefit voided. Moral rights are not transferable — only the author and his or her heirs can assert them — but allow the author to object to

any distortion, mutilation or other derogatory action in relation to the work which would be prejudicial to his honour.

## **US Digital Millennium Copyright Act**

The DMCA of 1998 grew out of the growing needs of the music industry, and had four parts:

1. Circumventing digital protection or digital management rights was illegal.
2. ISPs must remove sites infringing copyright, and search engines block access to them.
3. One copy of software could be made for backup purposes.
4. Miscellaneous: added:
  - a. Duties to the Copyright Office.
  - b. Provisions for broadcasters' ephemeral copies.
  - c. Provisions to facilitate distance education.
  - d. Provisions to allow libraries to keep copies for internal use.
  - e. Provisions relating to collective bargaining and transfer of movie rights.

Penalties were severe: fines up to \$500,000 or 5 years imprisonment for a first offence.

## **Digital Economy Act**

The equivalent UK act of 2010 extended copyholders' rights, many thought unreasonably and possibly with unintended consequences. {5}

Many EU countries have similar laws. {1}

## **SOPA**

The recently dropped (at least for the present) Stop Online Piracy Act (SOPA) was designed to remove sites that allegedly 'engage in, enable or facilitate' copyright infringement. {25} The bill was supported by the United States Chamber of Commerce, the Motion Picture Association of America, the American Federation of Musicians, the Directors Guild of America, the Screen Actors Guild and drug companies wanting to close down online pharmacies that undercut US sales. Against it were ranged most Internet

companies, arguing that, as currently drafted, the law amounts to censorship, allowing US jurisdiction to take action against any site used by a US consumer, either in America or abroad, for practically any reason. {26}

## **Piracy**

Internet piracy is still a problem for music companies, however, who are particularly anxious about 'cyberlockers', an online service used to store and share large files.

RapidLibrary, Megaupload (the last closed in January 2012, with prosecutions pending) and Megavideo together enjoy more than 21 billion visits/year, and some of their storage may indeed be pirated. {19} Apple's cloud storage service is another threat to an industry that needs a better business model. {20}

## Patents

Patents loom large in the Internet world. In 2005, Ariba Inc., a maker of ecommerce software, lost a patent infringement suit and paid \$67 million to its smaller competitor, ePlus Inc. In 2001, NTP, Inc. successfully sued Research in Motion Ltd. (RIM), the maker of Blackberry devices, for \$612 million. {1}

Patents, by protecting the features and processes that make things work, include ideas, and have to be framed exactly, a process that needs considerable legal, commercial and technical experience. Any invention granted a patent must be genuinely original, non-obvious, and not evident in any prior art or practice. Patents in the US cover any process, machine, manufacture, or composition of matter. Should anyone make, sell, or import products incorporating a patented invention or use a patented method without the patent holder's permission, the law grants the patent holder the right to sue the that person. Willful infringement can lead to payment of treble damages, i.e. the actual cost of patent damage determined by the court multiplied by three.

Obtaining a patent (called patent prosecution) can be a lengthy procedure. Highly specialized legal help is generally needed to file an application at the US Patent and Trademark

Office (USPTO), and the cost for the two year plus procedure commonly exceeds \$30,000. Three tests apply. The claimed invention must be:

1. Useful, i.e. not merely theoretical, however brilliant.
2. Novel: if the same invention can be found in earlier work ('prior art') then the claim is rejected.
3. A genuine advance: the trivial or self-evident is excluded.

Rules vary somewhat with country, {12} and Europe, for example, does not readily grant patents in for software- or computer- operated business methods. {1} In Europe these it must be industrially applicable. {10}

The matter is technical, and a software program cannot be patented per se, only one or more inventions that could be used in many different software programs. In fact, US lawyers recognize three types of claims would normally be included in a utility patent involving digital technology:

1. A *method claim* defined as performing a set of programmed operations on stated computer hardware components.
2. An *apparatus claim* detailing the computer hardware components executing a set of programmed operations.
3. An *article-of-manufacture claim* defining the computer medium containing such programmed instructions and which can be installed and used in such a computer system.

Business methods can also be patented in the US. Three of the many thousands protecting ecommerce methods:

1. Interactive Coupon Network owns a patent on a method of issuing and tracking use of coupons over the Internet.
2. Priceline.com owns a patent on a method for operating 'reverse auctions'.
3. Home Gambling Network owns a patent on a method for remote 'real-time' gambling.

Patents are best framed and understood by lawyers. An *abstract* of United States Patent Number US 7,000,180 (Flash technology) entitled 'Methods, Systems, And Processes For The Design And Creation Of Rich-Media Applications Via The Internet' issued on February 14, 2006 with 83 claims that

encompass a wide range of rich-media Internet applications, methods, systems, and processes runs: {11}

A host computer, containing processes for creating rich-media applications, is accessed from a remote user computer system via an Internet connection. User account information and rich-media component specifications are uploaded over the Internet . . .for a specific user account. Rich-media applications are created, deleted, or modified in a user account, with rich-media components added to, modified in, or deleted from the rich-media application based on information contained in a user request. After creation, the rich-media application is viewed or saved on the host computer system, or downloaded to the user computer system over the Internet.

Fees have to be paid at intervals to maintain a patent, which can provide protection for a maximum of 20 years.

Many want to see the patent granting process made quicker and less costly. Particularly disliked are speculative companies ('patent trolls') that buy up poorly-described patents and use them to sue big companies for infringements. Apple, Microsoft, Nokia and others, for example, had to pay \$4.5 billion for Nortel's largely unhelpful patent portfolio. {14}

## Trademarks

A trademark (trade mark outside the US) is a distinctive sign used by an individual, business organization, or other legal entity to identify goods or services to consumers and distinguish them from those of other entities. A trademark is typically a name, word, phrase, logo, symbol, design, image, or a combination of such elements.

Trademarks are an important part of branding, and cost companies considerable time and money to promote and maintain. Trademarks therefore protect the public by ensuring an expected quality or type of goods or services is delivered, and protect the trademark owner against piracy or misappropriation.

There are certain rules. Trademarks cannot be registered if they: {16}

1. Describe the goods or services or any characteristics of them.
2. Have become customary in that line of trade.
3. Are not distinctive.
4. Are three-dimensional in shape, or if that shape per se adds function or value.
5. Include a specially protected emblem, are offensive, against the law, or deceptive.

The Internet has provided opportunities to exploit trademark rights, but also improved the chances of detection. It is usual to first check that the trademark proposed is not identical or confusingly similar to a trademark in current use by searching: {1}

1. Computerized database of federal trademark registrations and applications.
2. Computerized database of state trademark registrations and applications.
3. Legal databases (to see whether trademarks have shown up in litigation).
4. Domain names and web searching Trade directories.

Trademark owners can sue if: {18}

1. The public is confused by unlicensed linking of a name or company with a recognized trademark (trademark infringement).
2. A domain indicative of recognized trademark is used with the intent to extort money from the legal owners of that trademark (cybersquatting).
3. Traffic is diverted to a site that purports to represent a trademark (cyberpiracy).
4. A site in any way damages or tarnishes a trademark. (trademark dilution).

Fair use and parody provide some defence, but courts may award damages based on intent, defendant's profits, plaintiff's damages and legal costs involved. {15} The width of

protection varies with the country concerned. Trademarks registered in the US have no protection abroad as such, but can be covered by employing the additional Madrid Protocol, which operates in some 80 countries, including the US and the EU. {1}

Trademarks may lose their protection when they become synonymous with the product itself, a process lawyers call genericide. To prevent this happening, companies generally:

1. Ensure product description and trademark look different, e.g. 'APPLEWORKS Word Processing Program.'
2. Use the trademark as an adjective, never as a noun or a verb, i.e. 'Microsoft Excel Spreadsheet Program' rather than 'Microsoft Excel.'
3. Use a trademark notice, i.e. AcmeProgram™.

Trademarks can be co-branded, or licensed to another company for its use on the licensee's products. {1}

Trademarks are important assets when companies are sold, as sale includes product rights and 'customer goodwill'.

Brands are simply the names of trademarks, and may be referred to, but not traded under.

#### Questions

1. What are the three types of intellectual property that relate to websites and the Internet generally? Distinguish between them.
2. What is copyright and fair use? What are the acts currently applying, and their main provisions?
3. Outline how patents apply and are obtained. Find an Internet patent and explain what it protects.
4. What are trademarks and why are they important? How can they be infringed, and what may be the penalties of doing so?

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## Section Contents

## 2.12 ONLINE PRIVACY

Personal information is not merely a person's name, address and Social Security number, but his or her shopping habits, driving record, medical diagnoses, work history, credit score, political affiliation, vacations, social contacts, educational record and more. The right to privacy refers to control over this personal data: who can acquire, keep, access and processes this information.

Privacy is an inherent human right, namely to be free of surveillance from other individuals, organizations and/or the state. To the disquiet of many, {1} {15} {20} {21} {22} {26} {27} {49} privacy is under increased threat today, with the Internet greatly facilitating the collection, storage and analysis of personal data.

1. Federal, state and local governments collect personal information in pursuance of their duties, and that information is accessible to law enforcement agencies through several pieces of legislation: Communications Assistance for Law Enforcement Act, The USA Patriot Act and the Homeland Security Act, in many instances without judicial oversight. {2} {4} {5} {25} Similar information is protected in Europe under more stringent Data Protection Acts, but can be accessed by tax and law enforcement officers and/or for reasons of state security. {3} {6}

2. Similar information, often very detailed, noting interests, social preferences and purchase histories is routinely collected by:

- a. Shopping carts: merchant must keep this information safe, but may use it for marketing purposes (as does Amazon in making book suggestions) or sell it on to third parties.

- b. Search engines: government requests that browsing information be stored by ISPs and made available to courts and law enforcement agencies has met with mixed success. {7}

- c. Spyware: inadvertently downloaded, such programs can

collect passwords, security codes, browsing histories, etc.

d. Social media: personal data can be sold or made available to third parties, {8} {23} usually advertisers but potentially to criminal elements.

e. Cookies and supercookies that track and profile Internet users. Some can be avoided by setting the browser security controls higher, but five new types evade such controls and are difficult to remove. {9}

f. Web bugs that track advertising campaigns. {52}

g. Advertising networks that track individuals across the Internet (e.g. Clickstream) can sell that information to advertisers. {10}

h Service suppliers like Google collect information, either for their own use or to be sold for marketing purposes.

i. Forms: email addresses and profiles collected to receive some report or benefit can be sold on, or linked to advertising networks.

j. Deep Packet Inspection: networking technology that ISPs install to monitor customers' data {11} {12}: used to target advertising and terrorist activity. {25}

k. Server traffic logs: routinely saved by ISPs and therefore available for analysis: who visited what pages when, etc.

l. Internet Payment Service Providers: detailed customer information (often including bank accounts) becomes available to third parties if security is breached (or some parts sold on).

m. Trusted computing environments: restrict viewing of sensitive material but also store user information for identification purposes. {13}.

n. Email addressing harvesting software (e.g. Atomic Email Hunter) that collects email addresses, owner's names and interests for subsequent email marketing. {14}

o. Companies providing a background check on individuals (e.g. PeopleSearch and WhoWhere) {16}

Such information becomes more valuable when combined.

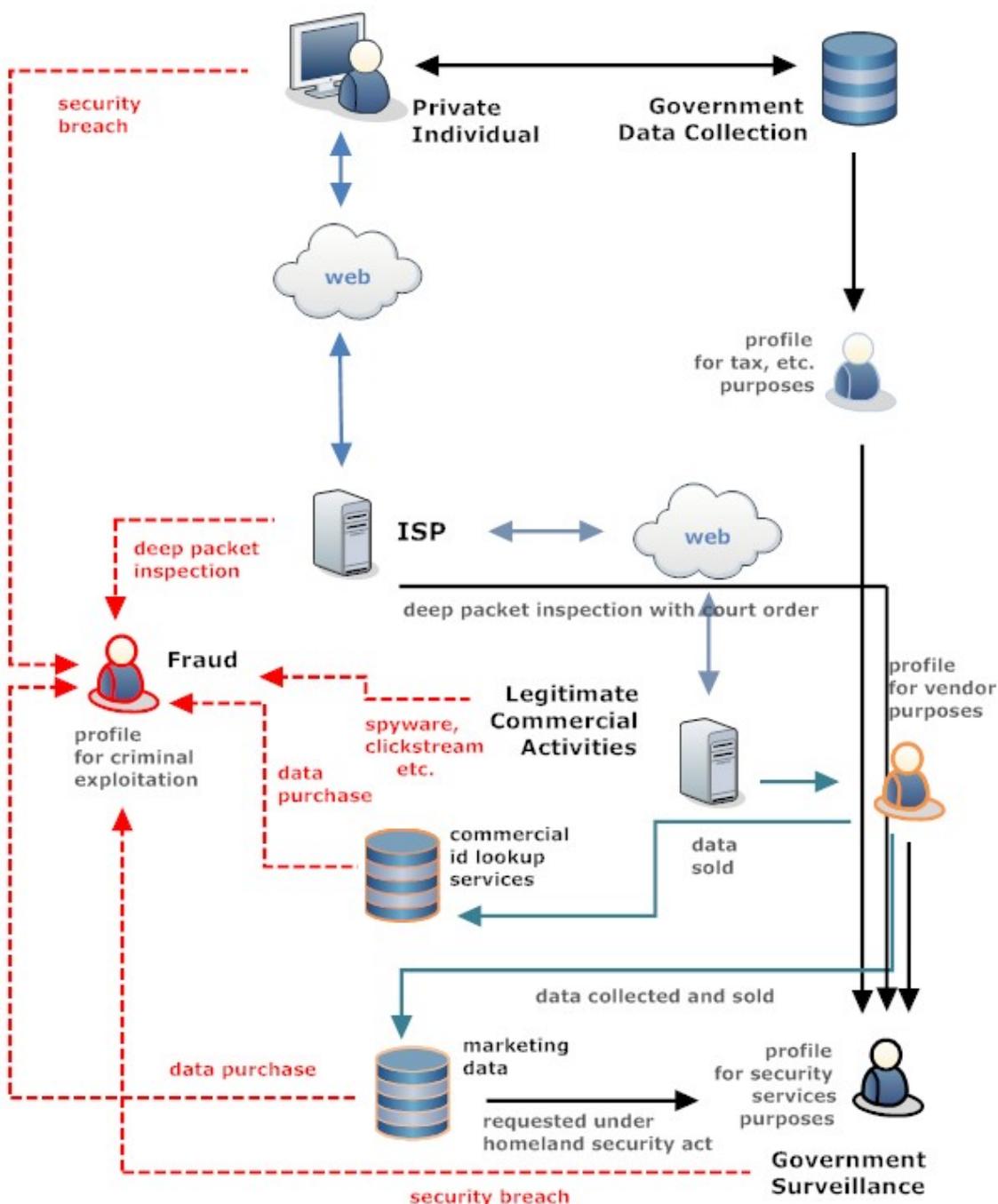
A travel company offering snorkeling holidays in Thailand would be interested in subscribers to a diving magazine who also browsed web pages on holidays in the country.

The security services would be failing in their duties if they did not look more closely at someone in email correspondence with animal liberation groups who started researching bomb-making equipment on the Internet.

### Privacy Legislation

Broadly speaking, privacy is enshrined by legislation in Europe, but left for individuals to sue for violations in the USA. {5} Nonetheless, most countries have extensive legislation in place. {17} {18} {19} {24} {41} {42}

### USA:



Felony: to use a computer to commit fraud, to maliciously access a computer without authorization, and to damage, copy, or remove files.

Misdemeanor: to use a computer to examine private files without authorization

### **Computer Fraud and Abuse Act (CFAA): 1986**

Felony: unauthorized access to a Federal computer system with the intent to steal or commit fraud or inflict malicious damage.

Misdemeanor: to traffic in passwords.

### **Electronic Communications Privacy Act: 1986**

Electronic communications are private.

Unauthorized access to and disclosure of private communications is unlawful.

### **Communications Assistance for Law Enforcement Act (CALEA) : 1994**

Law enforcement and intelligence agencies can conduct electronic surveillance.

### **Freedom of Information Act: 1996**

Guaranteed access to data held by the state. Nine exemptions apply, including state security, commercially sensitive information, medical records, etc.

### **Communications Decency Act (CDA): 1996 (Overturned in 1997)**

Felony: to transmit obscene or offensive material over the Internet.

### **Web Copyright Law: 1997**

Infringement of copyright-protected material valued at least \$1000 can be prosecuted, even if there is no profit from the crime. Penalties are heavy.

### **Child Online Protection Act (COPA): 1998**

Federal crime: to transmit material that is harmful to children over the Internet for commercial purposes.

### **Digital Millennium Copyright Act: 1998**

New rules, safeguards and penalties for downloading, sharing, and viewing copyrighted material online.

### **Gramm-Leach-Bliley Act: 1999**

Authorized widespread sharing of personal information by financial institutions such as banks, insurers, and investment companies.

### **Safety and Freedom through Encryption (SAFE) Act: 2000**

Relaxed US export controls on encryption.

### **Patriot Act: 2001**

Drastically increased federal police investigatory powers, including the right to intercept email and track Internet usage.  
{25}

### **Homeland Security Act: 2002**

Centralized federal security functions to meet post-cold war threats and challenges.

### **Intelligence Reform and Terrorism Prevention Act: 2004**

Promoted a culture of information sharing among intelligence agencies and federal departments.

Set up a five-member Privacy and Civil Liberties Oversight Board to protect privacy and civil liberties.

### **Internet Spy Act: 2011**

ISPs must retain data on customer use for twelve months.  
{48}

### **EUROPE:**

#### **Article 8 of the European Convention on Human Rights**

Most European countries adhere to the above which declares:  
{41}

Everyone has the right to respect for his private and family life, his home and his correspondence. Exceptions apply: for reasons of: national security, public safety, crime, disorder, public health, morals, threatened rights and freedoms of others.

Individual countries retain their own legislation, however: France has a law recognizing the right to privacy, but the UK does not.

### **Freedom of Information Acts**

Guaranteed access to data held by the state. Passed by most countries, but data can be held back for state security reasons or simply delayed by 'staff shortages'.

Does Privacy Matter?

For many of today's Internet citizens, privacy does not matter. They take the view of a 2008 NYT article {30} that privacy is dead, which is a 'good thing' because everyone can now spy on everyone else and stop 'bad guys'. People (especially people in 'terrorist' countries) need to get accustomed to having their activities recorded and judged by concerned fellow citizens. {31}

Authorities indeed often argue for increased surveillance by saying 'if you've done nothing wrong, then you've got nothing to worry about.'

Leaving aside the US Constitution, ethical issues and experience of life in a police state, the counter-arguments are:

1. Without some privacy, individuals and companies cannot maintain competitive advantage, which negates the capitalist system. {47}
2. Without subsequent anonymity, whistle blowers and crime witnesses face uncertain futures, and may be less willing to testify. {41} {42}
3. Information can fall into the wrong hands, especially when centralized in large databases. {43} {44}

That information can then be misused:

- a. Divulged details of private lives foster ad hominem arguments, which 'shoot the messenger', i.e., bypass informed debate.
- b. Once collected, private information is not easily removed, and may be used by later governments to harass or intimidate individuals possessing inconvenient views or evidence.

Surveillance passes into censorship and then into control, {20} {21} {22} {53} removing a necessary check on overpowerful government. {38} {36} {37}

c. The 'nothing to fear' argument operates largely in one direction. State surveillance is not properly balanced by openness and accountability to citizens who are purportedly served by government officials, and indeed pay their salaries. {38} The disclosure that governments do sometimes misbehave and cover up {32} {33} {34} {35} {36} {37} fuels attitudes that range from distrust to conspiracy theories. {45} {46} Citizens become disaffected with government, which is then deprived of the trust, support and cooperation it needs to function effectively.

#### Online Privacy Protection

Beyond not providing more information than specifically required, privacy is improved by:

1. Appointing a chief privacy officer to stay abreast of legislation and ensure the company meets requirements.
2. Surfing anonymously through systems like anonymizer, etc.
3. Encrypting all sensitive material with disk encryption software.
4. Blocking and removing spyware with superantispyware, etc.
5. Securing emails with hushmail, PG, etc.
6. Erasing data on discarded hard disks with programs like secure erase, etc.
7. Removing cookies with browser controls and/or with programs like ccleaner, etc.
8. Blocking pop-ups with browser controls or software.

#### Questions

1. What are the main threats to personal privacy on the Internet, and how serious are they?
2. Outline the legislation relating to online privacy in the USA.
3. How does Europe generally treat online privacy?
4. Suggest practical measures to improve online privacy.
5. Do you think online privacy is an an important matter? Give the arguments for and against.

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## Section Contents

## 2.13 GOVERNANCE

Contrary to first impressions, the Internet is closely governed, and on many levels. Most basic are the protocols handling data across networks. Then come the applications and the languages in which they are written: all must conform to the smooth running of the client-server model. Webpage java applets, for example, once so popular, will commonly be flagged by browsers and firewalls because they can compromise the security of client machines.

Beyond these technical matters lies the issue of domain names, the resolution of conflicts that arise, and the control that many organizations and countries impose on who can see what and where.

### Domain Names

In 1995 the US government set up the not-for-profit Internet Corporation for Assigning Numbers and Names (ICANN), {3} which was to establish policies, assign domains and handle conflicts. ICANN subsequently authorized over 250 'country code top-level domains', so that a UK company could own a domain like 'mycompany.co.uk'. {2} From 2009, in a further move away from its often-criticized US dominance, ICANN authorized the use of specially encoded domain names in their native language scripts (like the Arabic alphabet) or non-alphabetic writing systems (like Chinese).{4} {5}

### Company Data Control

Information is the lifeblood of many companies, and a 2006 survey by the UK's Department of Trade and Industry found that 58% of UK companies possessed information that was highly confidential, a figure rising to 77% in large organizations. Some 80% stored highly confidential records on computers, and 74% would suffer significant business disruption if the data were corrupted. Only 25% of UK

businesses had tested their disaster recovery plans in the last year, although 62% had suffered a security incident in the same period. Security breaches were indeed continuing, and cost UK industry £10 billion per year, up 50% from two years previously. Average company spending on information security was 4-5% of the IT budget, but 40% of companies spent less than 1%. {1}

Only a proper governance of its own networks will enable companies to survive these threats to data loss, reputation and legal proceedings.

#### Employer Control

Many companies monitor or control their employees' Internet access during office hours, and with good reason. A survey conducted by two research firms, Dataquest and IDC, concluded that 'approximately 22.8 million US employees (40 percent of the Internet-enabled work force) waste one or more hours on the Internet each day'. The wasted time costs US businesses approximately \$63 billion a year. {8} Several surveillance technologies are available, {6} but the activity is not free of legal and ethical considerations. Individuals may feel their privacy is being invaded, trust impaired and even their rights under America's First Amendment restricted. {7}

#### Government Control

Authoritarian governments generally police their citizens and prohibit access to alternative views. Western democracies are more subtle, and public opinion is molded by competing groups: government, civil service, legal profession, academia, broadcasting, newspapers, corporations, financial institutions, etc. {9} But to all governments the Internet poses particularly sharp ethical problems. Most countries prosecute child pornography, for example, though it's technically a curb on free expression. Countries like China extend the prohibition to pornography in general, {11} and both America {12} and Australia {13} have toyed with banning such sites. India {16} is considering banning blasphemous material, and Europe {17}

{18} {19} is moving towards Internet control. America {20} has used the Patriot Act to remove sites, though the threat of emergency Presidential powers to shut down the Internet entirely {21} seems exaggerated.

Website owners can be sued for libel and other civil infringements, but offending parties in authoritarian regimes face imprisonment or worse. {23} {24} {25} {26}

### Governance Technologies

There are several ways of censoring or blocking Internet content: {10}

1. Denying access to certain IP addresses.
2. Preventing domain names being resolved into IP addresses.
3. Scanning the requested URL string for suspect keywords.
4. Packet filtering for suspect keywords.
5. Completely closing down a country's Internet.

Controls are commonly circumvented by employing:

1. Proxy servers (alternative and ever changing IP addresses).
2. Virtual Private Networks that create a secure connection to a more permissive country.
3. Software specific to various countries, e.g: Alkasir, Freerate, Freenet, I2P, Java Anon Proxy, Tor and Ultrasurf.

The sites most commonly banned are pedophile, pornographic, social networks, media sharing, wikileaks, peer-to-peer and filesharing, wikipedia, political blogs, erowid, search engines, and 4chan. {10}

### Questions

1. The Internet is the last free place on earth. Comment.
2. How are domain names handled? What are the latest developments?
3. Is company data generally secure on the Internet. What, if anything, still needs to be done?
4. How is Internet content blocked or censored? What are the

ways of evading such control?

5. Suggest sensible policies regarding the Internet publication of sensitive material. Does recent history provide any useful guidelines?

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## Section Contents

## 2.14 WELFARE ISSUES

Governments concerned with the safety and welfare of their citizens enforce measures that regulate everything from weights and measures to road traffic laws, medicines and some media content. Newspapers and print media are traditionally beyond government control in western democracies because these countries allow freedom of speech, but the same liberty does not necessarily extend to the publicly-owned media of telephone, television and the Internet.

Much legislation is uncontroversial, but several issues still divide public opinion and/or are regulated differently in different countries.

Restrictions on Internet content, however well intentioned, or even sensible, are often seen as the 'thin end' of censorship, and vigorously opposed.

### Pornography

Pornography is a lucrative business and the industry earns revenues exceeding those of the top technology companies combined, more than the total revenue of Microsoft, Google, Amazon, eBay, Yahoo!, Apple, Netflix and EarthLink. 2006 worldwide revenues exceeded \$97 billion, \$13.3 billion from the US alone, where 21% came from porn websites. 25% of all web searches are adult content related. {1}

Attitudes vary considerably. Many are relaxed about such figures, and the early age at which children commonly start watching Internet pornography. Some argue, however, that the activity inculcates limiting or sexist attitudes, {2} or worry about the exploitation of performers. {3} Most countries treat child pornography as a serious crime, however: {4} to create, distribute or simply view such material carries heavy penalties. In 2008, 94 of the 187 Interpol member states had laws addressing child pornography. {5}

## Protection of Children

Schools and parents often restrict Internet viewing by using filtering software that blocks access to 'adult' material.

Programs are widely available, and inexpensive. {6}

Many commercial hosting companies also forbid pornography. Google does not permit its AdSense ads to appear on such sites, and is believed to penalize any site sharing servers with sites of adult and controversial content.

Some countries have tried to go further, and introduce legislation making it a felony offense to transmit material that is obscene, lascivious and/or indecent, particularly to persons under the age of 18. China, {7} for example, has a blanket ban on such material, and the US has several times attempted to impose something similar. Congress passed the Communications Decency Act (CDA) in 1996, but the act was struck down by the Supreme Court in 1997 as an unconstitutional restriction on the free speech enshrined in the First Amendment. {8} A Children's Online Protection Act (COPA) fell at the same hurdle. Introduced by Congress in 1998, the act was struck down by the Pennsylvania federal district court in 1999 as unconstitutional. {9} Recognizing it represented the need for some protection, the Supreme Court returned the case to the Court of Appeals in 2002. A year later it was again declared unconstitutional, a process repeated several times until January 2009, when the Supreme Court refused further appeals. {10}

Congress introduced the Children's Internet Protection Act (CIPA) in 2001, requiring schools and libraries to install filtering software to protect young persons from adult content. {11} Once again the legislation was struck down in the courts, but some more limited protective measures have been successful. {12} The 2002 Domain Names Act prevents websites using well-known but misleading names that might lure children to their sites. {13} The 2002 Dot Kids Act allows for the creation of a second-level domain name that specifically excludes material harmful to children. {14}

## Online Gambling

Online gambling is prohibited or restricted in many countries {16} ostensibly to 'protect public health and morals', but for reasons that probably lie in some mixture of:

1. Susceptibility to fraud: players have little protection from fraudulent weighting of the electronic roulette wheel, etc.
2. Individuals can run up large debts, leaving families or banks to foot the bill.
3. Online gambling can be used to launder money.

Online gambling worldwide was generating over \$60 billion a year, a astonishing sum, exceeding the total revenues from spectator sports, theme parks, cruise ships and recorded music combined. {15} Though much of US gambling was through offshore sites, Congress passed the Unlawful Internet Gambling Enforcement Act in 2006, {16} and arrested two executive officers of offshore gambling companies as they passed through the country. The picture remained confused, however, with gambling persisting in some form in many states. {17} The Unlawful Internet Gambling Enforcement Act of 2010 prohibited institutions from accepting payments from any person engaged in the business of betting or wagering with a business in unlawful Internet gambling, but implementation has been delayed. {18}

Money laundering seems less of a problem. A US GAO study {19} found that online gambling was not an especially easy way to hide money trails, and in fact drug dealers and other criminal groups can and do find other ways, some blocked by banks {20} and some not. {21}

## Drugs

Patients increasingly use the Internet to find information on prescriptions that their health care provider has not the time to explain fully, both information put out by the drug companies {22} and the findings of patients. {23} Because drugs are generally more expensive in the USA, patients also turn to cheaper online sources, a solution that has obvious dangers.

{24} Illegal drugs account for around \$75 billion in worldwide sales, and some 1-2% of drugs purchased by Americans may be worthless imitations. {25}

Some online pharmacies ask to see the prescription before supplying. Some have resident doctors that check that the drug requested is safe and appropriate. Many do neither, however, and some supply generic (cheaper, non-branded) drugs that are markedly inferior to branded products. {28} The FDA naturally frowns on these practices, which have resulted in some deaths {26} and several convictions. {27} {28} In 2008 Congress passed the Ryan Haight Online Pharmacy Consumer Protection Act to prevent the illegal distribution and dispensing of controlled substances, which also required suppliers to see a prescription issued by a doctor who has personally examined the patient. {29} Not all were pleased by such measures, however, and the elderly on reduced incomes tended to see the matter as one more example of Big Pharma's influence on Washington. {30} Online pharmacies continue to thrive, however, and sites exist {31} to mitigate some of the dangers and suggest safe sources.

### Accessibility

Institutions and authorities are increasingly requiring websites to be accessible to those with disabilities, i.e. unable to hear, view a website and/or use a mouse. In 1998 the Rehabilitation Act was amended to require US agencies, contractors and recipients of federal funds make electronic and information technology services available to such groups, and there have been successful lawsuits against infringements. {32} Captchas and screen buttons are obvious difficulties, which Braille keywords and synthesizers that automatically convert screen text to speech will not resolve. The World Wide Web Consortium has issued guidelines, {33} which have not been fully acted on, {34} {35} perhaps understandably, given the cost of upgrading or creating websites that use more advanced technology by the year.

## Questions

1. Why do welfare issues apply also to the Internet?
2. Describe the varying attitudes to pornography, between countries and individuals.
3. What legislation is in place to protect children on the Internet, in the USA and elsewhere?
4. Why is online gambling restricted or prohibited, and with what success in the USA?
5. Outline the controversies over online drug dispensaries? Why have they arisen? What seem to you sensible approaches?
6. How successful has been legislation to improve web accessibility, in the US and abroad?

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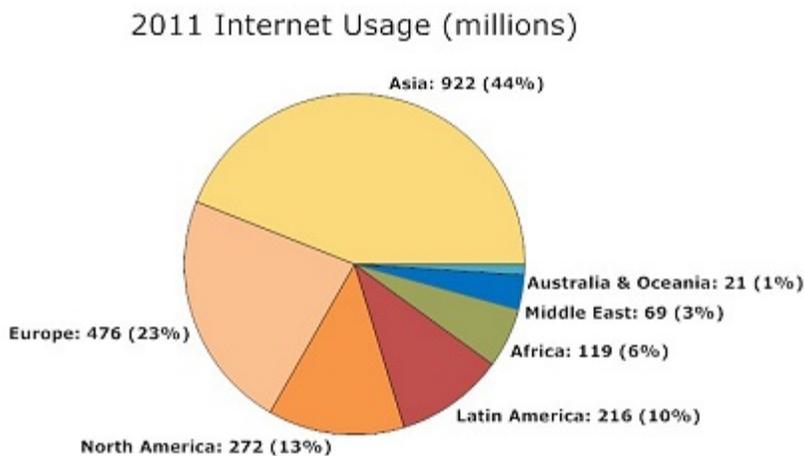
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### Section Contents

## 2.15 INTERNET PROSPECTS

To those who started when ebusiness was in its infancy, the Internet has changed beyond recognition. Most shopping carts work first time, and there is none of the search for software add-ons, the frustration with unhelpful call centres or the battle with incomprehensible manuals. Where the company cannot help with its products there commonly exists a support group, or, as a last resort, Internet searches that find others who have faced and solved exactly the same problem. The Internet is a community, and a community which is growing all the time with more useful sites and portable hardware.

However rapidly the Internet has developed and become part of our lives, {1} it has the potential to change them much further yet. {2}



### Dangers

The Internet poses obvious dangers. Online commercial transactions increase the chances of fraud, already considerable, and extend the surveillance powers of the state, {3} commercial and criminal elements. Ready access to information allows immature, unbalanced or vulnerable minds to be exposed to deeply unsocial content, with catastrophic consequences to individual and public safety. {4} {5} Material posted to the Internet is commonly copied round the world in

minutes, and what is released is not readily refuted or contained. Indeed, the ease with which material can be cut and pasted may bypass the critical faculty altogether, leaving students unable to summarize arguments effectively, form an independent judgement, or even develop the brain processes essential to adult behaviour. {6} Intellectual property is increasingly under attack, and so may be any educational establishment or profession that treats knowledge as a private holding. {7}

Education is ideally placed to benefit from Internet technologies, but many schools in Africa and elsewhere lack a single computer. Business to business Internet technologies have immensely improved manufacturing efficiencies, but have also shut out third parties and placed smaller companies at a grave disadvantage. Technology may indeed create unemployment. {43} Citizens in advanced democracies now have immediate access to their government statements, but many governments have retreated from transparency by invoking state security that sometimes serves to only increase voter suspicions and cover up incompetence and the occasional wrongdoing. Finally, there is the dilution of fact as the billions of pages that now make up the world wide web threaten to overwhelm readers with an ever-increasing but difficult-to-assess flood of opinion in all shades of purpose, depth and reliability.

### Collective Intelligence

Though governments often seek to legislate, control and monopolize, {8} the open nature of information on the Internet offers models {9} which may help to offset the increasingly centralized, money-based and sometimes dysfunctional systems of government by which even western democracies operate. The gain is not simply more democratic institutions, but more prosperous societies, with more people contributing to and benefiting from pooled resources. Such digital societies can collaborate better, make more effective teams, and encourage democracy, self-governance, accountable policies,

true-cost accounting, and the ethical use of open-source material. Perfectly feasible, for example, are sites where citizens receive independent, weekly updates on matters of public concern (security, armament sales, military operations, clean water developments, bank holdings, etc.), access distance learning material and digital libraries, enjoy a one-to-many conversation with a recognized expert, and find links to impending legislation, conferences and related activist sites. {10} Collective intelligence, far from being a digital mob-rule, or the regimentation of thought behind political manifestos, becomes the cooperation of people who have common experiences, needs and aspirations. Aggregated estimates (like the market) are often surprisingly close to the truth. {11} Many countries encourage online filing of tax returns, and the use of the Internet for referenda, voting and greater empowerment of the citizen has been contemplated. Though their use is growing {12} electronic voting machines currently suffer from security problems, {13} which online use would likely exacerbate.

#### Collaborative Efforts

The Internet was always ideally placed for collaborative efforts, {18} but the new social media and other platforms have made online communities much easier to create. Such sites now cover the spectrum, from those like *Movellas* catering for the 'common reader' to those like *AncientLives*, which cater for specialists. Indeed there exist sites for most needs, and probably for those not visualized before. {41} Social media has become an important enabling medium for social protest, from Teheran {36} to Occupy Wall Street. {37}

#### Humanitarian Concerns

Farming information, extended broad-band access and smart phones have the power to relieve the poverty that blights the existence of two thirds of the world's population. {2} Subsistence agriculture can be replaced by biotechnologies that improve crop yields, reduce water, seed and fertilization

costs, and minimize dangers from pests, diseases and industrial poisons. Women can be more empowered, and corruption eased as government officials find their salaries improve as farming itself becomes more profitable.

## Health

Medicine is changing. For a decade or more, Internet technologies have allowed radiologic images to be distributed throughout a hospital and beyond, {26} but similar technologies now allow the continuous monitoring of the human body in the way that racing car performance is monitored and simulated. {31} eHealth has become a rapidly expanding field, {32} and more physicians are using the Internet to research treatments and further their employment opportunities. {33}

## eCommerce

eCommerce is here to stay. Overall US ecommerce revenues were up from US\$ 28 billion in 2000 to US\$ 166 billion in 2010, and there were marked gains in most sectors. {27} Europe showed even larger gains: to US\$162 billion in 2010, and a predicted US\$ 203 billion in 2012. {28} The UK digital economy, which accounted for 7.2% of GDP in 2011, was expected to account for 10% by 2015. {34} Growing even more rapidly is the Chinese market, with 2010 Internet sales at US\$ 684 billion, 89% percent coming from the B2B sector.

## New Technologies

Technology is developing at an ever faster pace and in the pipeline are truly revolutionary possibilities — flexible visual display units, improved batteries, nanotube computers, layered transistors, etc. {14} {42} Whether they become commercial possibilities in ten year or fifty years' time depends less on their inherent value than the appropriate business models being found. Major companies that have invested large sums in research, production and marketing of today's technology will clearly wish to recoup that effort before

moving on to something better. Nonetheless, since labour costs are only a small component of electronic goods manufactured in China and India, {39} these more dynamic parts of the world may well come up with innovative technologies if they find ways of penetrating western markets.

## Innovation

Innovation requires special people and special outlooks, which are more met in Asia and the west coast of America than in Europe or Africa. Innovation is chaotic, and the likelihood of failure is built into the process — 90% of technology companies set up in Silicon Valley fail within 18 months — but something is learned with each mistake. Companies with products that are easily copied do not survive unless — like Twitter or Facebook — protected by very large investment. {20} All this makes prediction hazardous, perhaps futile, though hardly a technology magazine or resident expert is without a crystal ball. {21} {22} {23} {24} {25} {35} {38} The predictions from Zippy Cart: {40}

Trend	Details and Examples
Co-creation	Customers can customize elements of their purchases. Examples: Blank Label and Indochino.
Mobile Commerce	Popularity of the iPhone, blackberry, iPad and other tablets suggests that customers may now feel comfortable with purchasing from the small screen.
Social Commerce	Social media sites are increasingly being targeted by emerchants, and more shopping cart software is offering the ability to set up a shop within Facebook.
Group Buying	More companies are offering group deals. Examples include Groupon, LivingSocial, Tippr and Wrazz.
Private Sale Sites	Companies offer customers good deals on top fashion brands, as part of their free 'membership'. Examples: Eziba and Lulily.
Expansion of Virtual Goods and Currencies	Facebook offers its own 'currency' and companies are experimenting with virtual and tangible hybrids. Example: Cheezburger.
Online and Offline Integration	Companies are enticing customers by online presentations of goods available at local stores.
Video	Automated videos gives customers a fuller idea of the product. Example: SundaySky.
Customer Service assisted by Social Media	Companies are increasingly using Twitter and Facebook to supplement their after sales and problem resolution services.
Push Shopping	Customers pay a subscription to have companies suggest selected purchases based on tastes, etc. Examples: JewelMint and ShoeDazzle.

## Barriers to eCommerce Growth

eCommerce growth is likely to be restrained by:

1. PC saturation: many in the west now own a PC, so that the growth in Internet use will slow in these areas.

2. Inhabitants of two thirds of the world (particularly Africa, central Asia, and war-torn countries) are too poor to purchase a smart phone, let alone a PC. Immediate prospects are often not encouraging.
3. IT infrastructure is poorly developed in countries where more pressing needs exist.
4. Shopping is a social occasion, which the Internet cannot fully duplicate.
5. The Internet increasingly requires outlooks and skill sets that older people find difficult to acquire.

### Looking Ahead

Commerce is the great social mixer, promoting travel, respect for others' abilities and understanding of cultural differences. Today the Internet offers extraordinary opportunities, but whether humanity makes best use of them depends less on technology than on the types of societies its better-informed citizens wish to create and belong to. {15} {16}

### Questions

1. Are you optimistic or gloomy about the prospects for the Internet? Why?
2. What are the main problems facing the Internet as used today? Suggest improvements.
3. Describe three developments giving grounds for optimism. What business models apply?
4. Provide your own predictions for the Internet, with reasons.

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Martin Ford (Author)



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Section Contents

### 3. EBUSINESS PROSPECTS 2012-3

B2C: North America

B2C: South America

Europe

Middle East & Africa

Asia

B2B

M-Commerce

All companies need to study trends and the recent history of their market sector if they are to take sensible decisions on investment, expansion and diversification.

#### 3.1 B2C: NORTH AMERICA

Webcredible {1} identified four important trends for 2011. First was the focus on internal analytics. 41% of companies surveyed propose to increase their web analytics budget in 2011, and devote more resources to website optimization, using web analytics, voice-of-customer and testing to improve Key Performance Indicator targets. The second picks up the growing popularity of mobile phones and applications: large retailers are expected to invest heavily in dedicated mobile platforms in 2011. The sales of Samsung's Android tablet device and the Apple iPad will — thirdly — challenge ecommerce retailers to modify their websites to catch these important revenue streams. Fourthly, 2011 should see an increase in the tie-up between ecommerce marketers and their Customer Service counterparts, with Social Media becoming an important part of Internet marketing.

SmartInsight {11}, however, found that engaging in social media channel was of concern to only 5% of companies surveyed. More important were: attracting new customers (40%), improving online marketing competence (38%), retaining existing customers (31%), finding the right staff (25%), managing technological innovation (16%), web analytics (13%), and planning an international strategy (7%).

Gartner's January 2012 report on IT spending {2} trimmed its earlier estimate of 6% growth globally in 2012 to 3.7%, a figure representing total expenditures of \$3.8 trillion. All four major sectors — computing hardware, enterprise software, IT services and telecommunications equipment and services — would be affected. Europe would bear the brunt of these cutbacks, and spending in the Americas be split equally between the USA and Latin America.

An Internet Retailer report {3} predicted slower ecommerce growth for the next three years: falling from 14.8% in 2010 to 8.1% in 2015, but still sufficient to reach sales of \$270 billion in 2015. Yearly growth predictions were 11.3% in 2012, 9.7% in 2013, and 8.7% in 2014. The 4.3% of US retail sales enjoyed by ecommerce (excluding auto sales, fuel, travel, digital downloads and ticketing) would increase to 5.8% by 2015, and some 170 million Americans would be buying online by that year. Purchases by mobile and daily deals were areas to watch.

Increasing mobile ecommerce was also stressed in a 2012 Digital Outlook by Chad Coleman. {4} Consumers would buy \$10 billion worth of goods on mobile devices in 2012, according to the Internet Retailer Mobile Commerce Top 300 Guide. Apple had expected to sell almost 20 million iPads in 2011, and sales of cheaper tablets were fast increasing, although many sites were not yet mobile friendly.

Of the 53 chain stores in the Internet Retailer Top 500, 48 saw online sales growth exceed that of offline sales.

Over 50% of Americans viewed online videos, and eMarketer predict online video ad spending to grow by a compound annual rate of 38% over the 2011 to 2015 period, the fastest rising category of online spending. 86% of web users currently use a mobile device while watching TV.

Also important were social media sites, where ad spending was expected to reach \$8 billion in 2013. Successful companies would be extracting more customer data from their traffic statistics, probably assisted by one of the many

services becoming available. Content marketing has always been king in B2B, and that is now spreading to B2C. A shakeout in daily deal companies was to be expected as site visitors became more astute in tracking down bargains.

Congress is trying to help states collect sales taxes. The Marketplace Fairness Act legislation applies to retailers with more than \$500,000 in annual out-of-state sales, and comes in response to brick and mortar companies wanting a more level playing field. International sales are being facilitated by improved ecommerce platforms.

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### 3.2 B2C: SOUTH AMERICA

According to a recent Report on B2C ecommerce in Latin America, Brazil (68 million) was the leading Latin American country in terms of Internet users in September 2009, followed by Mexico (28 million). Nationwide B2C ecommerce spending in Chile for 2009 was expected to reach USD 27 billion, up +14% compared to 2008. 17 million Colombians in 2008 had Internet access, accounting for 39% of the total population. Between 2007 and 2008, ecommerce in Mexico grew by +70% with sales of \$ 1.6 billion. Internet penetration is considerably lower in Venezuela than the Latin American average, with 5.9 million Internet subscribers. {1} The share of B2C ecommerce sales on total retail sales in Brazil reached 1.1% in 2009, up from 0.9% in 2008. {2}

South America exhibits a diverse scene {3} but an encouraging one. GDP growth for 2011-2012 is put at Argentina: 5%, Brazil: 4.3%, Chile: 5.8%, Colombia: 4.3% and Mexico: 4.1% (against 2.04% for G7 countries and 1.7% for the European Union.) Internet penetration in south America overall is 36.5%. Internet usage in Brazil, Mexico, Argentina, Chile and Peru exceeds the global average, and Hispanic buying power is expected to double from 1990 to 2014. Online ad growth is put at 13.3% over the next five years, and expected to reach \$4.2 billion in 2014. Ecommerce growth was 51% per year over the 2003-9 period (34% per year as a percentage of GDP). The big markets will be Brazil (60.8% of total) and Mexico (12.1% of total). The south America breakdown is travel 45%, retail 34% and international retail 13%. Social media sites are popular, and in October 2010, Brazil was Twitter's top global market. {4}

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### **3.3 B2C: EUROPE**

Marketing Charts {1} reported that B2B ecommerce sales totaled 106 billion euros (\$133 billion) in 2006 and would grow at an annual growth rate of 25% over the next 5 years, tripling in amount to reach nearly 323 billion euros (\$407 billion) in 2011.

Actinic's second quarterly UK online sales survey {2} found an 18% increase in revenue in the three months to 30 September 2010 when compared to 2009, but also that e-retailers were having to work hard in a challenging and competitive environment in the run-up to the crucial Christmas period. In the over 200 small and medium businesses selling online surveyed, the average quantity of orders processed by each

e-tailer increased 13% during the third quarter when compared to the same period the previous year. Nick Kington, managing director at Actinic added, 'These growth figures indicate that online sellers in the SME sector are faring well against poor high street sales.' eBay {3} suggested that small businesses had a significant role to play in driving UK ecommerce. Of the 127 businesses projected to reach a £1m turnover, the average rise in sales was estimated to exceed £600,000 per business. Twenty five of those were projected to achieve a rise in revenue of 100% or more the year, while 14 would rise over 200%, and 11 over 300%.

Bolstered by mobile use, ecommerce continues to thrive, growing by 14% in 2011. Some 21% of retailers will soon launch m-commerce features, while 17% of 15-34 year olds already make mobile purchases. Payments preferences were for credit and debit cards (42%) followed by online bank transfers, invoice and micropayment services. Cards are especially popular in Denmark, while Finns tend to prefer Internet bank transfers. Travel-related ecommerce is the largest segment (25%), followed by household goods (13%) and electronics (12%). {4}

The UK dominates western Europe's ecommerce landscape, accounting for over half of annual sales. But France, Germany, Italy and Spain are increasingly vital markets. eMarketer estimates that 2013 would see combined online sales in these countries reach \$121.5 billion, and for the first time overtake the UK total. By 2015, spending across the region would reach \$343.5 billion, with 58.2% of the total, or \$199.9 billion, coming from France, Germany, Italy and Spain. {5}

The 2011 use of online shopping in CEE countries was: {5}

Country	Percentage of online population in the country
Czech Republic	53.6%
Slovakia	48.0%
Slovenia	47.8%
Estonia	40.8%
Romania	37.2%
Lithuania	35.8%
Latvia	35.1%
Hungary	28.4%
Croatia	19.9%
Russia	19.8%
Serbia	16.0%
Bosnia-Herzegovina	11.8%
Turkey	10.0%
Ukraine	8.5%
Kazakhstan	6.9%

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### 3.4 B2C: MIDDLE EAST AND AFRICA

Only 6% of Internet users in the middle east make online purchases, and the area is lagging some five years behind the American scene. Reasons cited include a lack of choice in providers, unreliable deliveries and poor web page design, but the primary cause was a lack of confidence, with 43% concerned by the risk of security breaches when purchasing online. {1}

M-commerce is poised to take off in Africa, however, with a recent survey by InMobi indicating that 46% of Africans prefer to shop by mobile phone. 44% prefer over-the-counter

transactions, while only 10% make purchases on the Internet via their PC. {2}

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### 3.5 B2C: ASIA

Mobile phones are immensely popular in Russia (numbering 43% more than the population) but most are still second generation, limiting immediate ecommerce prospects. {1}

An academic study {2} found Malaysian SMEs poorly prepared for ecommerce, though research by Frost and Sullivan {3} showed that some 60% of B2B transactions were already conducted over the Internet. Singapore merchants were better informed but, in half of those surveyed, {4} ecommerce accounted for less than 10% of revenues.

In contrast, the Chinese ecommerce industry advanced by leaps and bounds in the first half of 2010. {5} Domestic ecommerce companies completed 23 financing transactions, amounting to US\$331 million. Many companies are considering self-built ecommerce logistics systems, some of them wholly integrated, including B2C business platforms with B2B ones. The mobile ecommerce has become the hot new market, and ecommerce legislation has gradually improved. The key findings of a recent Forbes article were that: {6}

1. The number of Internet users in the world's most populous country jumped 28.9% in 2009 to 384 million, a figure exceeding the US population.
2. China's online shopping sales rose to \$36.6 billion last year, helped by retailers being able to help consumers feel more comfortable shopping online.
3. Alipay has grown to become China's biggest online payment company by processing more than 1 billion yuan (\$146 million) in transactions every day. Alipay recently

announced that it expects to surpass PayPal's transaction volume within two years.

4. Much of China's ecommerce growth is being driven by younger buyers. China Market Research Group said that users in China between the ages of 13 and 28 spend 20 hours a week online on average, compared with 12 hours a week in the US.

A similar picture is painted by a ReadWrite Web article. {7} In 2009, China's ecommerce market totalled 263 billion RMB (approximately \$38.5 billion) with growth equivalent to about 105% increase year-on-year. C2C is currently the largest segment of China's ecommerce market, but B2B is growing in importance due to two trends. Traditional retailers are developing ecommerce platforms as additional channels to get consumers to buy their products. Secondly, small, one-person operations are now expanding to become formal B2C enterprises.

2012 predictions for the Chinese economy included greater use of mobiles and tablets, a growth in gaming and subscription sites, ecoupons and new Chinese search engines. The last are currently worth some US\$ 1.65 billion, and show a year-on-year growth rate of 57.7%. Internet retailing is set to increase in value by 42%, rising to RMB 458 billion by 2015. M-commerce was reported to be worth RMB 117 billion in 2011. {25}

The Indian scene looks less rosy. Turnover in the Indian retail industry stands at \$390 billion, but the online percentage is only 0.47%, though that is poised to grow at 30% for the next five years. Currently, more than 75-80% of this market is constituted by travel portals like Makemytrip.com and Yatra, with matrimonial and job portals making up another 12%. {8} Internet advertising was increasing fast, but the weak PC penetration, low broadband usage, reluctant credit card users and high cost of acquisition remained major areas of difficulty. {9} Similar problems were noted by Plugged-In: product delivery delays, payment gateways costs, and the vendor reluctance to adopt systems integration, with limited

broadband penetration and computer access in tier-2 and tier-3 cities. {10} Indeed, the Indian Venture Capital Association thought the inflection point of ecommerce in India was a good ten years away. Broadband access was not extensively implemented, and though travel represented 60% of ecommerce revenues, almost 98% of Indians couldn't get their travel tickets delivered online at the first attempt. {11} Optimism and faith in ecommerce had grown somewhat a year later, both in India {12} and more particularly in China. {13} {14} {15} Both are led by increased mobile phone penetration {13} and improved B2B services. {18} Indeed the Chinese merchant service Alibaba is extending its service to India, {17} and Chinese companies are increasing their (non-Internet) investment in south America, {19} Africa {20} and the US. {21}

Nonetheless, ecommerce in India is still seen as in its inception stage, {22} but group-buying sites, discounted fashion brand retailers and specialized online stores dominated recent startups. {23}

Nikkei reported that Japan's ecommerce sales had increased 16.9% during the fiscal year 2010, bringing online shopping sales to 1.59 trillion yen ( \$20 billion) in total. The surge was apparently led by smartphones (of which there were almost 10 million) and indeed by January 2011 some 57.5% of mobile users had used their mobiles for purchases. {24}

Some 12% of Australian companies were using ecommerce in 2011. Only 39% of Australian businesses had a web-site, in fact, and only 32% of them used it to sell products or services. {26}

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### 3.6 B2B

Optimism plunged in the last quarter of 2008, and many projects were expected to be put on hold as companies fight for survival. {1} Costs would be pared back, and there might be a danger of ‘unfocussed’ price reductions, reflecting a heavier burden of regulation and compliance. *My Customer* {2} suggested three key strategies. First was a deeper understanding of changing customer requirements, both in the recession and afterwards. Second was the building of a ‘corporate brain’ to gather information, turn it into updated knowledge using analytics, and then into insight. Third was innovation, from customer solutions (not just service), to business models. Leading organizations were gearing up their ideas pipelines, improving innovation processes and measuring new inputs to outputs ratios.

*SearchCRM* had more specific advice: {3}

Build on social technology that has increased in the last 12 months to enrich the customer experience through community-based interactions. Three in four US online adults now use social tools to connect with each, other compared with 56% in 2007.

Develop CRM strategies that deliver clear business value.

Cost projects carefully: there will be no room for overruns.

Reduce the risk of CRM ventures failing. In a recent survey of CRM professionals, 33% of the problems related to technology, 27% to business processes, 22% to people, and 18% to CRM strategy.

Get more value from customer information, evaluating how enterprises collect, distribute, and use data.

Redress vendor pricing and licensing arrangements: software licensing and pricing is still marred by complexity, soaring maintenance costs, and a lack of flexibility and alignment with business goals.

CRM may even save your company in the tough times ahead, provided it's sensibly used. {4}

Ebusiness now seems to be weathering the economic recession remarkably well: B2B has continued its rise, {5} {6} {7} and B2C has remained flat but not fallen over the last three years as customers have looked to make savings online. {8}

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### 3.7 MOBILE COMMERCE

Mobile ecommerce has only recently caught on the States, but a 2011 Internet Retailer survey (of 54 web-only merchants, 31 retail chains, 17 catalog companies and 15 consumer brand manufacturers) noted:

1. Some 24.1% of merchants operate a mobile commerce site, and 16.4% have both an m-commerce site and mobile apps designed for specific devices.
2. Revenues were appreciable. Of such merchants:
  - a. 54.8% were generating annual sales of more than \$50,000.
  - b. 40.6% were generating annual sales of at least \$250,000, of which

- c. 9.5% were generating annual sales of \$250,001 to \$500,000,
  - d. 7% were generating annual sales of \$750,001 to \$1 million,
  - e. 14.3% were generating annual sales from \$1.1 million to \$10 million,
  - f. 4.8% were generating annual sales from \$10.1 million to \$50 million ,
  - g. 5% were generating annual sales of more than \$50 million.
3. Mobile commerce accounts for at least 3% of all web sales at 47.6% of merchants.
  4. 16.7% of merchants found transactions from tablet computers accounted for at least 20% of mobile commerce revenues.
  5. 85.7% of merchants saw mobile commerce as important to their future online business development, and 59.2% as very important. Some 7.1% plan to spend over \$1 million in this development.
  6. 59.1% will use an outside technology partner to help them build their mobile commerce site or apps.
  7. Site maintenance is a problem and only 36.4% of online retailers have full-time staff devoted to mobile commerce.

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## Section Contents

## **4. RESEARCH AND PLANNING**

Getting Started

Research for the Small Company

eBusiness Overview

Planning for Internet SMEs

Companies cannot build an appropriate website, nor indeed engage in any Internet business profitably, without having a properly costed business plan built on detailed research. They will also need to look at models, strategies and case studies.

Book Contents

## 4.1 GETTING STARTED

Ten years ago the breezy advice offered to a small company setting up on the Internet would run something like this:

Test the Model

1. Decide what you're selling.
2. Acquire the appropriate domains if there's any danger they won't be available when you come to build your final site.
3. Consider building an elementary example of your 'final site' now and promoting it for free through the natural search engines. You'll have to modify the site when your business plan is complete, but the 6 month's lead time will not have been wasted.
4. Take a domain for testing purposes and start building or checking your business model. Use a third-party marketing platform, an 'out-of-the-box' shopping cart program, or an all-in-hosting service to build a micro-site and see what really works.

Website Aims

Websites are built for many purposes, and one design will not cover them all. The usual objectives are:

1. Sell your own products or services over the Internet.
2. Act as an affiliate by selling other people's goods or services on a commission basis.
3. Enhance an established brand identity.
4. Provide information to drive sales locally
5. Sell advertising.
6. Extend customer support.

Build the Website

You'll be familiar with websites — collections of HTML pages grouped around some URL like <http://www.companyname.com>. Websites can be very

ambitious, with stunning graphics, animation, sound, database search systems, customer recognition and a good many other features. But they don't need to be. Many successful ecommerce sites are half a dozen pages extolling the virtues of the product. More can be less, and 'wow' sites will only hinder customers getting to your products, and make promotion more difficult. But your site still needs to look professional. How do you create something convincing? You can:

1. Hire a web design company. Thousands exist, conveniently collected into directories.
2. Build your own pages using HTML-editing software. Easy-to-use editors exist for all pockets, some of them shareware or even free.
3. Purchase an out-of-the-box shopping cart program that builds the whole site for you, including an online catalogue with payment facilities in place.
4. Rent space on a web-hosting company offering site build online. Much like the out-of-the-box solution, the hosting company gives you templates and wizards to create a distinctive and professional-looking site.
5. Use a third-party marketing platform like eBay, Amazon Merchant Services or Yahoo Merchant Solutions.

#### Obtain the Internet Domain

The URL (uniform resource locator) is your address or domain on the Internet. You'll want something that identifies your company and possibly your line of business. How do you get a domain?

You visit an online company offering domains for sale. As you're a commercial concern, you'll go for a .com, or possibly a .biz domain. You'll try possible names in the search box provided until you find a suitable one available.

Suppose your company is Acme Diving Equipment Ltd. You find that acme.com has been taken, and so has diving.com, both a long time ago. But acme-diving-equipment.com is still free, and you therefore take that domain for a few dollars a year. An online credit card facility accepts your order, and an email a few minutes later confirms the purchase.

## Hosting Your Site

You're halfway there. You have the site built, and a domain name to host it under. Now you have to upload the site to a web-hosting company that will display it on the Internet, 24 hours a day, seven days a week. Thousands of such web-hosting companies exist, and there are now web-hosting directories that enable you to select by cost, platform type, facilities, etc. — all of which are explained by on-site notes. You make your choice of hosting company, click through to their site, pay their hosting fee, and can then upload your site to that company's server. The hosting company will explain how. It's very simple, but you'll need a cheap or free piece of software called an ftp program. This you can obtain from any software supplier, and use it to maintain your site thereafter. Once uploaded, your site goes 'live'. You're on the Internet.

Of course if your site has been built by a web design company, then they'll upload it for you. And if you've built your site online, then all you need do is email the hosting company that you're ready to start trading.

## Taking the Money

In selling something you'll want to be paid as quickly, safely and painlessly as possible. Ecommerce now has many options. Starting with the simplest, these are:

1. Display your goods online, but take payment offline — by check, bank transfer, credit card details given over the phone.

2. Display your goods online and take payment online through some simple wallet system.

3. Display and take payment online, but employ a payment service provider. A link to your shopping cart or catalogue will transfer the customer to the payment provider for immediate card processing, transferring the customer back for you to handle the purchase. You can use your online merchant account if you possess one, but that is not required. The payment service provider will verify the credit card purchase, collect the payments, deduct the commissions, and send you the balance, usually by bank transfer monthly.

4. Display and take payment online, but use your own online merchant account, which you have obtained from your local bank or from a Merchant Account Provider.

Wondering how to link your site to the payment process?

Links will be built in automatically if you use an out-of-the box shopping cart, employ a web design company, or rent space on an online ecommerce-hosting site. Otherwise — if you've built your own site — you'll have to add code to the pages concerned. With payment service providers that's fairly easy: they'll supply a snippet of code for you to paste in. Using your own merchant account, particularly if you're hosting the site on your own server, will require liaison with the credit card processing company, and good programming experience. You may have to employ a professional.

## Promoting Your Site

With hundreds of new ecommerce sites appearing every day on the Internet, it's getting mighty crowded out there. How is your site going to be noticed? By:

1. Getting out a press release.
2. Featuring in business directories, in online and offline versions.
3. Submitting to the search engines, perhaps employing a site optimization company to get a high ranking.

4. Using the pay-per-click search engines, which charge a few cents to a few dollars for each visitor that clicks through to your site with a particular search phrase.
5. Signing up other sites as affiliates, paying them a commission on the sales they achieve for you.
6. Featuring a free newsletter that provides useful information.
7. Adding a blog or social media page that gives your company a more human face.
8. Persuading other sites to link to yours, possibly through a non-reciprocal links directory.
9. Winning awards for your site.
10. Offering online competitions, introductory deals and promotions.
11. Providing free and helpful information on your site.
12. Advertising offline in newspapers and specialist magazines.

Will The Business Be Successful?

Now the vital question. Having followed these steps faithfully, you can surely expect your site to be successful?

Possibly: if you're in an especially favorable position. You're the sole suppliers of spare parts for some particular machinery. Or yours is the only guest house in a popular tourist area. Yes, in those cases, the steps above may be all that's needed.

But in other cases the answer is no. Success figures for ecommerce are hard to come by, but 1-5% is the figure bandied about the Internet for small companies that start from scratch, i.e. don't build on the back of a successful bricks-and-mortar operation.

Ecommerce is not easy, and if you follow the blandishments of advertising and ecommerce journalism it's unlikely that you'll even get your expenses back.

The early ebusiness casualties believed otherwise, of course, and there are still many sites, books and ebooks that assure

you that ecommerce is entirely a matter of following certain procedures. It isn't, and you can readily see why.

1. Lowered barriers to entry have made ecommerce is an extremely crowded marketplace.
2. Competitors will have acquired hard-won ecommerce skills, which newcomers will also have to learn or buy into.
3. It's easy to get locked into the wrong goal or business model, as the spectacular dotcom failures discovered.
4. You've built a site and then thought about promoting it. Wrong. Your site has to be a selling machine, which means, from the very first, designing around some well-honed selling proposition. That in turn calls for careful thought, competitor research, traffic analysis and continual site improvement.
5. Case studies (PayPal, Open Table, etc.) show that even 'sure fire' businesses had a hard time, often requiring a marketing spend beyond the resources of a small company.
6. Ecommerce is not easy, and needs the business skills, contacts and experience of the particular market sector just as much any traditional business.
7. Most ecommerce ventures fail because the business model is faulty: the venture has no advantage over the competition in any vital element of the model.

#### Questions

1. Describe the recommended seven steps in setting up an online business.
2. Why will this approach generally fail today?
3. What can be done to increase the odds of success?

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## Section Contents

## 4.2 RESEARCH FOR THE SMALL COMPANY

Until recently, individuals were generally cautious about going in business, deciding after much deliberation on something where their personality, know-how, contacts, ability to recruit good staff and network with others in the trade gave them a good chance of succeeding. The seeming low entry cost of ecommerce have changed these perspectives, and many are now happy to chance matters by choosing ecommerce first and some area of business later. It's for these ecommerce aspirants that this section is written, and comes with two health warnings:

1. Ecommerce is not as cheap as first appears, not if it's to have any likelihood of success: you need to do your sums carefully.
2. While ecommerce has lowered some barriers (premises, geographical access) it has also raised others (intense competition, against companies with hard-gained experience and large advertising budgets).

### Researching the Market Sector: General Picture

Businesses vary enormously. Some have steady futures (law, retail); some look to be expanding (IT, leisure) while others are in long-term decline (mining, manufacturing.) To these broad trends have to be added the business cycles that affect all markets at various times, and the knock-on effect from subsidiary matters (collectables from general business confidence, travel from currency swings, terrorism) etc. You'll want to launch your business at the most favorable time, both to increase your chances of success, and to attract appropriate funding.

### Finding Your Market Niche

Whatever you're selling, it will not appeal to all market sectors. Luxury cruises and cheap flights may be both part of the travel

business, for example, but they're very different in capitalization, marketing and market segment. You may be moving an established business online, or have access to a narrow range of products anyway, but as much as possible you'll be supporting your choice by extensive research.

Market niche is your particular area of the market, where you have a decided advantage and can see off the competition. You have to find gaps in the market sector, and devise a strategy that will allow you to exploit those gaps, maintaining your advantage when the competition moves against you.

Some suggestions:

1. Use keyword research software to identify market niches, the search traffic they attract and the competition from similar sites.
2. Having identified gaps in the market (with, say, a minimum of 80 searches/day and no more than 10,000 competing sites), ask yourself:
  - a. Why the gaps exist: does the market know something that you don't?
  - b. How permanent are they: will they be closed before your site makes a serious challenge?
  - c. What's the long-term future of this market niche?
  - d. What in detail could be your advantage in this niche?
3. Look carefully at selected competitor sites. Can you improve in respect to:
  - a. price?
  - b. range of products?
  - c. service — more attractive site; better guarantees, returns policy, customer support?
4. Double check your advantage by:
  - a. Getting prices and delivery times from potential suppliers.
  - b. Looking at retail prices at Bizrate and similar comparison sites.
  - c. Making broad sales estimates.

## Assessing the Competition

Assessing your market niche will have introduced you to the competition. Now you must look at competitors more carefully.

1. Make sure you've identified them all by really drilling down through the search engine lists. Some may be just starting out in business and still have very poor rankings. That will change, and you need to be prepared.

2. Identify your strongest competitors and try to understand their business as well as they do. Take their sites apart. Scour the trade and business news for information on them.

Research their turnovers, capitalization, profit margins and marketing budgets. You may want to surf anonymously with Anonymizer or FastFreeSurf, etc.

## Market Segmentation

Not to be confused with market niche is market segmentation. Some 80% of sales commonly come from 20% of customers, and market segmentation helps identify those better customers more precisely. You start by analyzing customers under various demographic groupings – age, gender, ethnic group, education, occupation and income to find the optimal profile. If you were selling specialist cultural tours, for example, you might design your site to specifically appeal to an audience with these characteristics:

Age: 35-55 years old

Gender: male and female

Ethnic groups: all

Education: university

Occupation: professional

Income: \$60,000 p.a. or more

Sales and growth information might of course be available only from bricks-and-mortar companies, when you'd have to obtain estimates of Internet users within such a grouping. The US Department of Commerce, for example, provides demographic information on Internet users, and indeed by geographical grouping within the USA. More detailed

information is available from market research sites and services.

### Industry Benchmarks

Similar companies in comparable industries tend to have similar performance benchmarks — efficiencies, call-out times, return on investment, etc. Though primarily used by consultants and management to identify areas needing improvement, {4} it's also wise to check that your planning figures fall within industry averages. You're not going to do better than the big boys, particularly when just starting out.

### Marketing the Site

An amazing number of companies build their site and then think about marketing it, which is quite the wrong way of going about matters. Even if you dispense with marketing through the search engines — in many ways still the most effective approach — you must still understand what Internet shoppers are looking for, and build your site accordingly. Sooner or later you'll have to adjust to customer requirements, and delaying changes will only increase the overall workload. Before building the site, you should:

1. Establish and double check your unique selling proposition.
2. Devise a clear, stepwise and costed marketing plan.
3. Find the best keywords for each page.
4. Design the site around your keywords and marketing plan.

### Marketing Plan

Before the plan is finalized, and any website built, ensure you have

1. Found out what potential customers really want through surveys, market research, auction etc. testing, and visits to competitor sites.
2. Assessed the competition, their strengths and their marketing approaches.
3. Focused on what you can do and your competitors can't:

your unique selling proposition.

4. Devised clear contingency plans to counter competitor moves against you.
5. Looked at potential new markets.
6. Constructed a timetable for traffic levels, conversion rates and sales.
7. Costed each marketing phase accurately.
8. Set up contingency plans for unexpectedly high or low sales.

How will you promote the site? The specifically Internet approaches are:

1. Market through the natural search engines
2. Promote your site through search engine ads and pay-per-click search engines
3. Use affiliates.

Many companies use all three methods, but it's as well to bear in mind that, while marketing through the natural search engines is the cheapest option, it now takes a long time to create a popular site, not to mention unique content.

Profit margins are obviously critical in the other two approaches. Affiliate marketing is the safer approach as conversion rates are notoriously difficult to predict. Properly chosen, affiliates also add confidence to your products: visitors won't usually buy immediately from a site to which they're directed by a search engine.

#### Building the Site around the Marketing Plan

The mechanics are covered in web site development, (and search engine optimization if you're marketing through the search engines) but the general principles of ecommerce site building are:

1. Design should reflect your unique selling proposition, and your market position vis a vis the competition.
2. Appearance must be professional, inspiring trust and confidence.

3. Download should be fast, certainly not more than 10 seconds, even in congested Internet conditions.
4. Appealing: copy should immediately draw visitors in by emphasizing its potential value to them.
5. Navigation should be clear and trouble-free — not merely possible to follow, but impossible to get lost in: check with third parties before going live.
6. Testimonials should be placed strategically (and be genuine).
7. Guarantees and returns policies should be clearly stated, and adhered to.
8. Email and telephone (preferably toll-free) support should feature prominently: ensure you have the staff to answer inquiries.

#### Types of Internet Marketing

In terms of effectiveness, these are the best ways of promoting your site: with search engines and directories, pay-by-click and search engine ads, conventional offline advertising, newsletters and weblogs through affiliates, with emails, reciprocal links and viral marketing.

#### Modifying the Marketing Plan

The only sure way of marketing a product is to plan intelligently, follow the plan meticulously, assess results, and keep modifying the plan. Marketing is a continual learning process, and it's essential that your website statistics keep you fully informed on what visitors are doing. Ensure that your hosting company provides these traffic statistics on a daily and monthly basis:

1. Number of visitors.
2. Pages downloaded.
3. Time spent on the site (average and maximum).
4. Page popularity.
5. Most used trails through the site.
6. Pages used to enter and leave the site.

7. Referring sites and search engines.
8. Visitors' countries of origin.
9. Popular keywords.

Even minor changes to copy and page layout may alter visitor performance and sales, which is a reason for monitoring results regularly.

## Joint Ventures

Business expansions are fraught with unknowns. Why not joint venture to share and extend your skills, experience and markets? The advantages of joint venturing are:

1. Strengthened resources to beat the competition.
2. Penetration into new markets.
3. Access to existing customer base for similar but not identical products.
4. Shared operating and possibly marketing costs.

The dangers are equally obvious:

1. Unrealistic expectations of the other party.
2. One-sided nature of partnership.
3. Tangled management and decision lines.
4. Accounting complications.

## Legal Aspects

Partnerships usually come adrift because matters have not been spelt out sufficiently. Joint ventures even more need to explore all aspects and hold them in a legally-binding agreement. Such matters as:

1. Overall objectives/expectations of the parties.
2. Staff, time and reporting structure
3. Minimum (and maximum) expenditures involved.
4. Duration of joint venture.
5. Procedures for extension or amicable termination.
6. Arbitration procedures if all else fails.

Standard joint-venture templates can be purchased cheaply

over the Internet, and will ensure that all points are covered in discussions. Critical ventures need expert legal advice.

## **Finding Partners**

Joint ventures are commonly most successful when parties:

1. Are not in competition but share the same target audience.
2. Have essential but complementary skills, e.g. marketing and software development.
3. Level with each other regarding expectations and commitment.

You can identify potential partners online by participating in email discussion groups, online forums and newsgroups that deal with your target audience. Then comes an introductory letter introducing yourself and the benefits to both parties. Make sure you do your homework on the company, and address the inquiry to the right person.

## **Scams: Checking Out a Business**

Though the Internet has widened opportunities for the-less-than-honest business, it has also made the detection and reporting of fraud much easier. The usual common sense applies: be skeptical, take out references, check everything. Nothing is free in business, and if something seems too good to be true, it probably is.

## **Types of Fraud**

By far the biggest incidence of fraud occurs in Internet auctions among customers who do not pay by credit card and/or use an escrow service. Consult the references below.

Note also that the vast majority of businesses opportunities spammed to your email boxes deliver less than promised.

## **First Steps**

How do you check up on an Internet company? As you would any other:

1. Ask for a bank reference.
2. Get written statements from major suppliers and customers.

You can also make quick checks by visiting:

Alexa

Other helpful sites are:

About the Web. Good listings and sensible advice.

Internet Fraud. Security and Exchange Commissions advice on Internet investment fraud.

OuchConsulting. Sell a \$25 e-book: *Selling Snake Oil at Light Speed*.

PcHell. Software scams and how to fix them.

Link Scan. Where and how to complain about Internet fraud.

Scambusters. Excellent advice from a business point of view and free newsletter.

### **Assessing a Company**

To assess a company properly you will need to analyze its financial statements, which you can request from the company concerned if a sale is in prospect, or get from the public domain at:

Industry Research Desk.

Corporate Information.

Edgar Database.

Hoover's Online.

Dun and Bradstreet.

### Estimating Sales

You need to attract a high volume of visitors to your site, and you need them to buy. You'll remember that means:

1. Identifying the right market sector through keyword and market research.
2. Advertising the website in that sector through:
  - a. Search engine placement.
  - b. Pay-to-click search engines.
  - c. Affiliate schemes.
  - d. Email marketing.
  - e. Non-reciprocal links.
  - f. Offline marketing.
3. Identifying the best customers: market segmentation.
4. Inducing a willingness to buy with:

- a. A site that inspires trust and confidence.
- b. Products can be independently checked.
- c. Recommendations from third parties and affiliates.
- d. Reciprocal links.

5. Maintaining the selling momentum: a trouble-free purchasing system.

### Estimating Site Traffic

Site traffic can be estimated with keyword research programs. Typical conversion rates can be found by Internet searches with 'conversion rates' and 'ecommerce conversion rates'. Something around 1-2% is often quoted, but much depends on customer confidence, the pricing, brand awareness and the competition. Read the cautionary tales: [Seascape e-Art](#) and [Fine Art Ceramics](#).

### Testing the Proposition

Research can only take a company so far. Educated guesses can be made for likely traffic and conversion rates, but more is often needed, particularly when using the pay-per-click search engines for marketing, where charges soon mount up.

Companies commonly test their proposition by setting up a test website with a dummy ordering system, monitoring results carefully for changes in:

1. Goods offered.
2. Presentation of goods.
3. Site layout.
4. Ad copy at the ppc search engines.
5. Keywords targeted by page copy.
6. Marketing through the larger ppc search engines, the smaller ppc search engines, price comparison search engines, eBay and other auction sites, banner ads, box adverts in trade periodicals.

A tall order? It certainly takes time and money, but becomes necessary in many cases.

## Next Steps

The above outlines a conventional plan for a conventional Internet business. Unfortunately, the Internet is now an extremely crowded marketplace, and while the plan will give a new business a fighting chance of success, it would be wise to analyze the plan further into business elements and business strategies. Long-term success requires that an enterprise outpace the competition in as many ways as possible, though this will become clearer when the next step is taken: deciding on the ebusiness type.

## Questions

1. Describe the research needed by a small company venturing into ecommerce.
2. What are the two key areas that ecommerce research should cover?
3. How would you get reliable figures for traffic and percentage conversion?
4. How could business models and strategies help?

## Sources and Further Reading

1. Ecommerce Information: [eCommerce: General Information](#).
2. Ecommerce Marketing: [eCommerce Marketing](#).
3. Business Information: [Resources](#).
4. KPI Benchmarks. [KPI](#). Member's library by industry and sector: from \$149/year.

## Section Contents

### 4.3 eBUSINESS OVERVIEW

Advice to SMEs notwithstanding, any company hoping to succeed on the Internet today will need to undertake the following:

General

1. Study market trends.
2. Research competitors, especially:
  - a. profitability and financial base.
  - b. market sectors sold into.
  - c. nature and size of customer base.
  - d. selling approaches adopted.
  - e. website: presentation and search engine ranking.
3. Identify market niches, using:
  - a. keyword software.
  - b. market research.
4. Establish their unique selling proposition, identifying:
  - a. preferred customers.
  - b. market sector.
  - c. optimal prices.
  - d. advantage(s) over the competition.
5. Develop a marketing plan, using:
  - a. natural search engines.
  - b. pay-per-click services.
  - c. social media marketing and similar platforms.
  - d. free services.
  - e. email marketing.
  - f. newsletters.
  - g. press releases.
  - h. affiliates.
  - e. conventional advertising.
6. Create a website or blog, with:
  - a. own or third party hosting, or
  - b. webbuild company, hosting company or own staff.
  - c. social media marketing and similar platforms.

- d. scripting and attached database.
  - e. shopping cart.
  - f. merchant account or Internet payment provider.
7. Write an appropriate business plan, specifying:
- a. unique selling proposition.
  - b. staffing levels.
  - c. capital requirements.
  - d. predicted cash flows and balance sheets for three years.

#### Additional Business Type Requirements

### **Selling Physical Products**

Companies selling a physical product will also need to:

1. Research
  - a. supplies and suppliers.
  - b. customer profiles, possibly with cluster analysis or neural nets.
2. Devise optimal prices, with:
  - a. focus groups and customer research.
  - b. market research.
  - c. kNN analysis.
3. Build a loyal market base, with:
  - a. surveys.
  - b. market research.
  - c. social media marketing.
  - d. product information and white papers.
  - e. after-sales email and livechat support.
  - f. customer relationship management software.
4. Develop the appropriate website, possibly with:
  - a. sophisticated shopping cart.
  - b. web portal.
  - c. auction software.
5. Obtain an Internet merchant account.

### **Selling Content, Subscriptions or Services**

Companies selling information or services will also need to:

1. Consider alternative outlets, possibly
  - a. other epublishers.
  - b. amazon.
  - c. PoD
  - d. mobile platforms.
2. Consider distance-learning services.
3. Add digital rights management controls.
4. Employ subscription management services.

## **Affiliates**

Companies selling other people's goods or services will also need to:

1. Find popular products that pay high commissions, with:
  - a. affiliate marketing groups.
  - b. keyword software to identify active areas of the market.
2. Join one or more affiliate solution providers.

## **Selling Advertising**

Companies selling advertising will also need to:

1. Increase targeted traffic with seo or pay-per-click services.
2. Hone their media kit figures.
3. Employ an advertising agency.
4. Use Google AdSense or its many clones.
5. Employ banner ads (software or service) and/or third party networks.

## **Questions**

1. Suppose you are selling leisure goods over the Internet.
  - a. what competitor research will you undertake, and how?
  - b. describe your marketing plan, detailing what Internet services you would use.
  - c. what would your business plan cover?
2. Suppose you're going to sell financial advice over the Internet:
  - a. what Internet services would you consider using, and why?
  - b. how would you market your service?

c. outline a three-year timetable.

## Section Contents

## 4.4 PLANNING FOR INTERNET SMES

There is no one correct way of writing a business plan, but a small ebusiness will generally go through most or all of the steps below.

1. Check that their business will convert to the Internet environment.
2. Avoid launching themselves at the wrong time by researching their market sector carefully, both current trading conditions and future indications.
3. Be clear on their revenue model and what they are selling: physical goods, software/content, services or selling for others.
4. Establish their marketing approach. There are many that work on the Internet, and many that do not. Even the successful have their pros and cons, and their differing ranges of costs.
5. While there's always room for new ideas, some approaches have been shown to fail. The reasons were obvious with hindsight, but companies would do well to consider the case studies of similar enterprises.
6. Crucial to success are sales. What sort of traffic can be expected, and what percentage will convert into purchases?
7. Proceed cautiously by testing the business model before proceeding too far.
8. Model the cash flows, break-even points, R.O.I., etc. under the assumptions indicated by research. The modelling needs to be as penetrating and objective as possible, as potential backers certainly will be.
9. Look at their business model in more detail, identifying areas of challenge and opportunity. Investors will want to see these areas are covered, that they feature in the unique selling proposition, and steer clear of common pitfalls.
10. View their plan from the perspectives of the funding institutions, which focus on certain requirements. Redraft the plan accordingly.

## Types of Business

Many types of small Internet business exist: some broad categories:

1. Online representation of an established business: sales still largely via traditional outlets.
2. Responsible online business built from scratch.
3. Opportunistic ventures, staying one step ahead of the competition and/or legal problems.
4. Unusual hobbyist or novelty site, one that may or may not 'catch on'.
5. Visionary software or service company.

All five can be very profitable, but the planning approaches are quite different.

### **Established Business**

Primary concerns are enhancing brand identity and strengthening customer relations. The site will supplement and extend current marketing efforts, but not necessarily be a great money spinner in itself. The company will want to:

1. Research websites in their market sector.
2. Identify web-build companies.
3. Have a website built that stresses the product quality and service aspects:
  - a. company history and policies.
  - b. product specifications.
  - c. location, opening hours, telephone numbers and personnel of retail outlets.
  - d. complaints and returns procedures.
  - e. technical support: handy hints, white papers, helpline.

The site will pay for itself by promoting offline sales and reducing returns. It may be later that online purchase facilities are added, probably a high-security, database-supported operation. Promotion through the natural or pay-per-click search engines will not be important, but URLs and email addresses will appear in stores, letterhead and magazine ads.

### **New Online Business**

The Internet is crowded with online businesses, and new ones appear in dizzying numbers every day. Research and planning will be very important, and promotion through the natural or pay-per-click search engines consume a large part of the marketing budget.

### **Opportunistic**

Opportunistic businesses are continually looking for the quick buck, exploiting market opportunities as openings appear, and moving on rapidly when the competition catches up. They come into their own in these areas:

1. Affiliates.
2. Selling advertising.
3. Marketing gurus, with ebooks, conferences, and specially-sponsored software.

Outstanding reputations may (gurus) or may not (affiliates) be essential, and individuals sometimes cross the line of accepted business practices, occasionally of the law itself. Many are innovators, however, the Internet would be a duller place without them. In these approaches there is generally a need to:

1. Develop extensive business contacts through conference appearances, newsletters and articles in the ecommerce press.
2. Continually network with other entrepreneurs and young business leaders.
3. Be in the swim of new ideas: hang about newsgroups, forums, local business groups.
4. Develop a technical knowledge of Internet possibilities (either from a programming background, or by forming partnerships with technical staff) so that innovative websites can be up and earning in a matter of days.
5. Employ an accountant to set up multiple companies, legal but with only minimal financial responsibilities.
6. Locate seed capital to tide them over the flat patches: traditional sources won't be forthcoming.

### **Unusual Hobbyist or Novelty Site**

A small number of Internet businesses defy reason. From an orthodox business point of view, they shouldn't exist, but they do exist, and sometimes make extraordinarily amounts of money. Examples include: furniture arranging, autographs, soap manufacture, hand-crafted blankets, and so forth.

For these, there is little point in detailed planning until there is proof of concept, i.e. until it's clear there is some merit in the idea. Proper data will not be available for a business plan if the concept is really novel, and the local bank manager won't give it the time of day. The steps will be to:

1. Make a simple plan of a page or two.
2. Try selling the product on eBay or other auction site.
3. Set up a cheap site with an all-in ecommerce hosting service.
4. Continually test to establish pricing, customer preferences and best sales sales copy.
5. Armed with hard data, make a detailed plan to exploit the market opening before competitors close in.

### **Visionary Software or Service Company**

Once the darlings of the media, i.e. before the dotcom crash, innovative companies identify a need for something not immediately apparent. Many difficulties lie in their way, not least changing market views, but their key difficulty is funding. Strong in technical expertise and selling skills, they need the time to bring their ideas to fruition, without selling out prematurely to venture capitalists or large software houses.

### Financial Modeling

Financial modeling goes beyond providing financial statements in the form of balance sheet, profit and loss account, break-even price, return on investment, time to profitability, and the like. It means wholly understanding the business in financial terms, providing explanations to such questions as:

### **Nature of the Business:**

1. What are you selling?
2. How is it going to make money, precisely?

### **Milestones:**

1. Startup date?
2. Projected turnover and profit? By when?
3. Overall goals and objectives?

### **Marketing:**

1. How are your products or services better/cheaper/more attractive?
2. How will you advertise, on and off-line?
3. What's your pricing policy?
4. What's the competition, and how will you cope?
5. What are the prospects in your market sector?

### **Financial Control:**

1. Who's supplying the startup or seed capital?
2. How long before the business is profitable?
3. What's the break-even point in services or units sold?
4. What's the return on capital, and is this higher than simply investing the money somewhere?
5. For the first 3 years
  - a. what are the projected cash flows?
  - b. income statements?
  - c. balance sheets?

### **Management:**

1. How many hours per month will it take to:
  - a. Fulfill orders?
  - b. Update content?
  - c. Market the site?
  - d. Handle the accounts?
  - e. Produce reports?

### **Staffing:**

1. Who's doing this work, and at what cost?
2. What staff need to be recruited, and when?

### Finalizing the Plan

Most ebusinesses fail because:

1. The business plan is not properly researched and implemented,
2. Ecommerce is not sufficiently integrated with current business, and/or
3. Proper advice remains unsought — not for reasons of cost or limited time, but because management is locked into a 'do or die' attitude to its (wrong) plan.

The business plan has to be sound because:

1. You'll not manage effectively without targets and strategies clearly set out.
2. Funding agencies won't invest without having detailed plans to examine.
3. A good plan ensures that the vital questions are properly addressed.
4. The plan forms the basis of the records you'll have to submit to the tax authorities.

A good business plan is one that works, and therefore has to be specific, simple, realistic and complete.

How complete? To raise venture capital, or secure a large private placing, you'll need to cover all aspects at length, backed up by documented research. If, on the other hand, yours is a part-time business needing no additional finance, then the plan can be a few pages. But one thing is essential. A business plan is a support and guide in the years ahead — which means it absolutely has to be clearly thought-out and honest. Skimp or kid yourself, and grief will surely follow.

### Writing the Plan

Who's going to write the business plan? These are your options:

1. Write it yourself, researching information from the Internet and public/business libraries. Use a simple spreadsheet like Microsoft's Excel for the cash-flows
2. Do the research yourself, but employ a software package to set out the document in a more professional manner.
3. Apply to US and UK Government bodies, who provide free business guidance.
4. Contact your local university/business school and see if MBA students are prepared to research and write your plan. You'll need to come to some arrangement regarding fees and costs, but the process will be cheaper than employing a professional company, and give you fuller control.
5. Look in your local business directory to find a firm of professionals. From \$3,000 to \$10,000 is the going rate, but this may be money well spent to have the job done properly and inspire confidence in potential investors.

#### Cost Scales

You can build a ecommerce site at practically no cost at all, given ample time and some HTML/programming expertise, but you should remember that:

1. It is difficult to produce a really professional-looking site with freeware HTML authoring packages and the graphics tools provided 'free' with Windows.
2. You'll probably not get decent traffic nowadays without using pay-per-click services.
3. Most ecommerce merchants strive for a balance between outsourcing and company time.

#### **SMEs**

A popular approach among SMEs is to: spend nothing but their own time on ecommerce conception, business plan, market research and choice of payment system, but to outsource:

1. Web build (\$',000),
2. Hosting (\$'00),
3. Search engine optimization (\$',000) and

4. Press releases (\$'00).

### **Larger Companies**

More ambitious companies will: spend nothing but their own time on ecommerce conception and business plan, but outsource:

1. Market research (\$'000),
2. Site build and online payment integration (\$'0,000),
3. Acquiring a merchant account (\$'00),
4. Search engine optimization (\$'000),
5. General marketing (\$'0,000) and
6. Running the site (webmaster or site build company: \$'0,000/year).

### **Corporations**

Established corporations, and companies setting up major ecommerce sites, ecommerce portals, e-auctions and e-gambling sites will have costs along these lines:

1. Consultants to appraise ecommerce conceptions (\$'0,000),
2. Market research (\$'00,000),
3. Business planning(\$'000),
4. Site build and online payment integration (\$'00,000),
5. Search engine optimization (\$'0,000),
6. General marketing (\$'00,000) and
7. Server/website staffing (\$'00,000/year).

### **Some Final Suggestions**

1. Business planning programs are convenient, and will give your presentation a professional finish, but don't overuse them. Investors are quick to spot 'computer generated' figures.
2. A simple spreadsheet program will allow you to model a wide range of scenarios. You can present the key results in a final plan.
3. Give a broad overview, and then back the figures with supplementary calculations. Add supporting explanations.
4. Don't hide the vulnerabilities of your plan. Bankers are trained to probe, and expect to see the difficulties squarely

faced, with practical solutions.

5. Run off a fresh copy for each presentation. You don't want a tatty copy suggesting that this is your fiftieth presentation (though it may well be).

## Securing Finance

Many businesses start small with no additional funding required, and these are often the safest — no meddling from outside parties, no loans or overdrafts to be suddenly called in. But that's hardly practicable where new market opportunities have to be seized, and staff, premises and marketing budgets found quickly.

In this order, Internet businesses are most frequently funded by:

1. Seed capital of family and friends
2. Business angels
3. Private placements
4. Mergers and acquisitions by competitors
5. Venture capitalists
6. Secured bank loans and overdrafts

Each has its pros and cons, but the key points are:

### **Seed Capital from Friends and Family**

A popular way, but you will have to ensure that your business plan specifies who is running the company, and what financial rewards investors can expect.

### **Business Angels**

Angels are individuals who provide seed money to companies who are starting out or in their early years of operation. Small sums are involved, generally under \$100,000, but investors do expect a good return. You'll need a sound business plan, persistence in securing the right investors (though there are many network agencies) and patience in explaining your business over and over again. Make sure that expectations are covered by agreements, and do your homework on

investors if you can. The best bring enthusiasm, contacts, experience and business savvy to your operation.

### **Private Placements**

You sell shares in your company to private individuals. You'll have to prepare a good business plan that promises vigorous growth, get a lawyer to prepare the paperwork and avoid the attentions of competitors. Best suited to companies that have been established for a year or two. Funding is more secure than a bank loan or overdraft, but larger shareholders will expect a seat on the board, though probably in a non-executive role. Backgrounds and personal strengths of your team members will certainly be assessed.

### **Mergers and Acquisitions**

Many Internet companies merge with others, or are taken over in the first two years of trading. For entrepreneurs wanting a quick return that may well be a happy outcome, but most companies find the adjustment difficult. Management is no longer in their hands, and financial rewards are very much curtailed. Over-optimistic plans and under-funding were usually the cause, but what can be done now, when funds are urgently required?

Size up the opportunities. Be proactive and approach strategic partners while there's time. Remember that deals take months to finalize, and don't accept the first offer. Find a company whose abilities complement yours, so that the new entity has combined strengths. Agree a common policy. Have a buyout clause, and procedures to govern management or policy disagreements. Scrutinize the merger agreement, obtaining legal opinion experienced in this field.

### **Venture Capitalists**

Also called vulture capitalists, these institutions are looking to invest in fast-growing, mid-stage and highly profitable companies. They will fund heavily, but only where explosive growth seems likely, and where they can largely take over the management and marketing of the product (services are less popular). Venture capitalists tend to work to well-trying

formulae, and understand that they are investing large sums from wealthy individuals and institutions who expect fast results. Broad aims are important, as investors generally make their money when your company goes public.

### **Bank Loans and Overdrafts**

If banks cannot see an established, well-run business, with every likelihood of loans being repaid on schedule, they will not lend, or lend only at exorbitant rates against collateral of home or other assets. You need to think very carefully before taking this option. Feed very negative figures into your projections, and be sure you can repay, whatever happens.

### **Investor Viewpoint**

Generally, investors are looking for:

1. A sound business idea capable of rapid exploitation.
2. Evidence that the idea has been thoroughly researched, and ways found to cope with possible difficulties.
3. A business plan covering all aspects, long-term aims outlined and the first three years treated in detail.
4. Energy, enthusiasm and commitment from the principle officers.
5. An excellent track record in one or more of the management team.
6. A business actually started rather than simply 'a good idea'.

### **Concluding Thoughts**

1. However presented, a business plan is only as good as the experience, research and thought that went into it.
2. Internet businesses are no different from other businesses, and fail for the same reasons: under-funding, over-optimistic hopes, insufficiently-researched markets, poor implementation and/or financial control.
3. You'll be safer adopting a tried and tested ebusiness model — but check that it really does work: business information is notoriously unreliable.
4. Expect your site to take at least a year to generate a proper stream of visitors, and more years to start paying back the

investment.

5. Take the planning as far as you can, but don't substitute planning for action. You can only really see if a plan works by trying it out. But go cautiously, and make sure the 'worst case' scenario really is the worst case.

#### Resources and Further Reading

1. [Business Link](#). Local business advisers in the UK.
2. [Small Business Development Centers](#). Find your local (US) SBDC [here](#).
3. [Bplans](#). Provides US business and marketing plan software, free plans and a plan wizard to find the sample plan relevant to your business.
4. [Business Plan Center](#). Software plus excellent resource listings.
5. [Business Plan Resources](#). Sample business plans and business plan writing resources.
6. [Exl-Plan](#). Software for business plans, budgets, appraisals and performance monitoring. Some free.
7. [Intuit](#). Sells the Intuit accounting software and includes useful business advice.
8. [Palo Alto](#). Includes detailed articles on proper aims of planning.
9. [Teneric](#). Business plan writing course and software, newsletter and templates.

#### Questions

1. How does moving an existing business online differ from starting one from scratch?
2. Outline four groups of ecommerce start-ups.
3. What should a business plan cover, and why?
4. Describe possible sources of capital, their advantages and disadvantages.
5. How can you get accurate figures for web build and other costs?

## Section Contents

## **5. GAINING AN ONLINE PRESENCE**

### **Business to Customer**

: Without a website

eMail Marketing

Merchant Services

Mobile Applications

Newsletters

Selling on eBay

: Using Third Party Platforms

Marketing Platforms

Free Services

Social Media

: With a Website

Websites: Introduction

Building a Website: Technical

Mobile Web Pages

Professional Pages

Shopping Carts

Payment Systems

Site Hosting

Webzines

Auctions

Blogs

Content Management Systems

Web Portals

Wikis

: With a Website: Types

Selling Content

ePublishing

Distance Learning

Selling Advertising

Becoming an AdSense Publisher

Becoming an Affiliate

Selling Physical Goods

Corporate eCommerce

eCommerce Servers

Staying Safe

Business to Business

Customer Relationship Management

Supply Chain Management

Digital Exchanges

eProcurement

Industrial Consortia

Private Industrial Networks

Though public companies often maintain lavish websites and make extensive use of business to business systems, smaller companies may employ a wide variety of methods to conduct business over the Internet — third-party platforms, merchant services, email newsletters and/or even smartphone applications.

Book Contents

## 5.1 EMAIL MARKETING

Companies run email marketing campaigns for three reasons, to:

1. Foster a better relationship with customers, leading to increased trust and sales.
2. Promote their own products and/or
3. Sell advertising or other people's products.

### Advantages of Email Marketing

Email is a more individual and effective marketing method than selling through an impersonal website, but also has the greater potential of damaging reputation and sales. Two matters are usually stressed.

1. Research shows that customers don't normally buy on receiving the first email, but somewhere between receiving the third and tenth. Like normal shoppers, they like to think and shop around. Companies have to be persistent, but also subtle: bombarding readers with exactly the same pitch day after day will only alienate them. Happily, email management programs exist to automate the entire process — automatically responding to the replies, sending off the next carefully-crafted sales letter, keeping records and so forth.
2. Customers also dislike spam. They expect their permission to be sought before material is sent to their overcrowded mail boxes. Companies therefore give them the opportunity to subscribe to their newsletter — what is called opting in. 'Just enter your name and email to receive our free newsletter' is the usual thing, though larger companies may present subscribers with an extensive form to complete: 'Please take a few moments to enter your details so that we can send you the appropriate information.' Some companies cheat a little by making subscription automatic unless the viewer ticks asking not to subscribe: the resulting lists are called opt-out. Other companies are much more conscientious, sending a follow up

email to check that the recipients do indeed wish to receive the newsletter, what is called 'double opt-in'. The 'opt-in', 'opt-out' and 'double opt-in' terms are important when obtaining lists from third parties. Newsletters also include a own mechanism for opting out: 'Simply click here to be removed from our circulation list.' A predefined email is sent, which the bulk mailing program automatically intercepts, amending the subscriber list accordingly.

### Increasing Circulation

An attractively written and truly informative newsletter will enjoy a circulation that steadily increases in line with website traffic. Companies in a hurry employ four ways exist of rapidly increasing exposure. They:

1. Rent opt-in lists of email addresses in a category appropriate to their business.
2. Buy email lists.
3. Buy a similar or complementary newsletter that the owner wishes to dispose of.
4. Purchase software that trawls the Internet for site in appropriate categories and harvests the emails.

### List Brokers versus List Managers

Before renting an email list, companies need to know whether they're dealing with a list broker or list manager. List managers work for the list suppliers, and their lists are cheaper. List brokers work on a commission basis, and try to get the best rate going for the email list really wanted by the client. Being more targeted, the lists are naturally more expensive, but usually receive better responses.

In dealing with a list manager, companies will ask:

1. What sort of list is it — opt-in, double opt-in or opt-out?
2. What websites/URLs has the list been taken from?
3. What demographic characteristics and interests can they select by?
4. What's the stated price? (This is the rate card price, usually

quoted by the thousand. A better rate can sometimes be negotiated.)

5. Does the stated price include the 'transmission' fee, or is there an additional charge for actually sending out the emails?

6. What's the minimum purchase?

7. How much has been 'tested' followed by 'continuation'?

Tested lists are used by respectable companies. If a list is tested but not continued, then the results weren't acceptable: companies are advised to go elsewhere if the list manager won't provide this information.

8. What's the maximum number of mailings/month applying to the list?

List brokers act as third parties, maintaining contacts and sources of lists that enable them to find clients the best addresses at the best price. That means they expect companies to be very clear in their requirements (including budget and type of customer sought), and in turn provide them with the reasons for their recommendations (i.e. answers to the questions above).

An obvious question. If the lists are opt-in, how are they available for rent anyway? Subscribers give their emails for a newsletter, and the agreement includes the promise that the addresses will not be disclosed to third parties. True, but websites often ask their readers if they'd be interested in receiving information on further products and services, and it's the addresses of these interested readers that are made available, often via the email service that manages the newsletter for the website. Readers have given their permission to be placed on other lists, but of course expect to receive appropriate advertising.

#### List Managers: Buying Lists

Rather more risky is purchasing lists. They tend to be cheaper, but may contain a lot of out-of-date material. Opt-out messages and complaints are more frequent, and may be a false economy when ROI is considered.

## Calculating the Return on Investment (ROI)

An email marketing campaign is an expensive undertaking, and companies do their sums carefully. Renting and emailing will probably cost 15 to 40 cents per address. Some 1% to 10% may be interested enough to click through. Of these visitors, some 0.5% to 5% may purchase. How much is each sale costing you in email advertising?

Suppose a company were very successful in all respects. Each email cost only 15 cents; 10% clicked through, and 5% purchased. Then the cost of each sale would be  $\$0.15 / (10\% \times 5\%)$  or \$30.

If, however, the company had to pay 40 cents per address, and got only a click-through rate of 1% and a sales conversion rate of 0.5%, then the cost of each sale would climb to  $0.40 / (1\% \times 0.5\%)$  or a staggering \$8,000.

In fact, eretailers pay something around \$80 per sale on average, which makes sense if the object is to secure a loyal customer rather than achieve the one sale. Successful companies work hard at providing a newsletter and fostering good customer relations.

Can companies tell beforehand the results of an email marketing campaign? Not usually. The usual advice is:

1. Go carefully. Do a trial 2,500 to 5000 shots before committing yourself to a large campaign.
2. Model yourself on the market leaders. Examine what works for the most successful companies in your sector, and adapt their copy to your purposes.
3. Experiment. Keep modifying both list and copy, monitoring response carefully. You'll eventually find what works and what doesn't.
4. Add some special offer to increase click through rates.
5. Offer competitions or co-promotions to acquire email addresses cheaply.
6. Employ professionals. A good copywriter may cost \$1000, but could double the click-through rate.

## Buying Newsletters

Maintaining a regular newsletter is time-consuming, and many companies cannot now devote the necessary resources.

Brokers exist to handle the sale and purchase of unwanted newsletters. Acquisitions need to be broadly similar in nature and readership to the present newsletter, and the acquirer has to explain to the clientele that the newsletter now has a new owner, 'providing even more inside information and help', etc.

## Software-Compiled Lists

The riskiest approach is for a company to compile its own lists with software that trawls sections of the Internet. Very extensive targeted lists can be acquired in this way, but none of the email addresses come from individuals or companies who have specifically opted in to a newsletter, and response rates may be poor. The approach is technically spamming, moreover, and so is frowned upon by the email marketing community. The approach works, but may damage reputations and bring threats of legal action. A more acceptable way is to collect email addresses through a 'squeezebox', offering some freebie for which recipients must enter their name and email address. Bulk mailing services generally provide a squeezebox service.

## Running the Campaign

Email campaigns are a sequential operation:

1. Targets, budgets and approaches decided.
2. Lists identified or prepared.
3. Email written.
4. Trial runs conducted.
5. Final crafting by copywriter and designer (email is often in HTML format).
6. Test email sent to list owner, list manager, list broker (if any) and to the company itself.
7. Email edited, doubly checking:
  - a. subject line, which is all that many potential customers

will see

b. all links, particularly link to the website page: mistakes here will render the whole exercise pointless.

c. company's own website and ordering facilities: it has to look and function perfectly get sales.

8. Email approved and signed off.

9. Email blast: emails sent — Tuesdays through Thursdays usually give the best results.

10. Results tracked: list management companies provide reports: DIY shots are monitored by the client.

11. Campaign assessed, learned from, and a new campaign prepared.

## Legal Matters

In April 2004, countries of the European Union implemented Article 13 of the Directive on privacy and electronic communications, which stipulates:

1. Email marketing messages can only be sent to natural persons (consumers) if they have given their prior consent (opt-in).
2. Email marketing messages can only be sent if there is a. an existing customer relationship and b. the customer has not initially refused commercial contact.
3. If a. and b. both apply, then the seller of a product or a service has the right to market to the customer its own similar products or services.
4. If emails are initially sent without prior consent, they must include a free and an easy-to-use opt-out mechanism.
5. Email must not disguise or conceal the sender's identity.
6. Email must include a valid address for recipient to cancel further emails.

Company law differences across the EU make 'natural persons', 'similar products or services' and 'existing customer relationship' open to differing interpretation.

To avoid fees for legal interpretation or (worse) prosecution, many companies adopt full opt-in for B2B emails, an approach

independent surveys have shown to be the only fully acceptable business practice.

Opt-in permission lets companies identify customer requirements through check-boxes on the sign-up form, and so target those needs more effectively.

As of July 2005, Michigan and Utah have email laws that restrict what minors can view. Emails cannot contain information on goods or services illegal to under 18s (alcohol, tobacco, adult content), and cannot have links to websites that contain such material.

Resources

### **Purchasing Lists**

1. Find More Buyers. 40-year old company with extensive lists.
2. Lists Now. UK and US consumer and business lists, plus opt-in lists.
3. Marketing File. UK, Irish, Dutch and European lists.

### **Renting Lists**

Some of the many companies renting lists, which are usually more up to date and better targeted than sold lists.

1. Lake Group. Provide list management and list brokerage in the business arena.
2. List Broker. UK company with 1.6 billion names for rental. Updated daily.
3. List Broker Australia. 2500 Australian and international lists.

### **List Brokers**

1. Charlwood. Independent broker providing most types of service, including response tracking.
2. Infinite Media. Will source from the 40,000 available US lists, and provide data processing and analysis.
3. PostmasterDirect. List management, brokerage and deployment
4. Prospects Influential. Canadian company specializing in B2B, consumer and email lists.

5. Topica. Builds list through opt-in emails, co-registration and newsletters.

### **Mail List Generating Programs**

1. Fast Email Extractor. Includes selection from business directory listings, etc.
2. Taratula. Extracts from websites, user groups and search engines.

### **List Sources**

List brokers draw their information from many sources, the more important being:

1. Standard Rate and Data Service. Advertising sources and rates in N. America.
2. DM News. Online newspaper for direct marketers.

### **Squeeze Pages**

1. 10MinuteSqueezePages. Supplied with hosting.
2. PremiumSqueezePageTemplates. Large package, with associated graphics.

### **Bulk Emailing Services**

1. 24/7 Media. Interactive products and services for marketers and advertisers.
2. AWeber. Well-known supplier of scalable email services.
3. Get Response. Good range of features and templates.

### **Bulk Emailing Software**

1. Simplecast. Offers good range of services, including surveys and online forms.
2. Marketing Solutions. Both software and services.
3. PostMaster. One of a suite of email programs.

### **Legal Aspects**

1. Information Commissioner's Office. ICO. UK laws.
2. The CAN-SPAM Act: A Compliance Guide for Business. FTC. USA. September 2009.
3. A Helpful Guide to Australian Spam Laws. GTP. Outline of Australian law.

## Questions

1. Explain the advantages of email marketing.
2. How do you legally obtain email addresses?
3. How do list managers differ from list brokers?
4. Describe the step-wise approach of an email marketing campaign.
5. How would you stay within the law pertaining to email marketing?

## Sources and Further Reading

1. *Clickz*. Articles exploring email marketing in depth.
2. *Direct Marketing News*. Online newsletter for direct marketers.
3. *Email Marketing Reports*. Handy articles on most aspects email marketing.
4. *Email Universe*. News on email marketing and software.
5. *Institute of Direct Marketing*. Professional body, with guides, case studies and training programs.
6. *Marketing Sherpa*. Packed with articles and useful listings.

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## 5.2 THIRD-PARTY MERCHANT SERVICES

Rather than build and maintain their own site, many small companies use third-party services which offer a customized site with integrated online payment facilities for a monthly fee. Commission charges are generally higher, but the services provide an excellent means of starting up or testing the

Service	Start Up Fee	Monthly Fee	Transaction Fee
Amazon Merchant Services	None	None	From \$0.30 + 1.9%
Design Network Solutions	None	From \$29.95 for 25 items	None
eBay	Free for 50 insertions/month. Otherwise insertion fee based on category and reserve or final price	None	Sliding scale fee based on final price realized and shipping cost.
HandzOn	None	From \$19.96 for 5 items	PayPal enabled.
Yahoo Merchant Solutions	\$0-50	from \$39.95	0.75% to 1.5%

market for some product.

### Questions

1. What are the pros and cons of merchant services?
2. Model the profit margins of two hypothetical products to find when it would be wise to move from merchant services to Internet payment providers and/or an Internet merchant account.

### Sources and Further Reading

Information is taken from the service websites.

### 5.3 CREATING MOBILE APPLICATIONS

Creating mobile applications is more a programming matter than one of ecommerce, but the marketing principles are the same. Software developers will want to:

1. Research to find real gaps in the market: there are literally thousands of applications for Palm, the iPhone, iPad, etc. All ate up hundreds of hours of programming, and it's unclear how many repaid the investment. Spend time on such mobile application blogs as iPhone Application List, iPhone AppPreview, AppleiPhoneStore, WhatsOniPhone, iUseThis, AppVee, AppStoreApps, Mobile Phones and Mobile Games, CNet, SpotLight, ReviewStream and Frengo.
2. Work in with the device manufacturer: applications have to approved by and sold through the manufacturer, usually on a commission basis.
3. Accept that marketing may take precedence over the technical excellence or usefulness of the product: consider teaming up with a marketing company, or developing applications with companies that have the marketing muscle to push the product.
4. Modify and sell an existing application to large retail companies who will use it as a give-away viral product.
5. Have the product reviewed in the relevant mobile applications store: to gain exposure and a ranking vis a vis similar products.

Applications are still being written for Apple and Android phones, but enterprise applications have focused on Windows Mobile, BlackBerry, and Palm devices. Developer need a software development kit (SDK) from the mobile operating system, readily available for the iPhone and Android platforms, and now offered as the Application Center for the Blackberry. The Windows Mobile also offers SDKs for each of their operating systems, but seem likely to promote the SDK

for Windows Mobile 7 to dovetail with the launch of Skymarket.

Though iPhone is the more popular, the Android platform is held to be easier to develop an application for and get it accepted. Particularly this applies to VoIP or P2P file sharing, which can be blocked by the iPhone SDK and not allowed in the App Store. The Palm SDK is not sufficiently sophisticated for many developers. Google is more responsive to queries than Apple, and provides clearer criteria for acceptance.

Some applications are free, but most are charged at \$1 to \$15. Google and Apple supply the applications and pay a 70% commission to the developers. Returned applications are 100% charged back to the developer, however, and AppStore will also keep their original 30% commission, leaving the developer with a loss.

A good logo, compelling name, sensible price and detailed product description are all essential. You can promote your product in all the usual ways: through your own website or application bloggers, by affiliates, mailing lists and ppc campaigns.

## Tools

Adobe {8}, Quark {9} and others {10} {11} provide tools to automate the process and license the product.

## Questions

1. Why are mobile applications important?
2. What needs to be done prior to creating the application?
3. List some applications and say why you like them.

## Sources and Further Reading

1. *Mobile Web Design For Dummies* by Janine Warner and David LaFontaine. 384pp. For Dummies. September 2010.
2. *Beginning Smartphone Web Development: Building JavaScript, CSS, HTML and Ajax-based Applications for iPhone, Android, Palm*

Pre, BlackBerry, Windows Mobile, and Nokia S60 by Gail Frederick. 368pp. Springer-Verlag. January 2010.

3. *Mobile Design and Development: Practical Concepts and Techniques for Creating Mobile Sites and Web Apps* by Brian Fling. 336 pp. O'Reilly Media. August 2009.

4. *The Business of iPhone App Development: Making and Marketing Apps that Succeed* by Dave Wooldridge and Michael Schneider. 408 pp. Apress. March 2010.

*Starting an iPhone Application Business For Dummies* by Aaron Nicholson, Joel Elad and Damien Stolarz. 324 pp. For Dummies. October 2009.

*Hello, Android: Introducing Google's Mobile Development Platform* by Ed Burnette. 300pp. Pragmatic Bookshelf. July 2010.

5. *iPhone and iPad Apps Marketing: Secrets to Selling Your iPhone and iPad Apps* by Jeffrey Hughes. 312 pp. Que. April 2010.

6. *MobiForge*. Many useful tutorials, free on registering.

7. *Beginning Smartphone Web Development: Building JavaScript, CSS, HTML and Ajax-based Applications for iPhone, Android, Palm Pre, BlackBerry, Windows Mobile, and Nokia S60* by Gail Frederick. Springer-Verlag. January 2010.

8. *Digital Publishing Suite*. Adobe. December 2011. Complete packages for tablet devices.

9. *Quark App Studio*. Quark. Integrated set of tools.

10. *What are the alternatives to Adobe Digital Publishing Suite?* Quora. October 2011. Bulletin board suggestions.

11. *Tablet publishing software: 5 key attributes* by Rob O'Regan. eMediaVitals. April 2011. Brief review of platforms and approaches.

## Section Contents

## 5.4 NEWSLETTERS

Most companies send out newsletters (also called ezines) to clients and prospective clients, usually in email form. Titles cover every conceivable subject, and the first thing a company will do is check the demand and competition with keyword research programs.

The majority of Internet users still expect free information, even though that's unrealistic, since anything worth reading takes time and specialized knowledge to create. 'Free' newsletters are anything but free to the subsidizing company, of course, but the effort is more than repaid by the purposes served.

Companies use newsletters to:

1. Personalized the selling pitch.
2. Better control company announcements and promotions.
3. Collect email addresses for later or third-party marketing.
4. Generate feedback, which creates a community, and can sometimes be 'sold back' to readers.
5. Promote their expertise and/or website.
6. Gain advertising revenues.

Newsletters: Selling Features

Newsletters are closest to newspapers, and therefore employ the journalist's skills to succeed. They must:

1. Occupy or create some recognized market niche.
2. Provide something that can't be found elsewhere, or not in that particular form.
3. Engage their readers' outlooks, interests and demographic orientations.
4. Look attractive, perhaps with multimedia and HTML layout facilities.
5. Be thoroughly professional: facts checked, no typos, codes of conduct followed.
6. Have feedback, which creates a community, and can sometimes be 'sold back' to readers.

## Emails versus Ezines

You've information to sell, but which to chose: email or ezine?

1. Emails are perceived as friendlier and more personal.
2. Emails are pushed to recipients, with no effort required on their part.
3. Both need to be kept current, but late email will earn more complaints.
4. Layout is less critical on emails.
5. Emails need to be more engagingly written.
6. Multimedia is easier with ezines.
7. You're not so tied to content and length with emails.
8. Security is easier to manage with emails: access passwords can't be passed round like the common cold.

## Finding Subscribers

Subscribers are found by:

1. Searching specialist magazines, websites and user clubs.
2. Purchasing email lists.
3. Creating a small website to promote the newsletter, the website being positioned by keyword research programs, and possibly promoted by pay-per-click advertising.
4. Trawling the Internet for email address with specialist software (a much frowned-on practice).

## Managing Subscriptions

In the early months, when subscribers are in the low hundreds, companies can manually add each new subscriber to a mailing list. Subsequently they need software (search under 'bulk mailing programs/ services' or 'bulk mailing services') to save email addresses and customer details in a database, organize that information, and automate the mailing process.

In theory, companies could run the whole business by email – no website, no online payment systems: payment by posted checks. But since they will need a website anyway for marketing, they generally prefer to use one of the online

payment systems. These can be very simple: transfers in encrypted email, wallet systems, or one of several ways of taking credit cards, probably employing an Internet Payment Service Provider. Only the larger newsletter businesses will need a merchant account, perhaps when sales exceed \$1,000/month.

Given the resistance to paying a subscription, many companies provide a free newsletter that carries advertising or subtle promotions of other newsletters or products. These other newsletters may be entirely free, but they collect email addresses for subsequent marketing, and will therefore pay, usually from 25 cents to a few dollars per sign-up. Brokers also exist to arrange the sale of popular newsletters their originators no longer have the time or interest to maintain.

#### Resources

A small selection of the software and services an Internet search will uncover, for illustration purposes.

#### **Bulk Mailing Software**

Arclab Database Mailer. Basic program that allows HTML formats and database merges.

Gammadyne. Sends and receives emails, and manages the subscription list.

V3 Mail. Adds layout, graphics, voice and video (MP3) clips to an email program

#### **Bulk Mailing Services**

AWeber. Scalable email services for companies of all sizes.

SimplyCast. Services to create, deliver and manage newsletter marketing campaigns.

Topica. Email management and subscription acquisition services.

#### **Checking the Competition**

Ezine Search. Searchable database of thousands of ezines grouped under some 50 headings.

Ezine Seek. Directory of email newsletters that can be searched or added to.

Newsletter Access. Some 4,000 newsletters listed, grouped by market category.

### **Selling Advertising Space**

Advertising.Com. Includes tutorials.

All Advertising Online. Free listings under directory-like headings.

### **Paying Commissions for Sign Ups**

Focalex. Handle several million subscriptions.

PostMaster Direct. Provide a variety of services..

YesMail. Primarily an email-marketing company but offer a Network Partner Service.

### Questions

1. How do companies use newsletters?
2. How are subscription lists built up?
3. Describe, with suggested software, how you would manage a 15,000 subscriber company newsletter.
4. Compare newsletters to webzines.

### Sources and Further Reading

1. eMailMan. Extensive listings of email services, programs and technology.
2. Ezine Tips. Extensive articles on most aspects of email promotion, including e-list management.
3. Ladan Lashkari. Articles on newsletter writing: can be used if properly acknowledged.

### Section Contents

## 5.5 SELLING ON EBAY

eBay is big business, averaging more than one billion page views a day and selling some \$1,700 worth of goods every second.

You may simply wish to dispose of items you came across in clearing out granny's flat, or sell some unwanted Christmas presents, but to make a sustainable business out of eBay — and there are many thousands of traders who do just that — you will have to:

1. Find out what people wish to buy.
2. Locate suppliers consistently offering items where a profit can be made, and
3. Present the items on eBay in a compelling manner.

Normal retail, in short. What makes eBay different is the popular shopfront and low entry cost (no reps, no shops, no heavy overheads) — advantages more than offset by the intense competition: customers can size you up very quickly.

Research your Customers

What about high-ticket items? Yes, if you can. It's much less trouble to sell Swiss watches than make repeated trips to the post office with Toby jugs, but it's riskier, needing specialist knowledge and considerable capital (unless you use the approaches below). Until you've established a market niche, and can afford to explore further, the usual advice is to concentrate on items that:

1. Have well-known brand names.
2. You are enthusiastic/knowledgeable about.
3. Occupy specialist niches, i.e. do well but face little competition.
4. Are collectible (but research carefully).

The following don't generally do well on eBay:

1. Jewelry: often given as presents: cheap purchases somehow feel cheap.
2. Computer monitors and/or printers: not worth the carriage.
3. Handmade items (except perhaps paintings).
4. Antiques (difficult to price, and overseas shipping is a nightmare).
5. Records (in oversupply).
6. Books (unless really antiquarian/collector's items).

#### Research other Sellers

You're in competition with some very slick operations. Once you've decided on your market niche, you'll need to carefully check out all other sellers, systematically analyzing their:

1. Product selling history
2. Pricing policy
3. Returns policy and guarantees
4. Beyond eBay presence — online shop, bricks and mortar premises, trade representation?
5. Likely turnover and profit margins

#### Becoming a Small Wholesaler

Many drop-shippers have large minimum orders, perhaps of a thousand items. At \$10 (say) per item, that means an outlay of \$10,000, which is beyond the means of the smaller eBay merchant. But what's to stop you becoming a wholesaler, with a minimum order of 50 items, for which you charge \$13/item. You'll have to research the market carefully, but 20 such batch orders of a fast-moving product will net you \$3000, less shipping expenses: clearly worth thinking about.

#### Selling on eBay: Finding Suppliers

Once you've worked out what people will buy, you'll need to locate competitive and reliable suppliers. Your approaches:

1. Take delivery, buying wholesale and selling retail.
2. Don't take delivery but supply through a drop-shipper.
3. Promise purchase, collect orders through eBay, and then

purchase as required.

4. Work through reps, offering a commission.

5. Form a partnerships with existing merchants.

## **Buying Wholesale**

Suppose you deal in collectible postcards, say of 1930's vintage or earlier. Your sources will be auctions, jumble sales, newspaper ads or even other eBay merchants. You buy large lots, sort through them, and then sell items individually on eBay. Ditto for many types of collectibles: coins, stamps, memorabilia, fossils, etc.

## **Drop-Shippers**

Drop-shippers are used extensively by e-merchants who clearly don't want to incur insurance and warehousing costs by storing goods on their premises. Orders are taken online, customer details emailed to the drop-shipper, who then does all that's necessary: packing, shipping, invoicing and insurance. You can find drop-shippers through Internet searches, your Yellow Pages and local Trade Directory, but there are four problems, unfortunately:

1. Being fully automated they take the burden off your hands, but of course charge handsomely, which eats into the profit margin.
2. Drop-shippers have minimum orders, which puts them beyond the means of the small eBay merchant, or those just starting up.
3. Competition from other eBay sellers who all use the same drop-shipper: your operation will need to be slicker than theirs.
4. Any shortcomings with the drop-shipper reflect badly on you: you may have to sort out any problems and rescue your reputation.

You should note one advantage, however. Drop-shipper can be used as a loss-leader, to bring visitors to your online store, a marketing approach that may be cheaper than pay per click if you do your sums right. Note that eBay also has a second chance offer feature, which lets you send emails to losing bidders asking them if they're interested in buying the product at their losing bid price. Whatever happens — but particularly

if there are problems — do keep your customers up to date by emailing them of progress.

### **Purchase After Sale**

Though somewhat a juggling act — and you need to be very persuasive if the the vendor is to hold items for you — this approach reduces your risk and capital outlay.

### **Working through Reps**

The personal contact is essential, plus some local standing, but many reps will be pleased to get a 10% or 20% commission, on which they cannot lose. Gradually, as sales take off, you'll want to phase out this extra expense, but many high-ticket items are sold this way: watches, electrical goods, car accessories, etc.

### **Partnerships**

Perhaps someone locally is selling what you want to advertise on eBay, and will pay a commission. You must do your sums carefully, as even the 40% markup common in retail sales needs to cover eBay selling costs, carriage and insurance. What happens if the prices realized do not cover the merchant's wholesale costs? You can place a eBay reserve, but this doesn't encourage sales. Go carefully.

Selling on eBay: Setting Up Shop

It's pretty simple. Do the following:

1. Look up value of similar items: click search in upper RH corner of page. Check completed listings on LH side of page: click again. Note prices (those in red didn't sell).
2. Check individual listings for starting bids put a very low starting bid (e.g. \$0.99) to encourage bidding. Do not put a reserve (which scares people off).
3. Make the listing be succinct: bullets are fine.
4. Add one or more good-quality pictures.
5. Close the auction when folk have had a chance to get in from work and rest, e.g. Sunday and/late in the evening.

6. Check and double-check the spelling, particularly of title (or no one will find the item).

### **Getting a Positive Ranking**

To sell successfully on eBay, you need positive feedback. For that you should:

1. Describe your items fully and honestly (flaws included).
2. Display your shipping and returns policy on your site, and deliver on promises.
3. Include an automated page soliciting customer response.
4. Buy courteously from other sellers and ask for feedback (which counts as feedback on you as a seller).

#### General Advice

eBay buyers find most of their items by typing selected keywords into the search box. Those keywords should feature in your title, and nothing else. Use the most common name for the item, and alternatives only if there's room (remembering that US and UK usage differs).

1. Include brand names if significant.
2. Describe fully, including size, color and material, and any flaws.
3. Get to know and use the eBay lingo. Some examples:

MIB: Mint in Box: item is in the original box and as you'd buy it in a store.

MIMB: Mint in Mint Box: the box has never been opened and looks factory fresh.

MOC: Mint on Card: item is mounted on its original display card, attached with the original fastenings, in store-new condition.

NRFB: Never Removed from Box.

COA: Certificate of Authenticity Documentation that vouches for the genuineness of the item.

OEM: Original Equipment Manufacture: came with equipment but you don't have the original box, owner's manual, or instructions.

OOAK: One of a kind: you're selling the only one in existence.

NR: No Reserve Price.

NWT: New with Tags: in new condition with the tags from the manufacturer still affixed.

HTF: Hard to Find.

4. Use multimedia cautiously, and sound files only if relevant: delays put off purchasers.
5. Write good ad copy.
6. Make your photos count.
7. Exploit eBay's tools fully.

To speed up listings and improve the presentation, you may want to use presentation software. There are also auction utilities that purchasers use, which it may help to become familiar with.

#### Being a Legitimate Business

Once you've made a few sales you'll want to set up a bona fide business, which generally means a separate bank account, registering with the tax authorities, and keeping proper records.

#### Questions

1. Describe the eBay model. How do you set up shop on eBay?
2. What sorts of things sell on eBay, and how do you source supplies?
3. How do you get a positive ranking as an eBay seller?
4. What can be done to improve sales?

#### Sources and Further Reading

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2. *eBay for Dummies: 6<sup>th</sup> Edition* by Marsha Collier. For Dummies. June 2009.
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6. *Where To Look For Wholesalers & Distributors*. eBay. eBay's advice.
7. *eBay Seller Tools*. eBay's free guide.
8. *Wholesale Distributors Network Directory*. Extensive free listings.

## Section Contents

## 5.6 MARKETING PLATFORMS

Websites and blogs are the best known marketing platforms, but there exist many other ways for companies to get their message across, particularly with Social Media, where content is designed to be disseminated through social interaction via highly accessible and scalable publishing techniques.

### Examples

1. Blogs: Blogger, LiveJournal, Open Diary, TypePad, WordPress, Vox, ExpressionEngine, Xanga.
2. Micro-blogging / Presence applications: FMyLife, Jaiku, Plurk, Twitter, Tumblr, Posterous, Yammer, Qaiku.
3. Social networking: Facebook, Geni.com, Hi5, LinkedIn, MySpace, Ning, Orkut, Skyrock, Qzone, V Kontakte, RenRen, Kaixin, ASmallWorld, studivz, Xing, RunAlong.se, Bebo, BigTent, Elgg.
4. Business networking: LoopDesk, Ziggs, Xing, Biznik, Fast Pitch, Entrepreneur Connect, EFactor, Meettheboss, PartnerUp, PerfectBusiness.
5. Social network aggregation: NutshellMail, FriendFeed.
6. Events: Upcoming, Eventful, Meetup.
7. Wikis: Wikimedia, PBworks, Wetpaint.
8. Social bookmarking/ tagging: Delicious, StumbleUpon, Google Reader, CiteULike.
9. Social news: Digg, Mixx, Reddit, NowPublic Multimedia.
10. Photography and art sharing: deviantArt, Flickr, Photobucket, Picasa, SmugMug, Zoomr.
11. Video sharing: YouTube, Viddler, Vimeo, sevenload, Zideo.
12. Livecasting: Ustream.tv, Justin.tv, Stickam, Skype, OpenCU.
13. Music and audio sharing: MySpace Music, The Hype Machine, Last.fm, ccMixer, ShareTheMusic.
14. Presentation sharing: slideshare, scribd.
15. Product reviews: epinions, MouthShut.
16. Business reviews: Customer Lobby, yelp.
17. Community Q&A: Yahoo! Answers, WikiAnswers, Askville, Google Answers Entertainment.
18. Media and entertainment platforms: Cisco Eos.
19. Virtual worlds: Second Life, The Sims Online.
20. Game sharing: Miniclip, Kongregate.
21. Social media monitoring: Attensity, Sysomos.

22. Social media analytics: Sysomos MAP.

23. Information Aggregators: Netvibes.

Not all allow blatant advertising, and companies need to:

1. Study the terms and conditions,
2. Learn from current advertisers,
3. Go cautiously, and
4. Ensure they're providing real content by meeting user's needs.

Creating Sound Tracks and Videos

1. Convert HTML/Word/Text files to MP3 format :
  - a. Use Verbose and then convert WAV file to MP3, or use Text Aloud.
  - b. Speak into an MP3 encoder: DailyMP3, MP3 Machine, Hitsquad, NCH, MP3-Converter, Winamp, Musicmatch or Blaze Media Pro.
2. Convert audio files to MP3 format for web download:
  - a. Convert to MP3 format and then link to RSS feeds.
3. Create videos use the free/cheap CamStudio program, or do an Internet search for others.

## **Software**

1. Content Buzz. Submits videos and gets backlinks for them.
2. XGenSEO. Automated social marketing software.
3. Brand Monitoring. Mash article listing 10 free tools.

## **Services**

1. Awareness. Publishes, manages, and measures your effort across social media channels.
2. Andiamo Systems. 'Word of Mouth Measurement'.
3. Dolphin Social Network Hosting. Hosts your own social website.
4. JitterJam. Manages your output from a single site.
5. Sentiment Metrics. Blog and social media measurement.
6. SocialGo. Creates and hosts your own social website.
7. Top 15 Free SEO Tools. Provides for free many versions of otherwise expensive SEO software.
8. Xtract. Analyses behaviour, interactions and demographic data from your subscriber network.
9. YourMembership. Creates and hosts your own social website: \$1495 setup plus \$5995/year.

## Questions

1. What are the three most commonly used marketing platforms on the Internet?
2. Name the platforms available for marketing a. software, b. music and videos, c. community services, d. games and virtual worlds.
3. What advantages do such platforms offer?

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## Section Contents

## 5.7 FREE SERVICES

Many social media services are free, at least at a modest level of use, and will help a business through the early days when money is tight.

### Free Services

1. Keep track of interesting material: Google Reader
2. Document Sharing: Google Docs.
3. Social database: Freebase.
4. Blog search tools: Technorati and Google Blogsearch.
5. Blog hosting/building: see 4 above. Also simplified blogs: Tumblr and Posterous.
6. Manage and measure use of RSS feeds: Google Feedburner.
7. Mobile blogging and video sharing: Qik.
8. Social conversation: Twitter.
9. Social profiles: Facebook and MySpace.
10. Business profile: LinkedIn.
11. Small business services: Box\* and Zoho\*.
12. Social bookmarking: Del.icio.us.
13. Knowledge sharing and collaboration: PBwiki.
14. Web-based instant messaging: Meebo, Adium and Trillian.
15. Web conferencing: FreeConferenceCall and Google Open Meetings.
16. Web conversation: Skype\*.
17. Photo sharing: Picuna, Flickr.
18. Text to audio conversion: iSpeech\* or SpokenText\*.
19. Making audio clips. Audacity or GarageBand.
20. Making movies: MovieMaker.
21. Video hosting: Brightcove and YouTube.
22. Chat rooms: PalTalk\*.
23. Create/share radio or video shows: BlogTalkRadio, Vimeo, Viddler, Revver, LiveVideo, Ustream.

\* also offer a commercial service.

### Commercial Services

1. *SpokenText*: Online text to audio conversion \$0-90/year.
2. *Brightcove*: Video hosting from \$99/month.
3. *Blip*: Independent TV hosting.
4. *Ning*: Social website platform: \$3-50/month.
5. *Radian6*. More commercial social website platform: from \$600/month.
6. *Scriptosphere*. Transcription services: \$0.9-1.4/minute.

#### Questions

1. Give ten examples of free Internet services and indicate where they could be useful.
2. Compare free and commercial services in a. document sharing, b. video hosting and c. social media.

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6. *AllFacebook*. Facebook news, surveys and events.
7. *InsideFacebook*. Facebook and the Facebook platform for marketers and developers.
8. *SocialmediaExaminer*. Guide to the social media jungle.

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## 5.8 SOCIAL MEDIA

Social media sites give companies and individuals the opportunity of having their own web presence without the trouble and expense of creating their own site.

Social media sites rapidly became popular. Facebook took only eight months to go from 100 million to 200 million users, and an April 2009 study by Harris Interactive showed that 48% of all American adults had either a Facebook or a MySpace account. By late 2009, 88 million Americans had used a social network site, and the percentage is even higher in Russia, India, China, Brazil, South Korea, Spain and the UK. Appreciable time is spent on these sites: a total of 13.9 billion minutes on Facebook in April 2009, up from 1.7 billion minutes in April 2008 for a stunning annual growth rate of 699 percent. Facebook reaches an estimated 29.9 percent of the global Internet user community, and is now more popular than emailing or Google searching.

Twitter is a lightweight social network built around simple 140 character messages open for anyone to read, and gained significant customer traction in early 2009.

Businesses find social media important because they:

1. Demonstrate to potential customers that the company is human and cares about their problems.
2. Expand and bring to life what is often too internally-focused and narrow a mindset.
3. Place real people behind an otherwise static brochure-like website.
4. Dynamically address customer concerns about products and services before they mount up and tarnish a company's reputation.
5. Allow the company to participate in the conversations about their business sector, products, industry, and so shape the agenda.
6. Help manage their reputation.

7. Build a customer community.
8. Established a relationship with customers, which predisposes them to buy goods and services.
9. Maintain and enhance brand awareness.
10. Maintain a relevance to changing customer needs.

#### History of Social Media

Social media grew from the 1990s improved user interfaces of Prodigy, CompuServe, and AOL, which provided news, sports scores, weather, and — most importantly — well-integrated message board and e-mail services that allowed people to meet, discover similar interests, and communicate with one another. Prodigy offered a \$60/month advertising space and banner advertising, but the idea was before its time and didn't catch on. Worldwide Internet advertising was only \$55 million a year in 1995, not the \$25.7 billion/year industry of 2009.

It was Mosaic, the first widely available web browser, that popularized the World Wide Web, and HotWired, an online Web magazine, became the first company (in late 1994) to sell banner advertising to corporations, offering them at a flat rate per 1,000 impressions or views (now called CPM). For five years such banner adverts remained the most popular form of Internet advertising. As websites proliferated, a need arose for search engines to sort through the increasing volume of digital information, and the late nineties saw the emergence of Magellan, Excite, Inktomi, AltaVista, and Lycos. Other search engines (e.g. MetaCrawler and Dogpile) combined search results from individual search engines to provide more accurate and complete results.

Google arrived early in 1999, and its back-link assessment model quickly made it the search engine of choice, though there was initially little change to contemporary advertising models. Predictably, however, the Internet became swamped with banner advertising, and average click-through rates dropped from 2 percent to well below 0.5 percent, triggering price reductions. Google abandoned its impression-based

advertising program in favor of experiments with click-through advertising, text-based ads for which the advertiser only paid when a user clicked on the ad: Google AdWords, very similar indeed to those of Goto.com, later renamed Overture by Yahoo!

The advertiser provided text according to certain guidelines, and were asked for the highest bid they'd be prepared to pay for click-throughs. Google also introduced a daily budget, giving advertisers financial control of their marketing. For the first time, advertisers could guarantee traffic to their website by simply bidding sufficient on keywords and setting a high daily budget. As keywords were relatively cheap in 2002, advertisers could be guaranteed a hundred new visitors to their site for the price of a few dollars: visitors who were potential customers, moreover, as the add text matched the visitor's search terms. In time, however, from 2003 to 2008, competition stiffened bid prices and Google increased its market share.

Classmates took the next step by becoming a real networking site, one allowing graduating classes to keep in touch with each other and post a basic profile, with further features available by paid subscription. Friendster emerged six years later, growing aggressively after its 2002 launch but suffering technical problems that disenchanting its users. Friendster exposed profile data and actions to people within several degrees of separation from a user, which later, more-successful, social networks avoided. Though neither Classmates or Friendster achieved worldwide success, both continue to operate today, each with a large user base. The most popular social network sites as of July 2009 (Sources: comScore, Compete and ComputerWorld, from official statistics released by each company):

Social Network	Number of Users	Key Features
Facebook	350 million	Most used social network in the world
MySpace	125 million	Most popular social network from June 2006-April 2008
Twitter	75 million	Lightweight: short messages only
LinkedIn	55 million	Most popular social network for business
Friendster	90 million	90% of traffic comes from Asia
Classmates	40 million	10% are paid subscribers

A difficulty with social media has been the business model. Acquisition of a small holding in these companies have generated large book values, but the sites have only recently been making a profit. Hence the interest in Mark Zuckerberg's announcement that Facebook will market itself as an entertainment hub. 'Timeline' has been redesigned, and users will be able to share material they have yet to purchase by viewing, listening and reading in a live 'ticker' stream. {11}

Value of Social Media

## Marketing

Social media has features useful to marketing:

1. Social media is now the way younger people prefer to communicate with each other.
2. The concept is based on 'friends', though the term is loosely applied to include companies and brands.
3. The more active a consumer is on the Internet, the more likely they are to participate in multiple social networks.
4. Social media has created hundreds of enthusiast niche sites.
5. Viral marketing, somewhat frowned on in email marketing, is much more common in social media.
6. Everyone in social media is motivated by one or more of these: love, self-expression, opinion sharing, showing off, humour, nostalgia and making money.

## Valuation

How much are social media companies really worth?

Advertising revenues have increased recently, and eMarketer expects Facebook to earn US\$ 3.8 billion in 2011 (up 104% from US\$ 1.8 billion in 2010) with another US\$ 470 million coming from Facebook credits. On paper their value is even more impressive. News Corporation paid \$580 million for a share of MySpace in 2005, though selling again in 2011 for a massive loss. {12} In 2008, Google acquired 98.4 percent of Facebook in a cash and stock deal valued at \$25 billion. {13} Goldman Sach's 2010 deal ran into problems {14} but effectively valued Facebook at \$50 billion. {15} Twitter's July 2011 paper value was \$7 billion. {16} Some expect the coming IPO to value Facebook at over US\$ 100 billion, for all that ads are not much liked on social media sites and convertly badly.

#### Questions

1. What are social sites? Give some examples and their popularity.
2. Why do businesses currently find social media a 'hot topic'?
3. Give a short history of social media in the USA.
4. Why are social media companies difficult to value?

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## Section Contents

## 5.9 BUILDING A WEBSITE: INTRODUCTION

What is a well-designed site? One that does its job. Aesthetics and programming are important, but only an aspect of the business plan. A good web design can only be achieved after all other matters have been finalized: type of business, payment system and marketing strategies. Only then can they:

- a. provide a working model to the web designer, avoiding costly changes later.
- b. describe the business precisely to the graphic designer: essential if an appropriate brand image is to be created.
- c. suggest models to the site designer from competitors' sites, which their site is to emulate but improve on.
- d. divide the site into pages that individually target optimal keywords. Each page has to be designed specifically to promote those keywords — not only in meta tags, but in layout, graphics labels and page copy.
- e. know how much they can afford to spend on site build so as to achieve their expected return on investment.

Use a Designer or Build Your Own?

HTML, and even some Javascript, is not difficult to master, but most company objectives are not to prove their versatility, but to obtain a professional-looking site as painlessly as possible.

A Mom and Pop part-time business will probably build its own site, employing a knowledgeable friend or one of the many software packages available.

In all other cases companies would be well advised to use a professional. Supply exceeds demand, and most web designers are keen for work, adjusting their fees accordingly.

Points to consider in selecting a web designer:

- a. designers specialize. Choose one experienced in your field.
- b. scrutinize their own site. It need not be snazzy — they may be too busy to continually update their site — but it should be professional:

clear message, attractive to look at, easy to navigate, quick to download, no broken links or typos.

c. ask for cost estimates. Given precise requirements, the design company should be able to quote, or provide a range of costs.

d. examine their portfolio and ask to see more of their work. Then contact the clients for references. Phone calls will elicit more information than emails or formal letters.

e. check that emails and phone calls are promptly answered. Shortcomings won't be remedied when you're a client.

f. speak if possible to actual designers and programmers: they may not be good salesmen, but they should be friendly, knowledgeable and helpful. These are the folk you'll be in weekly contact with, so you need to get along with them.

### Also investigate:

a. cost of extra pages

b. cost of alterations

c. maintenance, if the site is hosted by them or (better) a third-party hosting company.

d. copyright considerations.

e. guarantees and penalty payments for delays or noncompliance.

f. financial standing of design company (or guarantees are worthless).

g. legal aspects of the contract before you sign it.

Your requirements may be onerous, but a company unable to meet them won't give you much peace of mind.

### Likely Costs

Sites built with 'out of the box solutions', or through 'all-in hosting solutions', are 'free' or have a fixed price. Otherwise, web build companies should be able to provide reasonable cost estimates once they have accurate specifications. Until that time, for the purposes of initial planning, these may be broadly typical:

Mom & Pop	5 pages. Credit cards taken but not processed in real time. Third party hosting.	\$500
Starter Site	20 page catalogue. Credit cards processed in real time but no merchant account. Third party hosting.	\$1,500
Small Business	50-page catalogue. Credit cards processed in real time with merchant account. No database. Third party hosting.	\$5,000
Small-Medium Business	100-page catalogue. Build includes logo and individual design. Credit cards processed in real time with merchant account. Product information from database. Third party hosting.	\$15,000
Medium-Sized Business	250-page catalogue. Logo and individual design. Credit cards processed on site with merchant account. Product information from database. Dedicated server or in-house hosting.	\$50,000+

Student designers and overseas contractors will be cheaper (though also riskier).

### Build Approaches

Websites are built by these approaches, in order of increasing cost and complexity:

- a. build your own through an all-in ecommerce hosting solution.
- b. build your own with an 'out of the box' package'; host the site with Google or a third-party hosting company.
- c. have the site built by a web design company; host with the design company or with a third-party hosting company.
- d. build in-house; host on your own server.

### Features of a Good Website

Whatever the choice, a good ecommerce website has to be:

- a. distinctive, promoting your brand in a memorable fashion.
- b. professional looking, inspiring trust and confidence.
- c. appropriate to the product or service sector.
- d. organized around the purchasing process — attention, interest, desire, decision and purchase.
- e. impossible to get lost in: all customer actions have been anticipated and properly channeled.
- f. fast to download, five seconds at most.
- g. prominent in its display of guarantees and returns policy.
- h. provided with FAQs to cover all eventualities.
- i. complete with a bona fide address, email address and customer support telephone number (toll-free if possible).
- j. broken into sensible sections, i.e. into pages whose appearance in the traffic statistics report helpfully on visitor behavior.

It goes without saying that the site should be without broken links, coding errors or typographic blunders. Using a spellchecker is not sufficient: you must follow the journalist's practice of proofing by an expert third party. Friends and potential customers should also assess the site from all the standpoints listed above, especially if the site is homegrown.

Professional website assessment companies exist to probe all aspects of design, including security and performance under heavy traffic, and should be used by larger companies with reputations to protect. Aesthetics is an intangible matter, and business folk are not always the best judges. Much time is wasted in gently moving clients to a more acceptable design, a process that web-build companies dislike but have to charge for. Therefore get the best design company you can afford, trust what they say, but also ask to see the work of the personnel actually engaged on your site. Go elsewhere if you have doubts.

### Specific Points

#### : Customer Appeal

The site has to look good and function well. Ensure that pages:

- a. have attractively-written and useful content.
- b. follow a consistent design scheme and copy style.
- c. are laid out intuitively, with clear navigational elements.
- d. still look good in 256 color monitor displays.
- e. display properly in the main browsers and their usual versions.

#### : Search Engine Friendliness

Though commonly needing pay-per-click support, search engines still provide the best marketing tools. Ensure you get a good ranking by:

- a. researching the best keywords for each page.
- b. optimizing title, description, page copy, links, alt descriptions and meta keywords for the researched keywords.
- c. avoiding splash pages and lengthy Flash introductions.
- d. avoiding frames and deep directory structures.
- e. moving Javascript/Java coding from the page header as much as possible.
- f. avoiding having all copy generated by database look-up.

### Graphic Design Issues

For would-be DIY graphic designers:

The usual advice is *don't*. Graphic design is a very skilled business, and the experience that stamps an essential feel of 'quality' on the page is well worth paying for. No amateur can hope to emulate a top professional, and it's false economy to try.

No doubt that's true, but not all professionals are top notch, and it's not unknown for a client to meet the senior partner but have the work done by the trainee just out of art college. The best designers are very good indeed, but the fees can make even big business flinch. What's the solution?

Some general points. Unless yours is a site advertising web or graphic design services (when you'll have your own in-house staff anyway) the graphics needed for an ecommerce site can be very simple. In fact, they should be simple. You don't require full-page designs that take long minutes to download. Likewise be very chary of Flash animation, or splash pages at all. However stunning the effect, they're apt to confuse the search engines and delay the customer getting to the product. A logo occupying the top 15% of the page, plus links in the margin, is usually all that's needed.

## **Logos**

Now the logo. Many companies will already have their own logo. The originating company can be contacted for the artwork, or existing sales literature scanned and the resulting image cleaned up. From the logo flows the general look of the site, and so the graphic design generally.

In contrast, a logo becomes necessary when the company:

- a. is newly established and has no logo.
- b. possesses something suitable only for letterhead.
- c. wishes to operate under another name.

How much do logos cost? The figures may surprise you. But prices in the high hundreds to many thousand dollars reflect the time spent in conceiving and polishing up the final product, commonly through innumerable meetings between management and designers. On logos depend the image of the company: its status, style of business, market sector. And

once decided upon, the logo is entrenched in the public consciousness by large sums spent on promotion. It has to be right.

Design professionals are magpies, forever creating portfolios of ideas and examples. So must be the student. Design can't be learned out of books, or by slavishly following rules (which is not to say rules don't exist). DIY designers need to visit competitor sites and assess them carefully. They'll each have their strengths and shortcomings. The new site has to adopt those strengths, and then surpass them.

Professional designers will have their own favorites, but it is worth noting that Paintshop Pro will create most web graphics except items needing text smaller than 14 point (when you must use Photoshop or Adobe's Fireworks).

#### Outsourcing the Web Build

Most individuals can cope with HTML and scripting languages, but for anything else:

- a. leave it to the experts. Database programming is more than writing correct code.
- b. keep it simple. The site design should include provision for database access, but not add database features until needed. Database sites are much more costly to build, host and maintain. They may also slow down the site.
- c. use a reputable company. Don't be guinea pigs for the 'we can do anything for you' approach, but check references and choose someone who's already built something close to your requirements.
- d. get a copy of the code. Ask to see code at stages in the site build to check that it's correctly laid out. Unreadable code is difficult/impossible to maintain by a subsequent developer.
- e. beware of copyright restrictions. Code is your property, what you've paid good money for. Ensure you get a complete copy when the site is finished, that it works, and keep it in a safe place.
- f. specify exactly what the site is to do. Who does what, and by when, should be specified in the contract. Sites which grow as management gets time to think about them have spiraling costs, leading to recriminations that benefit only lawyers.

## Customer Concerns

Security is crucial to ecommerce. Customers are concerned that the item ordered won't materialize, or be as described. And (much worse) they worry about their social security number and credit card details being misappropriated. However rare, these things do happen, and are widely publicized. Security is always the merchant's first responsibility, and that means not only ensuring that all stages of the transaction are perfectly safe, but that they are clearly seen to be so. Your guarantees and returns policies must be stated on the website, and they must be adhered to.

## Multi-lingual Sites

Increasingly, companies are discovering the need for multilingual websites. Non-English speakers now outnumber English speakers among Internet users, and the more go-ahead ecommerce companies are turning to the emerging markets of China, Latin America and India. 95% of people don't live in the USA, and native Chinese-speakers in fact outnumber English-speakers by two to one. Over half of Google's traffic, which offers 97 language interfaces, comes from outside the US.

How do you widen your ecommerce base? There are two matters to consider:

- a. redesigning your website for other languages
- b. adapting to local ways of doing business

Both can be taxing, and the larger corporations are currently spending millions in these areas. Some suggestions for the smaller entrepreneur:

- a. get translators and web designers to work together on an "international template". Languages may not be as concise as English, and different layouts may be expected.
- b. purchasing is culturally dependent, and new colors, graphics and customer assurances are often needed.
- c. employ a web design company with overseas branches, or a local company (cheaper) in the target countries.

- d. see what the market-leaders are doing.
- e. remember that non-US customers may not have fast Internet connections.
- f. pay special attention to logos and brand names, which may not translate easily.
- g. integrate national sites into an international network of websites: customers like the backing of a big name.
- h. experiment and check each step of the way, setting up user groups if necessary.

### Translation Services

Simply translating your sales copy into another language won't generally work: copy has to be appropriately nuanced for customers identified by your market research. In choosing a translation agency, therefore, check:

- a. experience in both language and market sector
- b. standing with bodies like the American Translators Association
- c. references for translator actually doing the work and get examples of work

### Other points:

- a. plan well in advance and keep information flowing both ways.
- b. finalize and double-check your English drafts before translation.
- c. agree beforehand on a glossary of technical terms if these are necessary.
- d. avoid last-minute changes as rush fees can be high.
- e. allow sufficient time for review and feedback.
- f. get native speakers to check the work if you don't speak the language yourself.

Most of this is obvious, but a lot rides on getting it right.

### Questions

1. What would your brief to a web designer cover?
2. You get three quotes for a website build. How would you assess them?
3. What aspects must be covered by an ecommerce site?

4. Your chief has decided to adapt the company site for the Chinese market. Describe how you'd manage the project.

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4. Web Design Cost Estimate Calculator. [Design Quote](#). Guide and cost wizard.
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6. Translate. [ETranslate](#). Services to translate your (English) content to other languages.

#### Section Contents

## 5.10 BUILDING A WEBSITE: TECHNICAL

A website is an organized collection of web pages, generally created in HTML markup language, and containing a home page labelled index.html, index.htm, home.html or home.htm.

Ecommerce websites are planned, designed, built, tested and maintained about some carefully thought-out sales strategy.

### Hosting

Web pages are viewed with web browsers, where display varies a little with the computer operating system and browser employed: Internet Explorer, Chrome, Firefox, Safari, Opera and Flock are the common browsers.

A web server is a computer that stores web pages and makes them available to others who point their browser to the website address (URL). The server usually offers extra functions: scripts, third-party software, databases and website analytics (traffic statistics). Large companies generally run their own servers, which are maintained by the IT Department. Other companies and private individuals lease facilities from hosting companies, which today are large and highly efficient operations offering better than 99.7% uptime with 24/7 technical support. Charges depend on the type of hosting required (shared, virtual dedicated, dedicated, managed, colocated, cloud-hosted or clustered {3}) and the memory used, both the disk space occupied by the stored web pages and the bandwidth (total page memory accessed each month). Hosting companies can be found/assessed through [Free Web Hosting](#), [FreeWebSpace.net](#), [FindMyHost](#), [Webhosting Geeks](#) and other review sites.

### DIY Considerations

Readers will learn more by building a small website themselves than from pages of explanation, and the account

below explains how to do so at negligible cost (if the links are followed up).

Before embarking, however, they should be advised that:

1. HTML editing skills take time to master, and even a simple website will consume many hours of hard work.
2. Any ebusiness website needs to be carefully planned around a marketing approach.
3. Many ebusinesses do not need a website: see email marketing.
4. Webpage space is available for practically nothing on cloud computing services, galleries, blogsites and media sites such as facebook
5. Websites can be built online, gratis for a limited period, at many hosting companies that offer simple tools that eliminate the need for HTML coding. While useful for projects, the sites can't generally be exported to other hosting companies, however, or developed beyond what the tools allow. Examples include Google, Weebly, Designer360, Webs, NetworkSolutions, HandzOn and PickaWeb.

#### Website Build

Web pages typically possess a title, page header, main section, page footer, and navigation bar or section. Intuitive layouts, quality graphics, style consistency, company credentials and customer guarantees help provide the necessary customer trust. Pages are built with some combination of the following:

1. 'Out-of the packet' website kits.
2. Website-building software supplied by hosting companies
3. Professional HTML editors like Dreamweaver and GoLive.

Cheaper favourites include CoffeCup and Web Page Maker. For free alternatives consider KompoZer (Windows, Mac, Linux), Quanta Plus (Windows, Linux), Bluefish (Windows, Mac, Linux), SeaMonkey (Windows, Mac, Linux), WaveMaker (Mac), OpenLaszlo (Windows, Mac, Linux) and CSSSED (Windows, Linux)

4. Graphically-designed web pages subsequently 'sliced up' for text insertion.
5. Modification of commercially-available templates.
6. On the fly with scripting languages like Perl, Javascript or PHP. Free PHP-editing tools include phpMyAdmin and asyPHP.
7. Open-source, collaborative languages like Joomla and Drupal.

HTML, the markup language for web pages is well covered at [HTML Goodies](#), [Webmonkey HTML Cheat Sheet](#), [HTML Basic Tutor](#) and [W3Schools](#). HTML5, the latest HTML version, is simpler than the current XHTML version, and introduces new tags. Information can be found at [WC3 HTML5 Reference](#), [HTML5 Unleashed](#), and [HTML5 Quick Reference Guide](#). Basic web page markup is very simple:

```
<html>
<head>
<title>Page Title</title>
</head>
<body>
Main body of text
</body>
</html>
```

So that web servers know what to expect, a header is added to the HTML tag, e.g: `<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"`

`"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">`. HTML coding can be viewed for any web page by choosing the browser View menu followed by Page Source or equivalent.

Layers, frames and tables add diversity, and scripts (Javascript, VBScript, and Perl) greatly extend HTML functionality. Useful scripting tutorials can be found on [Tizag](#), [Web-Wise-Wizard](#), and [Web Monkey](#).

### Colour, Graphics and Fonts

Webpage colour is expressed in hexadecimal value (e.g. FF65E5) and free colour calculators/guides are located at

ColorCombos, DeGraeve and ColorLovers. Images are commercially available at iStockPhotos, Photos.com, PictureQuest and other sources. Free sources include Freestockphotography and Visipix. Web pages will display graphics in the .gif, .jpg and .png formats, commonly at a resolution of 72 pixels per inch. Displays on Windows machines are a little different from those on Mac machines, and web designers plan for both. Digital images are manipulated and converted to the requisite format with graphics editors. Photoshop and Fireworks are used by professionals. Free graphics editors include GIMP (Windows, Mac, Linux), Inkscape (Windows, Mac, Linux), Paint.Net (Windows) and Seashore (Mac OS X).

Only those fonts installed in client computers will display on the visitor's VDU screen. The Windows platform will have these installed as default: Arial, Book Antiqua, Calisto MT, Century Gothic, Comic Sans MS, Copperplate Gothic Bold, Copperplate Gothic Light, Courier, Courier New, Fixedsys, Georgia, Impact, Lucida Console, Lucida Handwriting Italic, Lucida Sans Italic, Lucida Sans Unicode, Marlett, Matisse ITC, Modern, MS Serif, MS Sans Serif, News Gothic MT, OCR A Extended, Small Fonts, Symbol, System, Tempus Sans ITC, Terminal, Times New Roman, Verdana, Webdings, Westminster and Wingdings.

The Apple platform will have these as installed as default: AmericanTypewriter, Andale Mono, Apple Chancery, Apple Symbols, Arial, Baskerville, BigCaslon, Brush Script, Chalkboard, Charcoal, Cochin, Comic Sans MS, Copperplate, Courier, Courier New, Didot, Futura, Gadget, Geneva, Georgia, Gill Sans, Helvetica, Helvetica Neue, Herculanum, Hoefler Text, Impact, Marker Felt, Optima, Papyrus, Skia, Symbol, Times New Roman, Trebuchet MS, Verdana, Webdings, Zapf Dingbats and Zapfino.

Free web typography tools are listed on Binary Turf.

CSS

Text and page layout can be closely specified by Cascading Style Sheets, though the support of CSS functions varies somewhat from browser to browser: tables can be found on [W3C Schools](#) and [CSS Tutorial](#). CSS is typically specified with a css text file, linked to the webpage and containing instructions like: `h2{ font-size:1.45em; padding:0 10px 10px 10px; margin:10px 0; border-bottom:1px solid #d6d6d6;}`

## Multimedia

Sound clips and videos are stored on the server, and easily inserted into the web page with a simple HTML link. A popular sound recording/editing program is [Audacity](#) (Windows, Mac, Linux), and videos may be captured, edited, and rendered with [Blender](#) (Windows, Mac, Linux), [Avidemux](#) (Windows, Mac, Linux) and [Cinelerra-CV](#) (Linux only). Practical advice can be found on [How to Record Audio for the Web](#), [Podcast Recording Questions](#), [Podcasting in Plain English](#) [Video Files & Editing Tutorial](#), [Web Multimedia Tutorial](#), and [Web Video Tutorials](#).

## Widgets and Mashups

Widgets, plugins and mashups are small, stand-alone programs that are readily added to make websites, social media sites and blogs more functional. An enormous number are freely available from [IBM Mashup Center](#), [Apple](#), [Google](#), or can be easily created at [Programmable Web](#), etc.

## Upload

Once created, web pages are uploaded to servers with FTP clients. Popular examples include [FileZilla](#) (Windows), [Fetch](#) (Mac) and [Cyberduck](#) (Mac). The program needs to be configured by entering the hostname, username and password supplied by the hosting company.

## Questions

1. What alternatives are there to building your own website?
2. List the seven ways in which websites can be built.
3. Describe the basic layout of a web page.
4. How can sound, Flash and order pages be added to the website?
5. How would you choose a hosting service, and why?

### Project

Build a simple 3-page website using Weebly, Designer360, Webs, NetworkSolutions, HandzOn or PickaWeb. Explain the design in terms of market sector and segment.

### Sources and Further Reading

1. *Build a Website for Free: Second Edition* by Mark Bell. Que. 2010.
2. *HTML & XHTML Pocket Reference: Fourth Edition* by Jennifer Niederst Robbins. O'Reilly Media, Inc. 2009.
3. *Web hosting service*. Wikipedia. Explains the types of web hosting available.
4. Open source (i.e. free) programs are listed at Open Source Windows, Open Source Mac, Open Source as Alternative and Open Source Alternatives.

### Section Contents

## 5.11 WEBSITES FOR MOBILES: DESIGN IN PRACTICE

Websites catering for mobile devices present the web designer with many challenges, because:

1. Screen varies considerably in size, definition and orientation.
2. Different mobiles use different markup languages, somewhat incompatible with each other and/or still under development.
3. Small screen requires hard decisions on what to include and what leave out.

The client has therefore to:

1. Decide what groups of mobiles (types and models) is used by their market sector.
2. Build a separate sub-website for each mobile group.
3. Automatically identify the mobile group on a 'catch all' index page and then transfer the visitor to the appropriate sub-website.

An illustration of choices an advertiser must make is the US market for mobile phones, which is age-segmented. The 2009 picture was as follows, {3} where terms refer to dates of birth, approximately: Boomers 1945-60, Generation X-ers 1960-85, Millenials 1980-2000.

Millenials (18% own a smart phone)	Gen X-ers (10% own a smart phone)	Boomers (8% own a smart phone)
Blackberry: 39%	Blackberry: 40%	Blackberry: 39%
iPhone: 20%	iPhone: 11%	iPhone: 10%
Sidekick: 15%	Sidekick: 5%	Sidekick: 10%
Treo: 12%	Treo: 8%	Treo: 10%
Blackjack: 10%	Blackjack: 3%	LGenV: 3%
LGenV: 9%	LGenV: 3%	T-Mobile Wing: 3%
T-Mobile Wing: 5%	T-Mobile Wing: 3%	Nokia N95: 3%
Nokia N95: 4%	Nokia N95: 3%	Helio Ocean: 4%
Helio Ocean: 4%	Other: 19%	Other: 19%
Other: 14%	Not Sure: 13%	Not Sure: 10%
Not Sure: 7%	-	-

The web design company will need to go through these steps.

1. Decide whether to have:

- a. A separate mobile site, using one of the mobile domain names (iphone.yoursite.com, m.mysite.com, mobile.yoursite.com, pda.yoursite.com, xhtml.yoursite.com, wap.yoursite.com, wml.yoursite.com or wireless.yoursite.com). Clear to visitors but does not benefit from the ranking of the customer's main site,
- b. A mobile subdomain or subdirectory on the main site. Easier to find and benefits from a main site ranking, or
- c. Mobile-traditional hybrid pages on a main site using CSS for layout. Logical but Netfront and Mobile Internet Explorer can cause display problems.

2. Give some thought to

- a. Creating a mobile portal round a theme of interest: examples: [Live Search](#), [Winksite](#) and [M4u](#).
- b. Including these in the page coding: HTTP header, User-Agent Profile, User-Agent Header, Cache Control, Content-Type, Content Disposition.
- c. Precise coding: mobile languages are not forgiving. Validate the code with the free [W3C service](#) and/or [CSS Validator](#).
- d. Using Javascript intelligently. The iPhone limits Javascript to 5 seconds of execution time.
- e. Employing AJAX (but note that this XHTML and Javascript mixture is not fully implemented on mobile phones).

- f. Adding simple and intuitive online forms.
- g. Removing Traditional Flash, which does not work on mobile phones, (and even Flash Lite, a streamlined version, does not work on all devices).
- h. Considering Microsoft's Silverlight, which works on Windows Mobile phones, on the iPhone and Nokia S60.
- i. Adding rich media content files: many are possible on mobile devices, but the MIME must be specified. The safest file formats are currently MPEG4, MP4 (QuickTime) AVI, H.264/AVC, 3GP, and 3GPP.
- j. Removing rich media from the first page but providing a link to it.
- k. Adding a manual link on the first page if problems arise with the automatic device detection script (see below).
- l. Removing frames, that generally cause problems.
- m. Transcoding (traditional web pages automatically slimmed down to mobile web pages), which does work, but needs to be carefully checked. Consider the Squeezer (<http://skweezer.com/s.aspx?q=http://yoursite.com>) and Google transcoding services.
- n. Employing hosted mobile services like Mobify.me operate like transcoding, but again results need to be checked on all the common mobile phones.
- o. Specifying display sizes for each device or device grouping.
- p. Compressing image files, to individually not exceed 20K, and not used in page architecture.
- q. Employing traditional fonts, e.g. Arial, Times New Roman, Courier, Helvetica, and Verdana. The iPhone also supports American Typewriter, Arial, Arial Rounded MT Bold, Courier, Courier New, Georgia, Helvetica, Helvetica New, Marker Felt, Times New Roman, Trebuchet MS, Verdana, and Zapfi.
- r. Making the coding as compact as possible.
- s. Displaying only the most up-to-date and compelling information.
- t. Dividing the content into blocks of information, and

displaying these one at a time.

u. Allowing for vertical scroll.

3. Build new web pages, generally using a more specific HTML editor (such as those listed on WYSIWYG and Visual Editing Tools and Site Builders), after checking what CSS (cascading style sheet) tags are supported in the various markup languages listed on the W3C and OMA sites. An Internet search will also locate specific articles and tutorials: e.g.

a. Markup Languages: Listing and brief descriptions, as of 2004.

b. Creating Web Content for Mobile Phone Browsers. A worked example: much more available on the main (Wireless DevCenter) site.

c. XHTML Mobile Profile / XHTML MP Tutorial . Detailed, free tutorials.

d. Mobile markup - XHTML Basic 1.1. Technical article for Opera (browser) developers: site has extensive articles and listings.

e. Easy-to-use software: e.g. MobiSiteGalore, Akmin, SiteSpinner and XSitePro.

4. Create sets of web pages, one set for each of the devices being catered for, plus a general set that acts as a possible 'catch-all' for the remainder. The optimal layout will depend on the website type: online banks, newspaper, customer services, music downloads, etc. all having different requirements. Coding can be from scratch, or through a transcoding service.

5. Check how these pages will display with device emulators: Agent Switcher, Small Screen Renderers, dotMobi, DeviceAnywhere, Keynote, Apple Safari, Google Chrome, Mozilla, Firefox XHTML Mobile Profile, WMLbrowser, Firebug, Ningx, iPhone SDK, iPhone Tester, Palm, Android SDK, Blackberry, Opera, Yospace Smartphone or WinWAP Simulator.

6. Add code to detect the device being used and automatically direct the viewer to the appropriate set of web pages. The code needed is available on these sites: WURFL, tera-WURFL and/or Andy Moore's Solution.

7. First test the site on a PC with device emulators, and then with the actual mobile devices.

#### Importance of Mobile Commerce

Mobile ecommerce has only recently caught on in the States, but a 2011 Internet Retailer survey (of 54 web only merchants, 31 retail chains, 17 catalog companies and 15 consumer brand manufacturers) noted:

1. Some 24.1% of merchants operate a mobile commerce site, and 16.4% have both an m-commerce site and mobile apps designed for specific devices.
2. Revenues were appreciable. Of such merchants:
  - a. 54.8% were generating annual sales of more than \$50,000.
  - b. 40.6% were generating annual sales of at least \$250,000, of which
  - c. 9.5% were generating annual sales of \$250,001 to \$500,000
  - d. 7% were generating annual sales of \$750,001 to \$1 million.
  - e. 14.3% were generating annual sales from \$1.1 million to \$10 million
  - f. 4.8% were generating annual sales from \$10.1 million to \$50 million
  - g. 5% were generating annual sales of more than \$50 million.
3. Mobile commerce accounts for at least 3% of all web sales at 47.6% of merchants.
4. 16.7% of merchants found transactions from tablet computers made at least 20% of mobile commerce revenues.
5. 85.7% of merchants saw mobile commerce as important to their future online business development, and 59.2% as very important. Some 7.1% plan to spend over \$1 million in this

development.

6. 59.1% will use an outside technology partner to help them build their mobile commerce site or applications.

7. Site maintenance is a problem and only 36.4% of online retailers have full-time staff devoted to mobile commerce.

#### Questions

1. What challenges do mobile web pages present to the designer, and how are they overcome?

2. Outline the seven steps in building web pages for mobile phones.

3. How can the designer ensure that the web page viewed is suitably designed for the mobile phone in question? What alternatives exist?

4. Provide some statistics for thinking mobile commerce is the next big frontier.

#### Sources and Further Reading

1. *Build a Website for Free: Second Edition* by Mark Bell. Que. 2010.

2. *HTML & XHTML Pocket Reference: Fourth Edition* by Jennifer Niederst Robbins. O'Reilly Media, Inc. 2009.

3. *Web hosting types*. W3Schools. Brief explanation, with pros and cons.

4. *Mobile Marketing: Finding Your Customers No Matter Where They Are* by Cindy Crum. Que. 2010.

5. Open source (i.e. free) programs are listed at Open Source Windows, Open Source Mac, Open Source as Alternative and Open Source Alternatives.

6. The Internet Retailer Survey: Mobile Commerce Retailers diving into mobile commerce are coming up with significant sales by Mark Brohan. Internet Retailer. September 2011.

#### Section Contents

## 5.12 PROFESSIONAL PAGES

To instill trust and confidence in customers, web pages must look professional. The designer needs to bear in mind both the client's aims and the target audience.

### General

1. Web pages should be consistent, and project the company's image throughout. Some companies engage in hard sell, and lose no opportunity of stressing the advantages of their products and services. Others — medical, legal and insurance services — seem hardly to sell at all, but aim to convey quality, tradition and selfless devotion to professional standards. What works for one market will not necessarily work for another.
2. Websites have a job to do. Indeed the purpose of each and every page needs to be carefully considered and fitted into preferred traffic routes. This takes precedence over aesthetic matters.
3. Content should be engagingly written to evoke a specific response: *compare prices, see what you save, look at our guarantees, buy now, etc.*
4. Pages should load quickly, follow clear themes and have foolproof navigation, with a site map for sites of any size.
5. Shopping cart should work flawlessly, and be no more than 3 clicks from the landing page.
6. Company information, privacy policies, guarantees and returns policies should all feature prominently if traffic metrics show these to be important to customers.
7. Layout should be aesthetically pleasing in all popular browsers, with colours appropriate to the market sector and with typefaces legible.

## Specific Matters

### **Page Size**

Are the preferred customers going to access the website from a large screen PC, a laptop, notebook or smart phone?

Probably the first if they are buying up-market real estate, but the second if the site is an educational one serving the developing world, when you would want a site looking good at 600 x 800 pixels resolution.

### **Page Layout**

Should you use the fluid layouts possible with Cascading Style Sheets? In most cases, yes, but put any extensive sections of text in fixed-width columns. For websites that are to be compiled into ebooks, however, you'll need to check with the compiler first: many CSS tags are not supported and you may have to use old-fashioned layout with tables.

### **Colour Schemes**

Colour schemes should reflect the market sector and accommodate the company logo. Few designers now restrict themselves to web-safe colours, though there are display differences between operating systems, monitors, monitor gamma settings, browsers and browser versions. Check the mockups: what appears as a handsome deep brown colour on one configuration may appear a garish purple on another.

### **Graphics**

Graphics have to be appropriate and say something. Large graphics that increase loading time are more acceptable when image matters: art, fashion, real estate, glossy motoring etc. sites.

### **Text**

Follow good typesetting standards, adding more white space and paragraphing if the text is primarily to be read on-screen. Use the browser-compatible fonts supplied by the Windows and Mac operating systems, and set the leading and word spacing with CSS. Make the the text resizable by the viewer

unless a critical part of layout (as in designer's and architect's sites).

### Things to Avoid

Surveys indicate that the following in particular annoy viewers, and are best avoided:

- a. Pop-up ads.
- b. Pages that require extra software to be installed.
- c. Dead links.
- d. Inconsistent or confusing navigation.
- e. Registration to view a report, particularly if intrusive.
- f. 'Wow' graphics or videos that take a long time to load.
- g. Out-of-date content, or no date on articles.
- h. No automatic error page redirection.
- i. No site map.
- j. Browser back button disabled.
- k. No contact information on web forms.
- l. Flash introductions that provide no useful introduction.
- m. Background music, especially if it can't be turned off.
- n. Over-powerful or distracting backgrounds.
- o. Text that moves, vibrates or draws attention to itself.
- p. Withholding price, shipping costs, guarantees and other vital information.
- r. Links that perpetually open to new pages.

### Positive Features

Features that make sites more popular and convincing include:

1. A *brief*, upfront presentation of a company's size, aims and history.
2. A friendly, open style of writing that engages directly with the preferred customers' needs.
3. A human 'face' to the site, with bios and photos as appropriate.
4. Original, authoritative and helpful articles.
5. Clearly-written white papers that can be downloaded

without lengthy registration procedures.

6. A choice of media presentations: chatty videos for the casual surfer and concise text for the busy executive.

Good web page design is not a matter of following rules, but of applying the experience and creativity of a graphic designer to specific business needs. The better web build companies acquire their flair and reputation by continually studying the creations of others on the web, and by working patiently with clients whose thoughts may have got no further than: 'we want something like XYZ company's site, only better'.

### Questions

1. What in general should web pages aim to do, and how?
2. What overriding matters should the web designer bear in mind?
3. List the things to be avoided in web page design.
4. How would you improve the conversion rates of a website?

### Sources and Further Reading

1. *Before&After Page Design* by John McWade. Peachpit Press. December 2003.
2. *Web Design in a Nutshell: 2<sup>nd</sup> Edition* by Jennifer Niederst Robbins. O'Reilly. September 2001.
3. *Dreamweaver 8 Design and Construction* by Marc Campbell.: O'Reilly. January 2006.
4. *Adobe Photoshop 7 Web Design with GoLive 6* by: Michael Baumgardt. Adobe Press. June 2002.
5. *Sexy Web Design* by Elliot Jay Stocks. SitePoint. March 2009.
6. *Professional Web Design: Techniques and Templates* by Clint Eccher. Course Technology PTR, June 2010.
7. *Ordering Disorder: Grid Principles for Web Design* by Khoi Vinh. New Riders. November 2010.
8. *HTML5 Guidelines for Web Developers* by Klaus Förster and Bernd Öggl. Addison-Wesley. June 2011.
9. Web page design. WebDevelopersNotes. The Basics, but important.
10. Top 10 Mistakes in Web Design. Useit. Obvious, but often overlooked. Further lists on site.
11. 9 Essential Principles for Good Web Design. PsdTutPlus. Takes the logic of design further, and includes links to specific issues.

12. Web Pages that Suck. Examples of how not to do it.

Section Contents

## 5.13 SHOPPING CARTS

Merchants want their products displayed in an attractive and easy-to-purchase manner. Customers must be able to add or delete items from their selection — i.e. the shopping cart or storefront — and review their final selection prior to finalizing purchase. The payment process must be intuitive, fast and secure. Shipping details, tax and your returns policy will need to be clearly stated, and customers emailed with a confirmation of purchase and delivery date. That's a tall order for any software system, and the requirements don't stop there.

Whatever the storefront, it must work seamlessly with the merchant's means of collecting payment. For credit card payments taken instantaneously online, that means total integration of software (payment gateway) and the agencies involved — the banks making and accepting fund transfers, and the relevant credit card processing company. For noncredit card payments, the software requirements are almost as onerous if the customer is not to lose confidence and go elsewhere.

Selling is only half the battle. Businesses need to keep records — for accounting and tax purposes, but also for more effective marketing and planning. A company selling real estate may quite happily transfer sales details manually, but most companies will want the process automated. And unless they're starting from scratch, or are prepared to throw out their current system, companies will expect the automation to work with the accounting package they have now.

Hence the need for detailed assessments. There are hundreds of options and packages out there, but only a few will exactly suit a particular business.

Options

Basically, there are four ways to build a store:

1. Use a Merchant Service Provider.
2. Purchase special software 'out of a box'.
3. Use software provided by an ecommerce hosting company.
4. Create an individual system, writing the code necessary.

Each has their pros and cons. Before investigating, companies must decide what their online store is to achieve, realistically. No one has an ideal system, and the usual advice is not to over-engineer. Go for something that broadly serves your current needs. Allow for reasonable growth, but don't be over-optimistic. In particular, don't lock yourself into speculative systems with untried components. Technology moves on, and what you're forced to have individually tailored, at great expense now, may shortly be available in a more 'out of the box' form.

#### Requirements

Thoughts will come when comparing what's on offer, but here is a shortlist of questions to ask of any proposed online store software:

#### **Storefront appearance:** professional-looking result?

- a. Suitable templates?
- b. Customizable?
- c. Displays sufficient products?
- d. Graphics and thumbnail graphic displays of products?
- e. Adequate product description possible?
- f. Coupons can be used?
- g. Gift wrap service?
- h. Products grouped hierarchically for ease of reference?
- i. Product cross-selling possible?
- j. Products can be displayed in several categories?
- k. Automatic price adjustments possible?
- l. Resulting store easy to navigate for customers?
- m. Payment system intuitive and easy to use?
- n. Works with all browser? demos with browser versions.
- o. Database-produced pages are search-engine friendly: if so, how?
- p. Customer/merchant search facility for products?

- q. Volume discounts, and how handled?
- r. Also handles digital products or subscriptions?

**Platform:** Unix or Windows product? What version/variant exactly?

- a. What database?
- b. Hosting company has sufficient expertise to maintain the system, recover database crashes, etc.?

**Backend functions:** proper records kept of purchases?

- a. Customer details?
- b. Tax levels?
- c. Shipping information? flat fee, by weight, UPS, Fedex real-time calculations?
- d. Order tracking for customers?
- e. Handles multiple currencies and tax levels?
- f. Can minimum orders be set?
- g. What credit cards accepted?
- h. What fraud protection schemes?
- i. AVS address?
- j. AVS zipcode?
- k. CVV2?
- l. Records readily integrated directly into current accounting / sales packages?
  - 1. With software supplied?
  - 2. Via compatible databases?
- m. Customer emailed with sale confirmation and shipping details?
- n. Doesn't use cookies (some customers turn off the facility).

**Ease of Build and Maintenance**

- a. Uses wizards throughout?
- b. Resulting code can be easily 'tweaked'?
- c. Needs simple programming in Perl, Coldfusion or ASP?
- d. Uses a proprietary programming language?
- e. Suitable only for the advanced programmer?

## **Integration**

- a. Can work with what payment gateway systems?
- b. Can work with what databases?

## **Inventory Control**

- a. Automatic by product?
- b. Automatic by supplier?

## **Affiliate Schemes**

- a. Supports affiliate schemes?
- b. Affiliate tracking and automatic commission settlement?

## **Marketing**

- a. Automatic submission to search engines?
- b. Emailing to customers?
- c. Email auto-responders?

## **Statistics**

- a. Sales, page views, referring URLs?
- b. Sales by customer?
- c. Sales by product?

## **Pricing Policy**

- a. License fee?
- b. Installation fee?
- c. Previous upgrade prices?
- d. Additional coding charges?

## **Support**

- a. Software produced by large and reputable company?
- b. Software has good customer base?
- c. Adequate build instructions?
- d. Online tutorials available?
- e. Software user's club and help center?

## **Pros and Cons**

Everything needed to build the store is provided by the package, often with payment gateway provided. Some are a breeze to work with; others can be troublesome. Very largely, companies get what they pay for: the better packages with extensive backend facilities are expensive, though not as expensive as a site that doesn't work properly. A few hundred dollars saved on the purchase price will disappear if a professional programmer has to be called in. An Internet search will generate many suitable candidates. A very small selection of middle-range carts:

Product	Platform	Currencies	Market	Database	Relational Database/Inventory Control Price
Actinic Business	W U	over 30	S M	ODBC	yes/yes
CatalogIntegrator	W U	\$+	S M L	1 3	yes/yes
Cf-ezcart	W U M Cold Fusion	\$	S M	1 2 3	yes/yes
Dansie Shopping Cart	W U	\$ £ E +	S M	3	yes/no
Intershop	W U	E £ \$ +	S M	5	yes/yes
Make A Store	W U	\$ +	S M L	3	yes/yes
Real Cart	W	\$ +	S M	1	yes/yes
SalesCart	W U	\$	S M	ODBC	yes/no
StoreFront	W	\$ +	S M L	1 2 4	yes/yes
W=Windows U=Unix M=Macintosh ColdFusion=hosting requires Cold Fusion server					
E=Euro, over 30=s/w designed to handle over 30 currencies through country-specific versions (currencies otherwise depend on the PSP),					
S=small, M=medium, L=large companies					
1=Access, 2=SQL Server, 3=MySQL, 4=Oracle 5=Sybase ODBC=Any ODBC compliant database					

### Software Provided by the Hosting Company

Many attractive deals exist. Some throw in detailed statistics of your visitors and their movement through your store. Some will also include marketing.

### Pros:

1. No difficulties in integrating shopping cart, payment gateway and merchant account.
2. Speed: the software is easy to use, and the company can start designing straight away.

3. Support: the hosting company will know their system and can help accordingly.

### **Cons:**

Remember, however, that:

1. Company must still assess the software provided to ensure it does the job properly: evaluate the alternatives.
2. Terms may be restrictive: adult or politically incorrect material is usually banned.
3. Banners etc. advertising the hosting company may appear, compromising the image or integrity of the store.
4. The hosting company gets their cut somewhere: the merchant account provided may not be the best going: shop around.
5. Modest hosting charges allow for only limited support: check their rates for anything else.
6. The hosting company may have the right to delete credit card information from their server some time after you have supposedly retrieved it: check that they keep a backup copy for customer disputes later.
7. Companies may be locked in: transferring to another system/hosting company/merchant account can be difficult, especially if there are long leases involved.
8. Companies are tied to the fortunes of the hosting company: if the latter suddenly go out of business so may those using them.

### Build Your Own System

By far the most expensive option, but provides great flexibility. In general, this is the larger company route, for corporations with deep pockets, teams of IT professionals and timescales of six months or more. Be cautious of web development companies that offer their 'own in-house ecommerce solution'. Unless that solution is very basic (when you'd be better off sticking with an 'out of the box' program) there is always the danger of time and budget overruns. And even if matters are firmly secured by the contract, you may still be landed with a

system that only the originating company can maintain or extend.

### Doing your Sums

Companies need to assess the pros and cons carefully, which means investigating what card processing charges they'd face elsewhere. Examine the sample sites or demos available on the hosting company site. Ask for a client list if necessary, and double check that the order processing covers all that's needed: shipping, tax, order tracking, inventory management, customer feedback, integration with your accounting system.

### Questions

1. Give the pros and cons of the various ways of attaching a shopping cart to an ecommerce site.
2. What would you take into account when selecting third party shopping cart software?
3. Why can using the hosting company's 'free' shopping cart software be a false economy?

### Sources and Further Reading

1. *Shopping Carts*. Wilson Web. Dr. Wilson's 2004 Report covering 225 models.
2. *Online Store Builders and Shopping Carts*. Open Directory. Extensive listings under 'shopping cart'.
3. *Knowledge Storm*. Extensive lists of software.
4. *Business*. Recommends shopping cart and associated software according to input requirements.
5. *BestShoppingCartReviews*. Some 43 models compared, plus articles on related matters.
6. *Capterra*. One of many sections on this software comparison site.

## Section Contents

## 5.14 PAYMENT SYSTEMS

The more cautious companies take themselves online in stages.

1. A start is a simple online catalogue, from which customers can order by telephone or email. The personal contact fosters confidence, and customers can check product details with a knowledgeable salesperson.

2. Then may come a website with page information automatically supplied from a linked database, ensuring that stocks, prices and specifications remain up to date.

3. Only with online payment does ecommerce proper arrive, and even then there are sub-stages which companies may pass through.

- a. Rather than process credit cards in realtime, emerchants will commonly take payment by one or more of these approaches:

1. Online checks.
2. Wallet systems.
3. Credit card details taken by encrypted email.

- b. At the next stage enters the payment service provider, where the mix of options and misleading terminology almost guarantees confusion. At their simplest, the options are:

1. An all-in ecommerce system supplied by the webhosting company.
2. An Internet payment service bureau that handles all aspects of payment, sending customer details back to the emerchant for order fulfillment.
3. A secure order form on the emerchant's site, which transfers customer details via a payment gateway to a credit-card processing company.
4. An application programming interface on the emerchant's server that allows more direct access to the merchant account, though still through a payment gateway.

The devil is in the details. These are the common complications:

The all-in ecommerce hosting system may:

1. Allow or not allow a range of shopping carts to be used.
2. Allow or not allow emerchants to find or use their own merchant accounts.
3. Some shopping cart programs are only sold through registered partners or hosting companies, which effectively makes their use an all-in ecommerce-hosting system.

Internet payment service bureaus differ widely in:

1. Rates and terms applying
2. Products they handle (content/physical goods, adult sites, etc.)
3. Turnovers expected (usually unstated on their sites).

Secure order forms and application programming interfaces :

1. Are often not properly distinguished in the service details, though they are very different in operation, obligations and costs.
2. May or may not require your own server or dedicated server.
3. Require a payment gateway which works only with specified shopping carts and merchant accounts.
4. May or may not be supplied by the merchant account provider
5. May or may not be added to your shopping cart without programming expertise.

A merchant account may be unobtainable, throwing the emerchant back on Internet payment service bureaus or other stratagems.

Simple Merchant Accounts

You must have a merchant account to process credit cards, and these may be either a retail merchant account or an ecommerce merchant account. As far as the retail version is

concerned, bricks-and-mortar shopkeepers will be familiar with the authorization process — swiping the card or phoning to authenticate — and this may be all your online business requires. If you operate on low volumes (e.g. letting a farmhouse for the summer), or face little competition (subscription to a specialist ezine), you can simply take the customer's credit card details with encrypted email, authenticate as convenient, and then email acceptance.

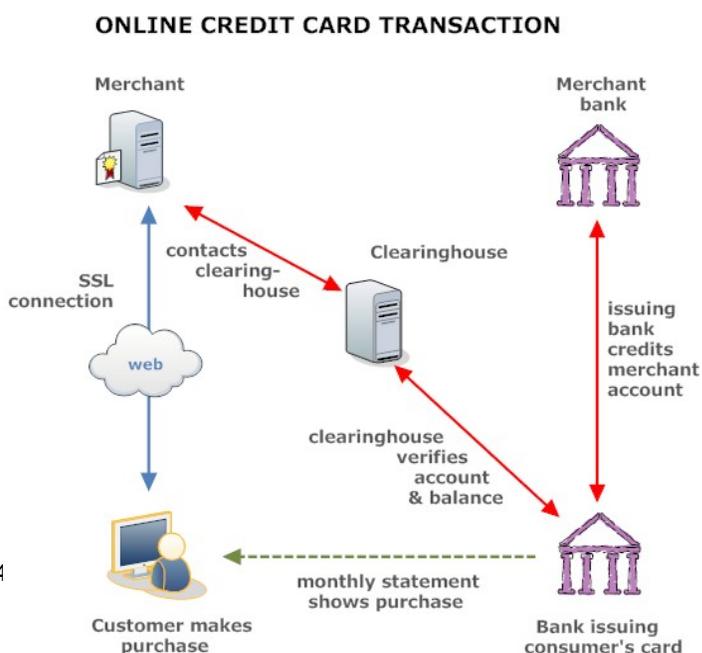
### Online Merchant Accounts

Very different is the ecommerce merchant account serving the needs of the high volume emerchants who process credit cards online in realtime. Website customers expect sale acceptance within a minute, and to be furnished with tax and shipment details. More sophisticated software is needed to handle the transactions, and the perceived risks are greater — which means higher charges all round.

Nonetheless, taking credit cards online is essential for many ebusinesses, and the greater costs are more than outweighed by the advantages:

1. Decisive edge on the competition.
2. Enhanced sales.
3. Greater protection from fraud.
4. More flexibility in processing orders and invoicing the customer.
5. Lower costs once sales exceed \$1,000/month or so.

### How Merchant Accounts and Payment Gateways Work



The merchant account acts as an intermediary or clearing house between your bank and your customer's credit card account. The transaction operates through software called a gateway payment system. Procedures differ somewhat depending on the providers and countries concerned, and third parties may intervene with fraud detection systems, but in essence the steps are:

1. Customer fills out the order and credit card information on the website order form, and clicks the submit button.
2. The information is transferred via the gateway to the bank's processor and the account is looked up.
3. If the result is favorable, an authorization number is sent via the gateway to the merchant's website, and the acceptance is viewed by the customer.
4. The merchant notifies the gateway that the item has been shipped and the transaction settled.
5. The gateway then informs the bank that the transaction has been settled.
6. The merchant emails the customer with confirmation of the sale and shipping details. The bank credits the merchant's account and debits the customer's credit card account.

Leaving aside wallet systems and payment service bureaus, payment gateways come in two types:

1. A secure order form hosted on the payment gateway provider's site. This is the cheaper option and provides better shipping and tax calculation facilities than is usually the case with payment service bureaus. Because information is collected off the merchant's website, however, it is often difficult to collect customer information on purchases, even sufficient to identify individual charge-backs. Data integration, marketing and planning therefore suffer.
2. An API (application programming interface: software) running on the server hosting the merchant's website. This is the more expensive option but overcomes the previous limitations. Such software is usually specific to the type of server concerned, however, and requires considerable

programming expertise to install (plus permission from the hosting company: normally only allowed on a dedicated server).

## MAPs and Credit Card Processors

Merchant accounts are provided by Merchant Account Providers (MAPs). These may be acquiring banks, Independent Sales Organizations, or the ISP company hosting your website. To add to the confusion, Credit Card Processors may also be called MAPs, though their role is actually limited to processing the credit cards associated with merchant accounts. Like ISOs, CCPs supply software (payment gateways) and sometimes the hardware to physically process the cards.

An ISO account will normally come with its own Credit Card Processor, but you may have some choice if your business bank provides the merchant account.

## Doing Without a Merchant Account

Quite apart from the difficulty of obtaining one, particularly if the business is located outside the USA, merchant accounts are expensive for the small or fledgling business. Many use alternative payment systems.

## Mechanics of Merchant Accounts

Suppose you've found a MAP to give you a merchant account. What needs to be done before signing the contract? You should:

1. Make sure you understand what's entailed: technical, financial, legal.
2. Shop around to know what constitutes a good deal for your business.
3. Check that the merchant account will work perfectly with your chosen shopping cart and payment gateway.

## Software Integration

Ideally you would first choose your storefront program, then establish the payment gateway system, and only then research the appropriate merchant account. But since that approach may lead to dead-ends, it's often necessary to

juggle the options until you find a reasonable fit. Certainly the most important decision is the choice of shopping cart — you can change the others more easily later — and here you can shorten the odds by choosing one that employs a popular gateway system.

Remember also to what hosting platform is required — generally Windows or Unix. Integration is a good deal easier if both storefront and payment gateway use the same platform.

### **Software Integration: How It Works**

Why do shopping cart, gateway and merchant account need to work together? Well, anything the acquiring bank requires must be collected from the website customer, and the stated shipping costs, tax and payment details must also find their way through the system to the customer's credit card account. But payment gateways demand a good deal more than that. Their security measures employ protocols, message formats, certificate authorities, sums, secret keys, secure socket layers, timeouts, and retransmissions. That in turn means compatible procedures, and sometimes common operating platforms. The details only concern programmers, but banks will know what their systems can and cannot support.

This information should also be available to ISOs, and some are indeed very helpful to the prospective merchant. Unfortunately, many still chase the commission, and it is usually wise to contact all parties to double check that everything will indeed work as promised.

### **Who Does What?**

Suppose you find your ideal merchant account: what happens next? The provider arranges for a third party (credit card processing company) to accept the credit cards, verify the transactions and deposit funds into the acquiring bank. The third party provides you with software — the payment gateway — to link up with the third party or to process cards on your sites. Then what?

1. If your gateway takes the form of a secure order form hosted on the credit card processing company, you may

simply be able to cut and paste the supplied HTML coding. Much depends on the instruction manual and your own level of expertise.

2. If your system is supplied as a complete package by the company hosting your website, then that hosting company will probably do the installation. A standard arrangement will be included in the price, usually very competitive. If, however, you insist on your own choice of payment gateway, then additional coding will be needed, and you may end up paying a sizable bill, either to the hosting company or a third party programmer.

3. If your gateway is an API (application programming interface) running on your server, then you will most certainly need an expert programmer familiar with both the server and the coding language (Perl, PHP, ASP, C++, VB or Coldfusion). The bill will be high, but using an accredited professional will be cheaper in the long run.

Finally, you have to get the funds deposited into the acquiring bank into your own bank account. The two may be the same — if your business bank is supplying the merchant account — and transfers between banks located in the USA are not expensive. On the other hand, overseas merchants will obviously need to investigate with both banks the costs of transfers and currency conversion.

## **Costs**

How much will the payment gateway cost? If your merchant account is arranged through an ISO, then the fees and charges will probably include the hire of payment gateway software, though you should inquire. If you've obtained your merchant account directly from a bank, however, then the payment gateway costs usually come as an extra. You may have to pay something like \$400 for setup, plus possibly various monthly and transaction fees. Check, and do your sums carefully.

## **Security**

Customers are providing you with credit card details. What measures are needed to handle the information securely? Again it depends on the payment gateway system.

1. For a system hosted on the credit card processor, the security issues are theirs. Customers will need to be assured that their details are safe, but it is card processor and not you who has access to the information. Nonetheless, the hosting company will probably offer you SSL at a reasonable price, and you would be wise to take it.

2. For a complete package the security measures are the concern of the hosting company, but it's also your responsibility to ensure that the measures are adequate. You may have to employ an outside consultant to overlook the system.

3. For an API, security is wholly your concern — which is another reason for employing someone who really knows what they're doing.

## Merchant Accounts

Competition among MAPs is fierce, particularly for the better customer. And as merchant accounts can be various and complicated, it pays to understand what is being offered and why. Your merchant account should a) offer good terms, b) provide legal safeguards to all parties, c) allow you to upgrade the service or move to another provider without heavy penalties and d) have the machinery and experience to resolve any difficulties promptly.

### **Bank or ISO?**

Both banks and ISOs watch the bottom line, but banks are more concerned with security and reputation, while ISOs naturally want a fatter profit margin to cover the increased risks. Banks are therefore cheaper but choosier. ISOs are more tolerant, providing fuller services to Internet businesses, but at a cost.

### **Transaction Charges**

The transaction charge is commonly made up of two components: a fee charged at a flat rate on each transaction and a fee charged as a percentage of the value of the transaction (discount rate). Both vary widely, and your choice will be guided by the nature of your business. Generally, you'll aim as follows:

1. Low sales volume – try to minimize monthly charges.
2. Low cost items – go for low flat fees and higher percentage transaction charges.
3. High cost items – go for higher flat fees and low percentage transaction charges.

### **Evaluating a Merchant Account**

A merchant account is a business transaction, and you'll start by evaluating the Merchant Account Provider itself. Banks are reputable, but too many ISOs don't deliver. Watch out for these warning signs:

1. High application fees, to be paid immediately.
2. No acquiring bank is mentioned.
3. Unreasonably low transaction charges.
4. No proper business address.
5. Incomplete or loosely-worded contracts.
6. Vague answers to specific business and/or technical inquiries.
7. No response to phone inquiries.

Ask what credit cards the merchant account handle. And do they accept these cards worldwide or only within a selected area: USA, Canada, Europe, Australia? Research geographical preferences for global businesses: they vary widely.

The cost of a merchant account includes a setup fee, a monthly charge, and a cost per transaction (generally a flat fee per transaction plus a percentage of the value of the transaction.) Banks will certainly retain some percentage of funds to protect themselves from charge-backs — i.e. for those purchases not honored by the customer, either deliberately or through forgetfulness. What are the percentages retained, and for how long? Is a fee imposed for charge-backs, and/or beyond a certain level of charge-backs? The more cautious banks, particularly outside the USA, may also require a security deposit, which can be punitive for smaller businesses. Additional fees, small in themselves but aggregating to an appreciable total, may include those for credit card use outside the USA, processing transaction batches, verifying customer addresses, supplying a monthly statement, using the payment gateway, fraud screening software, providing voice authorization, and cover for charge-backs when your account holds insufficient funds. Scrutinize the agreement, and query what isn't spelled out.

The banks will have reviewed their security before issuing a merchant account, but how safe are you? You'll certainly need SSL (secure socket layer: normally provided by the hosting company) technology if you're using an API, but

security may need to be further checked by an outside consultant if you don't have your own IT department.

Your business will be online 24 hours a day, and you expect the payment gateways to be equally responsive. Most are, but horror stories happen. Then there are transactions that go off the rails, or run into the unexpected. How helpful are the merchant account providers here? Again you need to read the literature.

A merchant account is a binding legal agreement between bank and merchant, and you don't want nasty surprises down the line. The terms should be fully spelled out on the agreement, and fully appraised by your legal team. Probe if matters are unclear — or, better still, find another account. If the MAP doesn't understand the business sufficiently to frame a proper agreement, it may not be able to help when things go wrong.

Remember also that you can't afford to default on the legal aspects. Quite apart from the costs arising, you may be placed on the list of companies failing in their account obligations, and so find it very difficult to open another merchant account.

Four areas need your special scrutiny:

1. Reserve account: funds reserved to cover charge-backs can amount to an appreciable percentage of the total, and be retained for up to 270 days of account closure.
2. Recoupment or set off: banks usually have the right to withdraw or withhold funds if charge-backs become excessive or your standing with the bank deteriorates.
3. Security: the lien placed upon your funds under the Uniform Commercial Code.
4. Advertising restrictions: how are credit cards and promotional material to be displayed? MAPs can be very particular, even withdrawing accounts for infringements.

Merchant Account Providers

Institutions that provide merchant accounts are known as merchant account providers (MAPs). Providers falls into three categories, each with their strengths and shortcomings.

### **Independent Sales Organizations (ISOs)**

Hundreds of these exist, many very reputable, some not so. Generally they work on a commission basis for the acquiring banks, and therefore levy higher fees and transaction charges. The usual requirements are:

1. Professional-looking website.
2. Proper business or trading name.
3. Returns policy clearly stated on the website.
4. US checking account.
5. US postal address for checking account.
6. Not to be in active bankruptcy.
7. No conviction for credit card (or other) fraud.
8. No record of having failed in merchant account processing responsibilities.
9. Business records for 2 years or more.
10. Tax returns.
11. Proof of partnership or business incorporation.
12. Excellent credit record.
13. Trade references.

Businesses outside the USA will probably also need:

1. Proof of US business incorporation.
2. Personal guarantor with US social security number.
3. Proof of warehousing in and shipping from the USA.
4. Proof of tax payment in the country of business location.

### **Banks**

Strictly speaking, banks that supply merchant accounts are called acquiring banks. The mainstreet bank holding you business account may be one of them, but acquiring banks are usually separate entities specializing in merchant accounts. Banks are cheaper and more reliable than ISOs. But they are also more selective, and can charge steep fees for charge-backs, or withdraw the merchant account

altogether. In addition to the requirements above, you may also need to:

1. Maintain a larger reserve against charge-backs.
2. Supply more detailed documentation.
3. Provide personal guarantees and/or security deposit.

### **Complete Solutions Provided by Hosting Companies**

Hosting charges are often very reasonable, and the package will take the hassle out of integrating shopping cart, payment gateway and merchant account. But choices are restricted, and merchant account rates may not be the best going. At least cost the alternatives before taking this route.

#### Merchant Accounts Outside the USA

Most MAPs are chary of foreign businesses, being all too aware of the increased risks of charge-backs and disputed bills. Disputes are less easily settled when the merchant lies outside US jurisdiction, and business may be conducted by different codes of practice. Since MAPs cannot cover all eventualities, they usually play safe by refusing an account. Even more damning are:

1. Countries under US trade restrictions or embargoes.
2. Countries with economic or social instability.
3. Goods of antisocial nature: weapons, adult material.

### **Additional Requirements**

The small percentage of MAPs that will entertain overseas businesses cover the extra risks by increasing both the requirements that have to be met, and the charges they impose. Expect a much stiffer treatment on:

1. Nature of your business
2. Credit worthiness
3. Business records and tax returns
4. Reserves: 10-20% of receipts are commonly held back for 6 months; sometimes 100% of receipts are held back for 90 days.

### **Increased Charges**

Overseas businesses also face higher charges.

### **Minimizing Difficulties and Charges**

Faced with these charges, many foreign businesses use alternative methods of taking credit cards. But those that do persevere in obtaining a merchant account will commonly:

1. Open a US bank account in the country of business, or
2. Employ a MAP to open a US bank account , set up a US trading address and obtain US incorporation.
3. Find an incorporation company to set up a US company. The corporation so established will have to pay state and federal taxes, plus an annual fee for a registered agent if it doesn't otherwise have residence in the state.

#### Doing Without A Merchant Account

The larger, US-based companies will find merchant accounts the best way to go. Nonetheless, many ebusinesses do very well without them, even enjoying certain advantages.

#### Types of Alternative Payment:

1. Payment by credit cards service bureaus
2. Payment without credit cards wallet systems
3. 1-900 billing
4. Online checks
5. Encrypted email transactions.
6. Third party merchant services.

### **Pros and Cons**

Alternative payment methods are adopted by companies that cannot get a merchant account, or those that find the costs of doing so unjustified by their current level of business.

Online checks and transactions conducted by encrypted email are slow, but are perfectly satisfactory for companies with extended settlement periods. Wallet systems are very safe, although they are also troublesome, particularly for users outside the USA, and perhaps will appeal only to certain customers. Phone or 1-900 billing is currently restricted to the States, but avoids security problems. Employing an Internet

payment service bureau or third party merchant service runs up more in transaction charges, but the systems are readily set up and initial charges are low.

Alternative payment systems are not always the poor relation to merchant accounts, moreover, but can in fact be safer and more reliable. Using a payment service bureau means that your merchant account can't be suddenly withdrawn for reasons beyond your control (e.g. excessive chargebacks) and you won't have the nightmare of extracting receipts from a fraudulent or incompetent ISO.

Foreign companies, or those in the high-risk category, may also find the transaction rates compare very favorably with what they could obtain through using their own merchant account in adverse circumstances. A good number of service bureaus or alternative systems can be tried out before settling on the best. And at the very least, alternative methods of payment allow the market to be tested without great expense. Consider these seriously if your sales do not exceed \$500 - \$1000/month.

Finally, it should be remembered that many customers do not possess a credit card, and countries like Germany, Russia and much of the third world do not use them anyway. To sell here, you'll have to provide other means of payment.

### **With Credit Cards: Outsourcing to Payment Service Bureaus**

Payment Service bureaus handle the whole process of taking real-time credit cards online. After selecting their purchases, customers simply click on a button at the merchant's website, and are transferred to the service bureau for credit card processing. Shipping details and product queries are the merchant's responsibility, but customer support is otherwise handled by the service bureau. Transaction charges are 2-12% higher than with a normal merchant account, but there are often no penalties for charge-backs, no monthly minimum sales, and very low setup fees. Many such systems exist, each with their own rules.

PSP	Setup fee	Monthly fees US \$	Transaction fees (US cents, from)	
2Checkout	49	-	45	5.5
Amazon Payment Services	0	0	1	1.5
Card Accept	0	33	25	2.24
CCNow	9.95	0-9.95	50	4.99
ClickandBuy	19.95	19.95	35	2.9
ClickBank	50	0	100	7.5
Google Checkout	0	0	30	1.9
Multicards	25	49/yr	45	4.95
NorthStar Solutions	0	0	45	6.5
PayPal	0	0	30	2.4
Verotel	0-1000	30	-	13.0
Yahoo! Small Business	0	\$40/m	0	1.5

A small selection:

PSP	Setup fee	Monthly fees	Transaction fees (from)	
			US cents	%
website	US \$	US \$		
123Ticket	0	0	€0.11	-
ClickBank	50	0	100	7.5
CCBill	0	0	-	11.5
Multicards	25	49/yr	45	4.95
WorldPay	£200	£30	£0.56	4.5

Ditto: recurring Payments and Subscriptions

Software and eBooks are commonly sold through a registration service, which software developers evaluate by these factors in making their choice:

1. Reputation in the software development community.
2. Level of fees and commissions charged.
3. Service offered (from supply of unlock code through Internet monitoring of software use to aftersales support).
4. Types of payment accepted (currencies, credit cards, debit cards, checks, money orders, wire transfers, Paypal, etc.).
5. Cost of charge-backs and fees for cards declined.
6. Promptness and reliability of payment.

A small selection:

Registration service	Setup / software	Monthly fees	Transaction fees (from)	
	US \$	US \$	US cents	%
Digital Candle	0	0	0	10%
eSellerate	0	0	0	15%
FastSpring	39.95	0	0	0
Get Software	0	0	300	15%
Kagi	0	0	250	10%
RegNow	-	0	100	6.9%
Regsoft	0	0	300	0
SWREG	0	20	100	6%

### **Without Credit Cards: Wallet Systems**

The customer pays funds into a secure account ('wallet') which is then accessed by merchant, thereby avoiding the need to send confidential information directly to the merchant. Many systems have been floated, but only few successfully, most being killed by primitive security or the demand that customers install special software on their PC. Current systems are better, and PayPal, for example, allows direct payment by credit cards for US customers.

### **Without Credit Cards: 1-900 Billing**

Rather than disclose confidential information, the customer has simply to add payment to their monthly telephone bill. Suitable for smaller payments, the arrangement is currently restricted to the USA, though extensions to Europe are periodically announced. A small selection:

PSP	Setup fee	Monthly fees	Transaction fees (from)	
			US cents	%
website	US \$	US \$		
123Ticket	0	0	€0.11	-
Allopass	inquire	inquire	inquire	-
BillJunction	Rs 225-1149	0	inquire	-
DaoPay	0	0	-	10
Charge.com	0	26.95	25	2.25
NetBanx	-	-	£0.10	-
Ogone	inquire	inquire	-	inquire
PayByWeb	0	30	38	2.29
Verotel	0	0-30	-	20.0

## Without Credit Cards: Online Checks

Customers may be happier having a check drawn on their bank account than giving out their credit card details. Name, address, number, routing/sort code and account number are keyed in by the customer, and a cashable is printed out at the merchant's terminal. Some systems also convert the to a fully electronic payment, for an additional fee. Banks can charge extra for processing these checks, it should be noted, and online checks currently account for 10% of online payments in the States. A small selection:

System supplier	setup / software	Monthly fees	Transaction fees (from)	
			US cents	%
	US \$	US \$		
BidPay	0	0	195	-
ChecksbyFax	99	0	0	0
CheckMAN	39.95	0	0	0
NoChex	0	0	20p	2.60
Obian	0	0	inquire	inquire
Pay By Check	100	40	112	-
PayPal	0	0	30	2.9
Versa	60	0	0	0

## Without Credit Cards: Encrypted Email Transactions

Small businesses can always accept credit card details by encrypted email if both parties employ similar security measures. What is covered here, however, are third-part

systems that facilitate the process of payment, adding ease of use and safer security measures.

## **PayPal**

PayPal is one of the Internet's success stories, but some merchants complain of:

1. An unreliable security system, alternately lax and over-protective.
2. Criminal activities that try to exploit the service.
3. Suspended or frozen accounts for insufficiently explained reasons.
4. Poor or non-existent help in sorting out problems.

PayPal is not a bank, and is not apparently bound by US banking regulations, which may explain the rash of PayPal complaint sites that have appeared.

### Questions

1. How does an online merchant account differ from a normal retail one?
2. How would your company obtain an online merchant account?
3. Explain how payment gateways work.
4. In what circumstances may an online merchant account be difficult to obtain. What are the alternatives?
5. Give some examples of Internet payment service bureaus and how they work. What are their advantages and disadvantages?

### Sources and Further Reading

1. [CardWeb](#). Payment card information network. Articles, news and statistics on many aspects of credit card industry.
2. [Internet Fraud Watch](#). Provides free articles, advice and bulletins on anti-fraud measures useful to merchants.
3. [4CreditCardProcessing](#). Lists MAPs, shopping carts and card processors.
4. [Wilsonweb](#). Useful articles, advice and feedback from subscribers using various payment gateways and merchant accounts.
5. [Internet Works](#). Online edition of UK magazine for net professionals:

use search box to find past reviews.

6. Business.Com. Some 100 payment gateways listed in this useful business database.

7. Top Merchant Accounts. Selected listings of MAPs plus brief articles.

## Section Contents

## 5.15 SITE HOSTING

Internet companies do not necessarily need a website. They may:

1. Operate entirely through email marketing.
2. Employ free social media or other platforms.
3. Run a blog through a third-party blogging service like Blogger.
4. Build and host their pages on a third-party storefront service like Yahoo Merchant.

If none of these will suffice, then the company must create its own website and find ways of hosting the web pages. In increasing order of cost, the options are:

1. Employ a third-party web-hosting company and:
  - a. Shared hosting (many websites on the same server), or
  - b. Cloud hosting (company's site is part of a cloud computing service, fee by use) or
  - c. Virtual dedicated hosting (resources are allocated to overcome hardware restrictions) or
  - d. Managed hosting ( company's site is the only website on the server: hosting service manages) or
  - e. Dedicated hosting ( company's site is the only website on the server: company manages).
2. Undertake their own hosting, choosing to purchase and maintain the appropriate computer and software with trained IT staff.

Corporate America generally uses Windows servers (generally with the SQL Server database). Other companies prefer Unix servers (with a MySQL database, and cPanel access for smaller sites).

## What to Look For

Web-hosting companies are now large, streamlined operations that offer a host of services to demanding clients. Most companies will require at least the following:

1. High-speed connection (preferably T3 or higher) to the Internet.
2. Generous bandwidth.
3. Dependable backup systems.
4. 99.7% guaranteed uptime.
5. Choice of Windows or Unix servers.
6. Support for scripts and languages the web pages use: php, perl, cgi, coldfusion, frontpage, etc.
7. Ability to use their company domain name.
8. Prompt technical support by email and/or online chat.
9. Multiple email accounts (with email forwarding, auto-responder and alias).
10. Ftp access.
11. Own cgi bin.
12. Password protected folders.
13. SSL security.

Directories comparing webhosting companies often provide a useful explanation of hosting terms, but are not now wholly reliable, i.e. not as independent as claimed. Do a 'webhostingcompanyname complaints/review/scam' Internet search before finalizing your choice.

## Security

Webserver security is highly technical, but the obvious things to check or ask about are:

1. Financial standing of the hosting company, and how long they have been in business.
2. Guaranteed uptime.
3. Security protocols to cope with denial-of-service and hacker attacks.
4. Regularity of backups: does it include user logs, product databases, order tracking logs, server-side scripts, etc.?

5. Whois database ([www.whois.net](http://www.whois.net)) to ensure that your company and not the hosting company remain the administrative and technical contact for your domain and — most critically — the registrant of the domain.
6. Backup: ring them at 3 a.m. Sunday morning if they claim 24/7 telephone support.
7. Complaints procedure: you don't want your site dumped because of an unwarranted complaint from a competitor.
8. Other sites being hosted with them (ask for webmasters to contact). Also check the terms of use for possible hosting of spam or porn sites, which won't help your business.
9. Business address of the server (whois). Find the path to the server with a tracing program: with a reseller you'll find some other ISP's server.
10. Visit forums to see what webmasters really think about hosting companies.
11. Scrutinize the contract (and employ a business lawyer to check copyright, complaints, fees and service renewal / discontinuation matters).

And:

1. Host alternative company domains with another company: you can then switch painlessly if the first goes out of business or suffers a prolonged denial of service.
2. Check your webmaster is implementing proper routines, including the updating of passwords regularly.

Questions

1. In what circumstances would you hand over the hosting of the company website to a third party hosting company?
2. How would you select the appropriate hosting company?
3. What security measures would you expect your hosting company to have in place, and how could you check?

Sources and Further Reading

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[HowtoChooseaHostingCompany](#). Covers the basics.

2. Web hosting service. Wikipedia. Simple explanation of the types of hosting service.
3. Top 10 Best Website Hosting Companies. Upperhost. Hosting service comparisons and useful articles.
4. Web Hosting Information One of many such hosting comparison sites, with rankings updated yearly.
5. Top Ten Reviews. Compares 10 ecommerce hosting solutions.

## Section Contents

## 5.16 WEBZINES

Webzines are online magazines, usually with commercial content. They have been overtaken by blogs and social media sites, but still play a role with small companies selling research material that visitors are willing to pay for: investment advice, betting tips, insider information on prescription drugs, etc.

### Approaches

The problems companies face in getting a webzine launched are common to all Internet companies with limited resources. They have to:

1. Provide enough free content to be popular with visitors and search engines.
2. Encourage visitors to sign up for the pay-to-view sections.
3. Keep the content appealing and up to date.
4. Restrict access to the pay-to-view sections.
5. Prevent the pay-to-view sections being stolen and sold on.

More than is commonly realized, all the above can be difficult to achieve. The content itself has not only to be worth paying for (and Internet users dislike paying) but to hold its own against material in competing sites that are heavily subsidized. Free content has to satisfy visitors and achieve a decent ranking in the search engines — or any ranking at all — but not so much that customers won't go on to subscribe. Often the company will provide examples of the subscription content that are enticing but not actually useful: past financial forecasts, a table of contents, testimonials, etc.

### **Making the Sale**

Advertising copy is written to certain rules. However crude the techniques, they work, and cannot be ignored.

### **Keeping Up-To-Date**

As with blogs, content has to be kept up to date. If the author has contracted to provide 4 racing tips every day, that is what

he has to provide. But less topical matters also have to be kept current, even the likes of 'Tips for a Better Garden' or 'Getting the Best Pension Deal'. In short, a sustainable format has to be devised for the ezine, and a realistic publishing schedule. Issues have to be written and proofed well (generally months) in advance, advertising issues agreed upon, and sufficient time found for researching webzine contents and answering customer queries.

### **Restricting Access**

Viewing can be restricted to subscribers by simply placing the content in a password-protected folder, a facility available in most hosting packages.

To protect the content, and prevent subscribers copying and selling it on, some companies go to the further length of encrypting their web pages: an Internet search will locate several programs that do the job cheaply.

### **Getting Paid**

The simplest way of charging is doubtless to password-protect a directory (easy with cPanel), solicit payment by check, and then email subscriber with the password once the check has been cleared. But it's hardly elegant, and involves much manual labor and record-keeping when circulation figures climb into the hundreds.

A more professional approach is to employ a subscription service offered by Internet Payment Service Providers that will automate payment, maintain records, supply receipts for you and the customer, and take a small percentage of receipts for their trouble. Subscriptions can be paid by credit cards, additions to phone-bills, or by online checks. The provider generally supplies a snippet of code to be pasted into each HTML page.

Alternatives, in terms of increasing sophistication and cost are:

1. Add a plugin to blogs or social media sites: commonly supplied as a one-off purchase or monthly rental service.

2. Purchase scripting software to run a proper subscription service: commonly requires PHP and a MySQL database. Scripts cost some tens to some hundreds of dollars, but the required PHP and MySQL databases come free with the better Unix-based hosting services.
3. A subscription service hosted on the provider's server. Costs are some tens to some hundreds of dollars monthly, depending on services offered and the number of subscribers.

#### Questions

1. Explain how you would set up and market a webzine.
2. How could a webzine be made to pay its way?
3. Investigate subscription services available from Internet payment service providers. What looks best with 15,000 overseas subscribers?

#### Sources and Further Reading

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2. *eZine Search*. Directory of the many thousands of ezines currently on line.
3. *Membership Site Software Reviews*. MultipleMembershipSoftware. 2011. Brief reviews of six possibilities.
4. *Introducing Marketplace 2.0 with Monetization Options* by 'Vinay'. Ning Developer. March 2010. Subscription service for Ning.
5. *Monetizing Facebook in 2011*. Social Media Today. May 2011. Facebook's credit system.
6. *Subscription Site Insider*. Information, news and help for those running subscription sites.
7. *HTML Guard*. Web page and site protection software.

#### Section Contents

## 5.17 AUCTIONS

Leaving aside auction sites like eBay, companies generally use auctions to:

1. Dispose of surplus, fire-damaged or liquidated stock.
2. Source materials and suppliers.
3. Extend their customer base.
4. Reorganize their business methods and approaches.

### Auction Site Build

Auction sites, and the software supplied to build them, are usually categorized as B2B, B2C or C2C, but otherwise vary enormously. Companies build sites with an “out of the box” package, online with the hosting company, by customizing existing software packages, and/or by employing a web design company specializing in this business. The questions web build must answer are:

1. Market: C2C, B2C and/or B2B.
2. Categories: number and structure.
3. Data input: type and if from a database.
4. Geographical restrictions possible.
5. Acceptable displays: text, graphics and/video.
6. Bid types: English, Dutch, sealed bid, reverse, fixed price options, vickrey and/or consignment.
7. Fees: sliding scale, listing, bold name fee, second category, exclusive category, banner display, late payment fee, commission or flat fee.
8. Billing transaction methods accepted, currencies, invoice creation: payment gateways.
9. Email notifications: to bidders, purchaser.
10. Warehousing: goods held in-house or by seller: insurance arrangements.
11. Shipping methods: supplied, set charges or as shipper directs.
12. Guarantees and charges arising, escrow services, fraud protection and warranties.
13. Reports: transaction list, mailing list.
14. Customer account.
15. Complete auction report.

16. User feedback.
17. Security measures.
18. Dispute procedures.
19. Visitor tracking facilities.
20. Ease of build, customization and extension.
21. Scalability.
22. Help sections
23. Terms and conditions

Type (example)	Description	Favouring
English (eBay)	Public: single item: ascending prices: highest bid wins	Seller: many buyers bid against each other
Dutch (Dutch flower market)	Public: single item: descending prices: seller lowers price till some purchaser is willing to buy.	Seller: many buyers bid against each other
Dutch Internet (Pricefalls)	Public: multiple items: descending price: as Dutch but buyers can purchase at a set price or when price falls to their submitted bid.	Seller: several sellers but many buyers who bid against each other
Japanese (private auctions)	Public: single item: ascending price: highest bidder wins at price just above second highest: no new bidders can join once bidding starts.	Seller: many buyers bid against each other
Yankee (private auctions)	Public: multiple items: ascending price: as Japanese but winners pay their actual bid prices.	Seller: many buyers bid against each other
Reverse (Construction projects etc.)	Public: single item: descending price: sellers bid on price: winner is the lowest price.	Buyer: many sellers bid against each other
Name Your Own Price (Priceline)	Public: single item: descending price: sellers bid on price: as reverse but price is not made public.	Buyer: many sellers bid against each other
Double (Nasdaq and stock markets)	Public: multiple items: sale when buyers and seller agree on price.	No one: both buyers and seller bid against each other
Vickrey auction (Elance)	Sealed bid: highest bidder wins at second-highest price: rarely used.	Seller: many buyers bid against each other
Sealed bid market (Construction projects etc.)	Sealed bid: winner chosen by reputation or quality from lowest bidders.	Buyer: buyer makes final selection

## Auction Types

### Running an Auction Site

Creating online auction sites is not for the faint-hearted, and design companies exist to shoulder the burden of planning, building and maintaining the sites. Maintenance services are also provided by auction-hosting companies.

Procedures need to be in place to:

1. Deal with bogus bids and timewasters.
2. Vet winning bids by telephone or email.
3. Require bidders to log in with personal details.
4. Run private auctions to accredited bidders.
5. Blacklist offenders.

6. Check suspicious bids.

7. Automatically deny a second highest bid when highest is suspicious.

Auction-building software varies enormously in scope and cost — from simple add-ons that record sales at small charity events to major systems enabling corporations to source materials cheaply and dispose of unwanted stock. A small selection of ‘out of the box’ programs.

Product	Platform	Auction Types	Currency	Database
AAS	U W	autos	\$ £ +	Y
Auction Systems	W	charity auctions	\$	N
Beyond Solutions	W	E D V Y	\$	Y
C-U-S Systems	CUS	-	\$ +	N
Every Auction	W U M	D E R	\$ +	Y
Sold II	W U	-	\$ £ +	N

## B2B Exchanges

Auctions also feature in large Business to Business Exchanges, which are independently owned online marketplaces that connect thousands of buyers and sellers in a real-time environment. Exchanges tend to handle the spot-purchasing of large companies in vertical markets, and offer a variety of auction types, request for quotation, and fixed buy and sell prices.

Auctions are an important element of business theory.

## Auction Examples

1. Auction.Com. US real estate selected by address, State or zip code.
2. Auction Zip. Finds auctions anywhere in the USA.
3. GSA Auctions. Offers US Government surplus to requirement items under various auction types.
4. Croydon Coin Auctions. Long-established: bid by post, email or online.
5. Grainger. Generally used for spot purchasing of indirect supplies.

6. PowerSourceOnline. Global marketplace for IT & telecom buyers and sellers.
7. Dairy. Dairy supply chain collaboration, dairy transportation, and dairy commodity trading.
8. Ariba Supplier Network. Extended buyer and seller network.
8. GoBid. Auctions for charities.

#### Questions

1. Why do companies use auctions?
2. Describe the main auction types.
3. What facilities does online auction software provide?
4. Why do some companies hand over the running of their auction system to third parties?
5. Compare the features of some popular auction software packages.
6. Describe the activities of three online auctions.

#### Sources and Further Reading

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4. Epiq Technologies. Good range of services, including charity solutions.
5. *Auction Types and Auction Terms*. AlsNetBiz. Good listing of terminology.
6. *Priceline Presentation*. Slideshare. 2010. Simple presentation.
7. *Why You Should Use Online Auction Sites* by Sathishkumar. TechieMania. June 2011. Main points noted.
8. Online auction websites. Wikipedia. List of online auctions covered by Wikipedia articles.

#### Section Contents

## 5.18 BLOGS

Weblogs, or blogs for short, began quietly when webmasters began sifting material on the web and noting the more interesting sites. Blog were then simple web pages, and listings might have a few links and comments. Blogs have become more specific by:

1. Providing a standard appearance, often created through templates.
2. Arranging entries in reverse chronological order, i.e. latest topic at the top.
3. Tagging each post or content entry with its own URL — easy to link to, and for search engines to index.
4. Forming communities around common interests: weblog traffic exchanges.
5. Offering blog 'search engines'.
6. Insisting on a personal perspective: interacting more with readers.
7. Adding RSS technology, allowing automatic update of information.

Blogs are now a useful adjunct to business, their importance lying in seven areas:

1. Blogs give a company a human face, and so help to build customer trust.
2. By being packed with honest, hard-to-find information, blogs can turn a company into a recognized authority on some topic, increasing traffic and sales.
3. Blogs are an ideal place to announce new products, or to increase existing product awareness.
4. Blogs often achieve better rankings in the natural search engines than comparable web pages — because blogs are inherently search-engine friendly: multi-linked and frequently updated.
5. Selling advertising is often easier on blog pages, especially with Google's AdSense.

6. Blogs are easier to maintain than newsletters, though possibly less effective: most companies employ both.

### Blogging Today

Over half Fortune 500 companies, and businesses of all sizes, are currently engaged in business blogging, usually as a supplement to their daily emarketing campaigns. In February 2003, Google bought the leading blog site [www.blogger.com](http://www.blogger.com), and has since added search technology to favor blogging. Many hosting companies now offer blogging, either as add-on software, or blog hosting as such, with easy setup and maintenance. Blogs make ideal community boards, which therefore offer marketing opportunities for companies that — as with newsgroups — do not abuse the situation: i.e. provide help and information rather than hype and hard sell.

Blogs are not difficult to install. There are three options:

1. Use a specialist blogging service: e.g. Blogger, or Escalate.
2. Install blogging software on the company server: e.g. WordPress or MovableType.
3. Use third-party hosting providing a choice of systems: e.g. Blog Hosting Search

Modern blogging systems come with a wealth of features. To illustrate the sophistication of Internet services today, below is a list of requirements that may help selection of the right platform.

1. *Template Editing*: Can templates be edited offline and then upload by FTP? This is useful for complicated layouts, though a good online editor will probably be preferable.
2. *Template Tagging*: How does the system recognize the insertion points for post data, etc.? By:
  - a. PHP functions. Template contains actual PHP functions that insert post data at that point.
  - b. Proprietary tags. Template contains proprietary HTML tags that are replaced by the system with post data.
  - c. Smarty units. Template uses the Smarty library to insert post data.

d. Scripts. Template uses the underlying sever-side scripting engine to insert content.

3. *Security*: Companies generally restrict posts (and often comments) to approved users. Several permission can apply:

a. Numeric levels. Users are assigned a level by number. Users at one end of the range have all permissions, users at the other have few or none, the range between allows different permissions.

b. Permission groups. Users are assigned to a group and inherit their permissions from that group. There can be any number of groups, with different permissions defined by an administrator.

c. Single user. There is only one user account that can log in to the software control panel.

d. User permissions. Users are assigned all permissions individually.

4. *Open Registration*: Can users can create their own logins for posting on the site via the system? Possibilities:

a. No. Users cannot register their own logins.

b. Toggle. Option is available or not based on an administrative setting.

c. Yes. Option is always on, or must be disabled by hacking or removing sections of the system code.

5. *Skins*: Can the appearance or layout be changed by simply changing 'skins'? The change may be effected by templates or CSS coding.

6. *Multiple Sites*: Can information and data across several sites be managed through a single point of entry, setting user permissions as necessary?

7. *Blog Control Panel*: Is the blog run from a control panel — writing the post, editing it, moderating comments, etc. — and is that panel easy to master?

8. *Data Storage*: Blog pages are usually stored in a database, one of these types:

a. Flat file. Data for page is pulled from a flat file and is not built on-the-fly by the blog software.

b. Data file. Data for the page is pulled from a flat file and

inserted into a template for delivery.

c. Database. Data for the page is pulled from a database and inserted into a template for delivery.

d. Type of database affects the speed at which pages are displayed, and ease with which they are backed up and can be copied across to another blog if necessary. Some blog systems use the MySQL backup facilities of cPanel.

9. *Languages*: Blogging systems will generally display the common European languages. For Asian languages it's usually better to use a hosting company in or specifically catering for the countries of interest.

10. *Plugins*: The better blogging programs add functionality with plugins, which in decreasing ease of use are:

a. Drop-in. Administrator installs the plugin files to a specific directory. The system automatically integrates these files with no configuration changes.

b. Push-button. Administrator installs the plugin files to the system, then activates the plugin from an administration console.

c. Configuration. Administrator installs the plug files to the system, then alters a configuration file to inform the system that the plugin is available.

d. Hack. Administrator must replace or patch an existing system file.

11. *Visitor Logs*: Server logs can always be consulted, but some blogging systems show the recent visitors to the site, including such information as pages visited, user agent, IP address, IP nationality, etc.

12. *User Profiles*: Can the system employ user profiles, and can these be customized by administrator and/or users?

13. *Post Ordering*: Posts are generally arranged in descending chronological order — i.e. latest first — but some systems allow these options:

a. Descending. Newest at the top.

b. Ascending. Oldest at top.

c. Alphabetical. Ordered alphabetically by post topic.

d. Category. Ordered by the category in which they

appear.

14. *Categories*: Can posts to be classified by categories?

Multiple categories help in blog promotion.

15. *Keywords*: Can keywords be added to each post, allowing keyword search of the site?

16. *Draft Mode and Editing*: Most companies check and edit posts before they go live. Many systems exist:

a. Textarea. System accepts post data directly from a plain HTML `<textarea>` tag with little or no modification. The data can include HTML markup, and there may be scripted controls that automatically insert these markup tags, but the system does not process the tags.

b. Texturize. System accepts post data from a `<textarea>` and processes it through Texturize.

c. Textile. System accepts post data from a `<textarea>` and processes it through Textile.

d. HTML. System uses a browser-integrated WYSIWYG (What You See Is What You Get) solution.

e. Java. System uses a WYSIWYG Java applet.

Plugin:

a. b2Evolution provides a choice of plugins (including Textile, Auto-P, Greymatter, BB Code, Texturize, graphic smilies)

b. bBlog and allows use of an editor via plugins (including Textile, bbcode, plain)

c. Serendipity also allows choice of an editor through different plugins (including Textile, wiki, BB Code)

17. *Post API Support*: Which blogging API (application programming interface: a small software program that enables interaction with other software) does the system support?

a. Blogger

b. MetaWeblog

c. MovableType

d. b2

e. Atom

18. *Post Moderation*: Can the system impose an editor, or administrative-level, approval of a post before it is published

to the site? A useful safeguard for corporate sites.

19. *Book Marklets Employed?* A bookmarklet is a small JavaScript program stored as a URL within a bookmark in most popular web browsers, or stored within a hyperlink on a web page.

20. *Pings:* Can system initiate a pingback to a site when a new post is added? Not essential as third-party sites provide a fuller service.

21. *RSS Aggregation:* Can the system amalgamate RSS from other sites? (Really simple syndication uses an XML format to have text, audio files and images automatically sent across the Internet)? If so, how?

a. Through an aggregator. System includes a full-featured RSS aggregator that can display feeds from other sites, commonly through a separate interface.

b. Through feed. System reads RSS data from a site and integrates that information with the standard posting methods available in the system.

22. *Search Engine Friendly URLs:* Some systems replace something like <http://www.myblog.com/index.php?id=seo654g> by [http://www.myblog.com/index.php/seo\\_companies](http://www.myblog.com/index.php/seo_companies). Possibilities:

a. *Mod\_rewrite.* System uses the Apache server extension `mod_rewrite` to create SEF URLs, the settings being automatically determined.

b. *Path\_info.* System uses the `path_info` environment variable to parse the use of SEF URLs.

c. *Filesmatch.* System uses the Apache `<filesmatch>` directive to match regular expressions in URLs, similar to `mod_rewrite`.

d. *Filename.* System writes flat files with names that are search-engine friendly by default.

23. *Spam Filtering:* Some filter is an unfortunate necessity if the blog is not be overwhelmed with unwanted comments.

Many systems exist:

a. *Login.* Users must login to leave comments.

b. *Filtering.* Comments are searched for spam suspect words and eliminated if found to match.

- c. **Captcha.** Users leaving comments must replicate the text that appears in a generated image.
  - d. **Duplicate.** System does not allow duplicate comments.
  - e. **IPban.** System can ban commenters by IP. (Pivot IP bans are checked against both the user's IP and their referrer.)
  - f. **Userban.** System can ban comments by username.
  - g. **Moderated.** System can require that comments be reviewed by editors/administrators before publication.
  - h. **Blacklist.** System uses a list of URLs or IPs that indicate spam comments. (Pivot blacklists are checked against both the user and the referrer. b2Evolution blacklists are centralized on a remote server and are contributed by the b2Evolution community.)
  - i. **Delay.** System requires that a reasonable amount of time passes between adding comments.
  - j. **Shutoff.** System will turn off commenting for a post automatically after a preset amount of time.
  - k. **Redirection.** System will replace commenting users URLs with local URLs that redirect to the specified site. (Prevents the link from garnering pageranking.)
  - l. **Linkcount.** System will reject or hold for moderation all comments containing a minimum number of links.
  - m. **Massedit.** System will allow the deletion of a batch of comments simultaneously.
24. *Trackbacks:* Can the system initiate a trackback ping to another weblog when a new post is added?
25. *Forum:* Does the system include an integrated bulletin board-style forum, or can the blogging software can be configured to behave as such?
26. *Email Posts* Can users add new posts to the system by email?
27. *Blogroll:* A list of sites relevant or of special interest to visitors. Most systems allow these, sometimes through a plugin.
28. *Search Facility:* Can visitors search the archives for information or articles of interest?

29. *Photo Galleries*: What facilities exist to post photos to the site, and can these include thumbnails?

30. *Audio Clips and Podcasts*: Many blogs now include audio clips.

31. *Video Clips and Vpods*: Video is readily added to many blog programs.

32. *Subscribe Buttons*: How easy is it for visitors to subscribe — through a simple button?

33. *Server Type*: If the hosting company doesn't offer a blogging service with all the features needed, and third-party software needs to be installed, then Unix/Linux hosting and the ability to run PHP are generally needed, preferably with a cPanel interface.

34. *Ease of Maintenance*: A critical consideration, often overlooked. Wordpress is powerful software, but customization needs facility in PHP coding. Expression Engine similarly requires some CSS mastery (Cascading Style Sheets) to create pages as wanted, particularly if the templates adopted don't employ tables for layout. Neither PHP nor CSS is difficult, but smaller companies prefer to spend their time writing the blog rather than programming. The XML format of some systems (e.g. Expression Engine) is unforgiving: the slightest error in text entries may cause the page to 'break': another frustration for the busy blogger.

## Blogging Systems

A brief comparison of the more popular blogging systems.

Functionality	Blogger	WordPress	TextPattern	Movable Type	Expression Engine
Price (US \$)	free	free	free	free	\$100/300
Minimum Server Requirements	hosted	hosted/PHP MySQL	PHP MySQL	PHP/Perl MySQL 4.0	PHP 4.06 MySQL 3.23
Comments	Yes	Yes	Yes	Yes	Yes
Categories	No	Yes	Yes	Yes	Yes
Subcategories	No	Yes	Yes	Yes	Yes
Trackbacks	Yes (Backlinks)	Yes	No	Yes	Yes

Functionality	Blogger	WordPress	TextPattern	Movable Type	Expression Engine
Pings	Yes	Yes	No	Yes	Yes
RSS	No	Yes	Yes	Yes	Yes
Atom	Yes	Yes	Yes	Yes	Yes
Search	No	Yes	Yes	Yes	Yes
Blogroll/Lists	No	Yes	No	No	No
Number of blogs	Unlimited	1 (more with WordPress MU)	Unlimited	Determined by license	Unlimited
News Aggregation	No	No	No	No	Yes
Extras	Blogger	WordPress	TextPattern	Movable Type	Expression Engine
Moblogging	Yes	Yes	No	No	Yes
Photo galleries	Plugin	Plugin	Plugin	Plugin	Plugin
Audio clips	Code	Plugin	Plugin	Plugin	Plugin
Video clips	Yes	Plugin	Plugin	Plugin	Plugin
Tag cloud	Code	Yes	Plugin	Code	Yes
Subscribe buttons	Yes	Yes	Yes	Yes	Plugin
Non-blog pages	No	Yes	No	No	Yes
Maintenance	Blogger	WordPress	Movable Type	Movable Type	Expression Engine
API	Blogger	Blogger, MetaWeblog, MT	Blogger, MetaWeblog, MT, Atom	Blogger, MetaWeblog, MT, Atom	MetaWeblog, Blogger, MT
Logs	None	Yes	Yes	Yes	Yes
Data Storage	Database	Database	Database/No database	Database/No database	Database
Spam Fighting Tools	Blogger	WordPress	TextPattern	Movable Type	Expression Engine
Blacklist	No	Yes	No	No	Yes
Visitor registration/login	Yes	Yes	Yes	Yes	Yes
Captchas	Yes	No	No	No	Yes
Moderation	Yes	Yes	Yes	Yes	Yes
URL NoFollow	No	Yes	Yes	Yes	Yes
IP/User/URL banning	No	Yes	Yes	Yes	Yes
Comment Notification	Yes	Yes	Yes	Yes	Yes
Design	Blogger	WordPress	TextPattern	Movable Type	Expression Engine
Skins	33	2	7	7	27
Admin panel design configuration	No	No	No	No	No
Admin panel layout configuration	No	No	No	No	No

	Blogger	WordPress	TextPattern	Movable Type	Expression Engine
User Levels	Yes	Yes	Yes	Yes	Yes
Multiple authors	Yes	Yes	Yes	Yes	Yes
Image uploading	Yes	Yes	Yes	Yes	Yes
Image thumbnailing	No	Yes	Yes	Yes	Yes
Post scheduling	No	Yes	Yes	Yes	Yes
Save without posting	Yes	Yes	Yes	No	Yes
Bookmarklets	No	Yes	Yes	Yes	No
Edit Templates Online	Yes	Yes	Yes	Yes	Yes
Edit Templates Offline	No	No	Yes	Yes	Yes
File uploading	No	Yes	Yes	Yes	Yes
Password Protection	No	Yes	No	No	Yes
Work offline	No	No	No	No	Partial

## Questions

1. What technical advantages do blogs have over web pages?
2. How are blogs used in business?
3. How do blogs differ from content management systems?
4. Your boss wants a blog that fits neatly into the company website. Even those with no IT skills will take their turn in writing posts. She is most concerned about spam and derogatory comments from rival companies. What would you recommend, in terms of procedures and software?

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## Section Contents

## 5.19 CONTENT MANAGEMENT SYSTEMS

Content Management Systems allow impressive sites to be created and maintained by several staff members, even with little IT knowledge. Many will not share offices, or even reside in the same country. More particularly, content management systems:

1. Keep all content together, usually through a database.
2. Automate the workflow.
3. Reduce the manual labor of updating.
4. Preserve the overall appearance of the site.

A brief comparison of some popular systems:

Package	eZpublish	Joomla	Drupal	Expression Engine.	Mambo	b2 evolution.
Price (US \$)	€3200+	free	free	\$100/250	free	free
Minimum Server Requirements	PHP MySQL 4.0	PHP MySQL 4.0	PHP MySQL 4.0	PHP MySQL	PHP MySQL	PHP MySQL
Applications	4	4	4	3.5	3.5	1
Security	4	3	3	3	3	1
Management	4	4	3	4	3.5	2.5
Performance	4	3	4	3	2	2
Commerce	4	3	3	1	4	0
Ease of Use	4	4	3	3.5	2	2
Support	4	4	4	4	4	2
Overall rating	4	3.5	3.5	3	3	1.5

An explanation of the assessments:

### Applications

Free add-ons (also called plugins) for most systems. Chat, classifieds, contact management, data entry, database reports, forums, document management, events calendar, FAQ management, guest book, link management, mail form, dashboard, newsletter, search engine, site map, product management, syndicated content, wiki capabilities and front-end web services add greatly to their power.

## **Security**

Security is essential if employees, customers and clients are to trust the system. Most of the following are built in, but some come as free add-ons: audit trail, captcha, content approval, email verification, several different types of authentication protocols, login history, sandbox, session management, SSL compatibility (logins and pages).

## **Management**

Companies will want a CMS that is flexible and easy to use. Before purchasing, or developing open source software, they will investigate how the systems can organize, schedule and deploy the contained information. Also relevant may be the following: advertising management, asset management, clipboard, content scheduling, content staging, online administration, package deployment, sub sites/roots, themes/skins, trash, web stats, web-based template manager, web-based translation manager and workflow engine. Most are built into the CMS.

## **Performance**

Much more difficult to assess is performance in such areas as advanced caching, database replication, load balancing, page caching and static content export capabilities. Companies generally experiment with the trial version.

## **Commerce**

If the CMS is to offer courses to the general public, management will want to consider affiliate tracking, inventory management, plugins for payments, shipping and tax, for point of sale, shopping carts and subscription management.

## **Ease of Use**

As important as CMS capabilities is ease of use, also to the developer if the IT department is to tweak the system to optimal requirements. Helpful features include drag-n-drop content, email to forum, friendly URLs, image resizing, macro language, mass upload, prototyping, server page language,

spell check, style wizard, subscriptions, template language, permission levels, undo and WYSIWYG editor.

## **Support**

For peace of mind, companies will want the system to continue to be supported and developed in the years to come. They will check that the core and component code is updated at frequent intervals, the user forums are active, and that the online documentation is sufficient. Commercial systems will have manuals, training, a developer community, online help, pluggable API, professional hosting, professional services, public forum, mailing list, smoke tests, third-party developers and users conferences.

## Questions

1. How do content management systems differ from blogs and business intelligence systems?
2. Under what aspects would you evaluate a content management system?
3. Look at examples of clients' sites illustrated by content management systems. What would be attractive if you were a. a local community centre, b. a commercial expatriate tax advice centre, and c. a publishing house?

## Sources and Further Reading

1. *CMS Matrix*. Comparison of 1200+ content management systems.
2. *CMS Software Review*. TopTenReviews. 2012. Four middle-range packages compared.
3. *Best CMS Software*. Siteground. Description and professional hosting of cms packages.

## Section Contents

## 5.20 WEB PORTALS

The term is overused, but portals are typically doorways on the Internet that bring together sites and services organized about some common theme — local community, interest group, commercial activity or market sector.

Additional features encourage interest and repeat visits: discussion forum, surveys, expertise directories, etc. Income usually comes from advertising or listing fees.

### Portal Types

Web portals are often grouped as:

1. Horizontal: cover many areas of interest.
2. Vertical: specialized entry point to a specific market or industry niche, subject area, or interest.
3. News portals: many online newspapers adopt this format.
4. Government portals providing information on departments and services.
5. Corporate web portals to manage data, workflow and policy issues.
6. Stock portals providing shareholders with latest prices, news and business reports
7. Search portals aggregating results from several search engines.
8. Tenders portals where proposals are submitted and assessed on line.
9. Hosted web servers offered by hosting companies as a service.
10. Domain servers grouped about a common interest, service or industry.

### Portal Builds

In order of increased cost and difficulty in setting up, companies generally:

1. Add portal features to an existing ecommerce site, e.g.:

- a. targeted emails.
- b. surveys.
- c. newsletters.
- d. discussion boards.
- e. chat pages.
- f. calendars of events.
- g. resource directories.
- h. free software or services.

2. Rent an ecommerce portal. The package allows them:

- a. full control over appearance and makeup of site.
- b. unlimited directories and subdirectories, with access control.
- c. control over search-engine attractiveness of individual pages.
- d. foreign language versions if required.
- e. facilities for visitors to rate content.
- f. facilities for banner ads, including rotation manager.
- g. full control over facilities listed above, i.e. mails, surveys,

discussion

boards, chat pages, resource directories, free software or service libraries, newsletters.

3. Use a commercial package to build an ecommerce portal with the features listed above. Host on their own or a dedicated server.

4. Use a commercial package to build a customer relationship management portal with these facilities:

- a. directory of customers.
- b. contact and company details.
- c. customer feedback.
- d. company turnover, history and terms applying.
- e. purchase history.
- f. employee handling account.
- g. inventory control.
- h. order tracker.
- i. inventory control.
- j. supplies tracker.
- k. directory of suppliers.
- l. contact and company details.
- m. company turnover, history and terms applying.
- n. supply history.
- o. employee handling account.

5. Use a commercial package to build an information portal providing these facilities:

- a. directory of customers as above.
- b. inventory control as above.
- c. directory of suppliers as above.
- d. public relations and marketing.
- e. press releases.
- f. annual reports.
- g. faqs.
- h. company events.
- i. customer surveys.
- j. marketing reports.
- k. ad tracking.
- l. customer services.
- m. feedback.
- n. surveys.
- o. problem ticketing and management.
- p. human resources.
- q. employee details.
- r. directory of skills and experience.
- s. positions vacant.
- t. office management.
- u. responsibilities and company procedures.
- v. room/meeting scheduling.
- w. departmental faqs.
- x. warehouse control.
- y. inventories.
- z. supply chain management.
- zz. order placement and tracking.

6. Build from scratch (i.e. code themselves) an information portal with the features listed above.

### Examples

It is also worth noting that:

1. 'Portal' has become a buzzword and the term can now mean almost anything.
2. Information portals often require major restructuring of company procedures, when benefits may be slow to appear.

3. Boundaries between various types (including vortal or vertical portal) are somewhat blurred, and there is little to distinguish information portals from corporation extranets or large content management systems.

4. AOL and search engine directories are often seen as portals: MSN and Yahoo, for example.

2. A few 'out of the box' packages:

Product	Platform	Currencies	Company Size Market	Database
IBM Websphere	W U	\$ + +	M L	Y
Liferay		\$ + +	S M L	Y
Absolute Portal	W U	\$ +	S M L	Y
DynaPortal	W U (ColdFusion)	\$ +	S M	Y
Oracle	W U	\$ +	S M L	Y
Portal Software (UK)	W	\$ + +	S M	flat file

## Questions

1. What is a portal? List the common types.
2. What, listed in order of difficulty, are the options in setting up a portal site?
3. What features would you expect from a commercial package?
4. Suppose you wanted the full facilities of a commercial portal, but also something with a 'human face' like social media. How would you find/develop such a system?

## Sources and Further Reading

1. eBiz. Introduction to portal programs and their evaluation.
2. Web portals. Wikipedia. Brief descriptions of main types.
3. List of content management systems Wikipedia. Useful comparisons of software often classed as portal.
4. Rise, Reach and Regent. Pringo. Examples of open-source portal software.

## Section Contents

## 5.21 WIKIS

Wikis are a particular form of content management system that allows web pages to be created and edited collaboratively by multiple authors using a simple markup language or WYSIWYG (what you see is what you get) text editor.

Wikipedia, the free online wiki encyclopedia, is the best-known wiki, but wikis are everywhere as community websites, corporate intranets, government information sites, special interest forums and learning aids at schools and universities. Many are private, or part of larger corporate, government or educational systems.

Most wikis are built with special software, which tends to be open source for the simpler systems. Like blogs and content management systems generally, the software usually allows levels of access, so that entries can be edited competently and kept free of rant and spam.

### History

The first wiki was developed by Ward Cunningham in 1994 and called WikiWikiWeb after the Wiki Wiki Shuttle at Honolulu Airport. Wikis became very popular in the early 2000s, and have to some extent been overtaken by social media platforms and other content management systems, though well-established wikis continue to thrive.

### Features

Wikis are generally seen as:

1. Collaborative efforts inviting contributions under some code of conduct.
2. Being written first, often rapidly, and then culled, crafted and rewritten by contributors (with older page versions being stored, however).
3. Employing no more than a web browser for the writing, editing and viewing.

4. Pages grouped about or developing naturally from some theme or common interest.
5. Pages being hyperlinked (sometimes to pages yet to be written, thus inviting contributions).
6. Pages in the course of being written, with editorial requests for clarity, information sources, etc.
7. Offering a title search, and sometimes a full text search.

### Examples

Many types exist. Introductory listings:

1. *Educational Wikis*. Good listing.
2. *List of wikis*. Wikipedia's own list.
3. *BasicWiki101*. Short but varied list.
4. *Wetpaint*. Corporate wikis.

### Security and Legal Issues

Like blogs and bulletin boards, wikis can be defaced and need to be a. monitored and b. kept clean of viruses and spyware, and c. have access rights defined: usually as reader, author, wiki administrator or web administrator.

Libel issues can be evaded with a sensible code of conduct, but multiple contributions makes copyright (should the material be later incorporated in commercial publications) a thorny issue. Most wikis therefore operate under an open content license or creative content license: material can be freely used if properly attributed and not materially altered.

### Quality of Wikipedia

Many colleges deter students from using Wikipedia, but the online encyclopedia is often admirable place to *start* an essay or research topic. No academic paper would cite Wikipedia as a reference because the qualifications of compilers are not spelt out, and there are still too many inaccuracies. The better-written entries do have multiple citations, however, and these will often serve as references.

## Questions

1. What features characterize a wiki?
2. Describe three different wikis and their use.
3. Outline the legal and security issues that affect wikis, and how they are sensibly dealt with.

## Sources and Further Reading

1. *Wiki*. Wikipedia. Detailed entry describing characteristics, approaches, security, implementations, legal issues and more.
- 2.. *Comparison of wiki software*. Wikipedia. Extensive tables comparing features and installation issues.
3. *Wiki Directory*. WetPaint. Directory of wikis and listing of similar directories.
4. *Edit Me*. EditMe. Commercial wiki service.
5. *Wikidweb*. Wikidweb. Listing of wikis powered by various programs.
6. *WikiIndex*. Wikiindex. Over 5,000 pages about wikis, wiki people and wiki ideas.
7. *Wiki.com*. Wiki.com. A wiki search engine.

## Section Contents

## 5.22 SELLING CONTENT

Sale of content — reports, specialist advice, software — is popular on the Internet, and for good reason. Fulfillment is a breeze. The customer provides credit card details and downloads the product. No warehousing costs or supplier difficulties. The drawback is that individuals expect information to be free, and are often reluctant to pay, even though the material saves them hours or weeks of individual search. It's unrealistic, but a tradition, and customers are creatures of habit. These are the exceptions:

1. Software: unavoidable: few have the time or skills to write their own.
2. Music.
3. Adult sites.
4. Betting tips.
5. Stockmarket advice.
6. Specialist reports where company concerned has an established reputation: financial, market research and topical material.
7. 'How to' ebooks, particularly when promising a fortune on the Internet.
8. B2B reports: companies will pay for material that provides significant cost savings.

Content can be sold as distance learning courses, newsletters, ezines and ebooks.

### eBooks

Ebooks are electronic documents read at the computer screen or in handheld devices. In terms of increasing enterprise and outlay, there are two (overlapping) types of business:

1. Authorship only: i.e. writing salable copy, which is:
  - a. Converted into ebooks by electronic publishers, either at cost to the author (vanity publishing), or by some share of profits/royalties (electronic publishing.)

b. Converted into and stored in electronic form — to be later produced in book form as required (print on demand): author receives royalties.

2. Self-publishing: authors employ specialized software to produce the ebooks themselves, marketing and selling productions from their own websites.

Rather than produce large runs of books, incurring high costs for printing, warehousing and distribution, e-publishers store the text electronically, either selling material as downloadable ebooks or as traditional books produced on a print-on-demand basis. Deals can be quite flexible. Authors typically pay to have their work prepared as print-on-demand, retaining copyright and a percentage of sales. In downloadable books the publishing company usually bears the cost, retains copyright and pays royalties. Multimedia material is generally marketed through CDs.

Boundaries are becoming increasingly blurred. Some print-on-demand publishers retain copyright, or the equally important ISBN number. Others work on a partnership basis. The more aggressive publishers accept virtually all manuscripts, providing editorial services and artwork as required. A few are very choosy indeed. CDs can complement these offerings. And so forth. The variations are legion in this expanding and largely untested field.

The author also enjoys these advantages:

1. Content can be kept topical.
2. Production is quicker, a few days rather than a year or two.
3. Costs are lower: a few hundred dollars rather than the usual tens of thousands.
4. Publications can be kept in print for long periods.
5. Sound files, video clips and pictures are easily added.

Nonetheless, the drawbacks are still formidable:

1. It's hard to make decent money. Sales at best are usually only a few thousand, which translates to a few tens of thousand dollars for many months or years of writing.

2. Publishing by this route does not bring kudos, and often the reverse. Attitudes are changing, but the booktrade still tends to regard self-publishing as glorified vanity publishing. A string of ebook titles may not therefore commend an author to an agent or traditional publisher.
3. Traditional publishing brings together many skilled professionals, and these are not commonly available to the ebook author. He or she has to do the shaping, proofing, art work, indexing, checking facts and copyright, pricing and marketing. Too often, if not to the author, the inexperience shows.
4. Writers need help with publishing contracts and other matters, but the profit margins are too thin to attract professional agents.
5. Ebook publishing is a volatile field, and it may be difficult to get copyright back if the company goes out of business.
6. Print on demand books are more expensive than their paper counterparts, and are not stocked by booksellers because the sale and return terms do not apply.
7. Most people prefer to read a book than look at a handheld viewer or computer screen.

That said, ebook publishing may be the ideal solution for:

1. Topical, health, how to, and financial information.
2. New themes or genres that test the market.
3. Matter of local or specialist appeal: family histories, academic studies.
4. Literary work of little commercial value: poetry, experimental fiction.
5. Promotional material, company or industry-wide.

Questions

1. What advantages has the selling of content over selling physical goods on the Internet?
2. What sort of Internet content will people pay for? How could you find out?
3. You are marketing slimming and health advice. Would you choose distance learning courses, newsletters, ezines or

ebooks? Why?

4. What should you look out for if selling through an ebook publisher?

#### Sources and Further Reading

Internet searches will locate such services as typesetting, book covers, proofing, barcodes, reviews, warehousing and book distribution.

1. Publishing Explained. Covers most aspects of traditional, self and electronic publishing.
2. Book Industry Statistics. Useful facts and figures.
3. Preditors and Editors. Information on publishers, agents and much else.
4. First Writer. Searchable database of publishers.
5. Writer's Guild of America. Agents and other resources.
6. Writers Write. Epublishing information and news, plus links to epublishers
7. netLibrary. Large eContent provider: listings for books and services.
8. Online Books Page. Lists 25,000 free books online.
9. Internet Authors Network. Services and user group to promote ebooks.
10. Journal of Electronic Publishing. More scholarly articles on epublishing
11. Open Ebook Forum Organization of publishers, authors and software houses striving for international common standards in epublishing
12. Print on Demand Publishers. Publishes a useful guide.
13. Writer's Digest. Online help for all types of writers.

#### Section Contents

## 5.23 EPUBLISHING

ePublishing has finally arrived, probably thanks to Amazon's Kindle and Apple's iPad. {1} eBooks are a rapidly-growing market, accounting for 8.3% of the US book market in 2010, and \$441.3 million in sales. {2}

In general, ePublishing follows traditional publishing models, but the drastic reduction in printing, warehousing and distribution costs has allowed more niche markets to be addressed, {3} though not always profitably. Bulk selling still requires promotion, {4} for which reviews in the mainstream press, if problematic {5} are vital, though not generally afforded ebooks.

### Advantages of ePublishing

ePublishing can: {6}

1. Find niche markets: books selling under a thousand copies, uncommercial to mainstream publishers, may be profitable.
2. Keep information current: errors and out-of-date information are easily corrected:
3. Lighten library shelves and student packs: hundreds of titles can commonly be stored in ebook reader memories.
4. Provide larger author royalties.

The disadvantages:

1. eBooks can look amateur, lacking proper editing, typesetting and/or cover.
2. Author advances are not usually paid.
3. eBook publishers often go out of business, taking the author's copyright with them.
4. Publications do not confer the same status on the author.
5. Agents are even more difficult to find.

## eBook Compilers

HTML pages can be compiled into handy ebooks that preserve links and the original page layouts. A small selection:

site	viewing platform	input as	accepts flash plug-in	password protection	tracking facility
Activ EBook Compiler	W	g h p w	yes	yes	no
DesktopAuthor	W	g t	no	yes	no
Easy Ebook Creator	W	g h t	no	yes	no
Ebook Pack Express	W	g h t	no	yes	no
eBook Gold	W	g h	yes	yes	no
Fast Ebook Compiler	W	g h t	yes	yes	yes
Flip Publisher	W	g h t	no	no	no
Hyper Publish	W	h t g	no	no	no
Hypermaker	W	a g h t v	yes	yes	no
WebEx	W	g t h	no	yes	no
WinEbook	W	g t w	no	yes	no

{7}

## eBook Readers

The appearance of convenient and affordable ebook-reading hardware has made ebooks popular. eBook readers come in two varieties: tablet computers that offer colour and Internet links, and the e-ink Kindle and its clones that make more comfortable reading but don't generally offer colour or backscreen lighting. A small selection: {7}

e-book reader	diagonal screen-size (inches)	screen dpi	body dimensions (inches)	weight (oz)	storage/ battery life	e-book formats
iLiad 0100	8.1	1024 x 768	8 x 7	13.7	20 hrs	PDF, XHTML, TXT, and MP3
Sony eBook Reader	6	600 x 800	5 x 7.5 x 0.5	10.6	15 books	PDF, HTML and TXT in time
Kindle	6.0	600 x 800	7.5 x 5.3" x 0.7	10.3	one week	Kindle, PDF
RCA REB1100/Gemstar	5.6	-	6 x 4	17	8-12 hrs	Rb Rocket
Ectaco Jetbook	5.0	Reflective TFT	6.0 x 4.3. x 0.5	7.5	4 hours	.TXT, .PDF, .JPG, .GIF, MP3
eBookwise	5.6	-	6 x 4	17	15 hrs	HTML, RTF and DOC
Argosy EB683	6.5	480 x 640	7 x 5.3 x 0.7	10.6	15,000 pages	DOC, PDF, EBK, MP3
Easyread	9.1	-	7.4 x 5.8 x 0.8	12.3	18,000 pages	EBK
Sigma	11.8	1024 x 768	11.5 x 8.7 x 0.5	17.6	-	-
Flybook	9.2	1024 x 600,	9.3 x 6.1 x 1.2	43.3	3 hrs	all windows
Sony VAIO VGN-SZ1VP	13.3	1280 x 800	12.4 x 9.2 x 1.3	59.5	7 hrs	all windows

## eBook Formats

Several formats {8} are used for epublising, but the starting point is text (.txt) files. From here the common routes are:

1. Conversion to web pages with HTML editors, the content being sold either as subscriptions to password-protected websites or webpage compilations. Many companies offer a suscription service. Webpage compilers are cheap, preserve simple HTML layouts, and come with a range of security features:
    - a. password protection of whole document
    - b. password protection of individual pages
    - c. time expiry of ebook
    - d. expiry after certain number of times used
    - e. access restricted to single machine/user
    - f. user tracking
  2. Conversion to MS Word documents, these simply-typeset documents being:
    - a. left as Word documents and password-protected.
    - b. converted to the epub format with cheap/free software or online services.
    - c. converted to the Kindle format with cheap/free software or online services.
    - d. converted to the pdf format with Adobe Acrobat, with one of the cheaper clones or through free online services.
  3. Conversion to complexly-typeset pages with InDesign etc., and thence to the Adobe Acrobat pdf format: multiple Internet links can be a problem.
  4. Conversion to complexly-typeset pages with commercial XML packages: companies generally offer a complete service.
- {9}

## Traditional Publishing

Publishing is a business, and authors are usually required to send a 'proposal', a lengthy document that tells the publisher

why it makes commercial sense to bring out the book. A proposal typically consists of:

1. Overview: 2-page general summary.
2. Market: 3-page description of the potential readership.
3. Competition: Similar books already published: how theirs compares.
4. Authors: 1-page bio. of credentials and successes.
5. Chapter by chapter summary
6. Up to 20-page sample if fiction, otherwise chapter outlines.
7. Delivery: a 3-sentence clincher.

Traditionally, a publisher considered the author, the prestige of the publishing house and the economics. Suppose everything looked promising. The author was personable and articulate, ideal for a TV chat show or late-night arts program. She had a good thirty years of writing in her. What she produced now was phenomenally good. These were the 'back of the envelope' estimates, all in units of 1000. The book retailed for \$12.95, royalties were 8%, and bookstore commissions averaged 40%: {7}

No. Sold	Receipts	Costs				Profit
		Printing & distribution	Royalties	Bookstore commissions	Management & publicity	
1	\$13	\$6	\$1	\$5	\$3	-\$2
2	\$26	\$8	\$2	\$10	\$3	\$3
10	\$129	\$21	\$10	\$52	\$5	\$41
100	\$1,295	\$135	\$104	\$518	\$12	\$526
1,000	\$12,950	\$1,250	\$1,036	\$5,180	\$25	\$5,459

Everything depended on the book proving a bestseller (when the average title sells only 500 copies in America {3}). Odds can be roughly quantified, figures again in thousands:

No. Sold	% Odds	Profit	Value of author publisher (Odds x Profit)
1	30	-\$2	-\$0.6
2	50	\$3	\$1.5
10	17	\$41	\$7.0
100	2.9	\$526	\$15.25
1,000	0.1	\$5,459	\$5.46
total	100		\$28.88

The figures are notional, but suggest the publisher has a 97% chance of making less than \$7,000. That's barely worth the effort, but he is banking on the future, the author's second or tenth effort.

The author had a 80% chance of earning no more than \$2,000 in royalties. For months or years of work, that does not amount to a working wage. Both author and publisher are clearly chasing a dream, but that is the nature of fiction publishing, and explains why publishers (and agents) need textbooks, self-help, cookery and gardening titles to survive.

Only some 1% of manuscripts are in fact published, and US is rumored to have one million manuscripts looking for a good home.

### ePublishing

Authors still need to send a proposal, but could the economics now be radically different? List price is \$8.95 and royalties are 35% of list price.

No. Sold	Receipts	Costs				Profit
		Preproduction	Royalties	ISP Charges	Management & publicity	
1	\$9	\$2	\$3	\$1	\$3	\$0
2	\$18	\$2	\$6	\$2	\$3	\$5
10	\$90	\$2	\$31	\$5	\$5	\$47
100	\$895	\$2	\$310	\$50	\$12	\$521
1,000	\$8950	\$2	\$3100	\$500	\$25	\$5,323

The odds, figures again in thousands:

No. Sold	% Odds	Profit	Value of author publisher (Odds x Profit)
1	30	\$0	\$0
2	50	\$5	\$1.5
10	17	\$47	\$7.99
100	2.9	\$521	\$15.11
1,000	0.1	\$5,323	\$5.32
total	100		\$29.92

No, the figures come in about the same. The publisher has a 97% chance of making less than \$9,500, and the author a 80% chance of earning no more than \$1,500 in royalties. ePublishing has made good money for some authors and publishers, {10} but not revolutionized the publishing business. {11}

#### Print on Demand Model

Perhaps self-publishing is the answer, either the author doing all the work, or handing the task over to a PoD (print on demand) company. The example is a 78,000-word novel, printed as a 200-page trade paperback with a colour-printed cover of laminated cover stock. Proofing is \$3/page. Print run is 1,000 and all copies are sold, through bookstores, which charge a 40% commission. Cover price is \$14.95. iUniverse royalties are 20% of sales receipts. {7}

Service	General range	Self publishing	PoD Service
PoD all-in	\$100-2000	-	\$1100
Text input	1-3 cents/word	-	-
Proof reading	1-5 cents/word \$3-5+/page \$30-100/hour	\$1200	\$1170
Typesetting	\$0.80-20/page	\$300	Included
Cover	\$50-5000	\$1500	Included
ISBN, bar codes, listing	\$50	\$50	Included
Review	\$0-350	\$350	\$360
Printing (1000 print run)	\$3000-8000	\$3500	See below
Warehousing and distribution	10-20% of retail price	\$2240	Included
Marketing	Up to author	\$1000	Included
Total outgoings	-	\$10,140	\$2630
Sales proceeds net commissions	-	\$8970	-
Royalties	-	-	\$1790
Net profit	-	-\$1170	-\$840

Some obvious points:

1. Big expenses are proofing, typesetting and cover design.
2. Proceeds are derisory if only 1,000 copies are sold.
3. Some 1,500 copies need to be sold to break even with the PoD route, and some 1,250 by the self-publishing route.
4. Sale of 10,000 copies provides \$15,000 by the PoD route, and \$50,000 by the self-publishing route.

### **PoD Royalties**

Print on Demand royalties need special attention. Suppose the book retails for \$12.95, and the PoD company pays royalties at 75%. If royalties are based on the gross cover price, the author will get a handsome  $0.75 \times \$12.95$  for each book sold, i.e. \$9.71/copy. In all probability, however, the royalties will be based on the net revenues. From \$12.95 are first taken publishing costs, say \$4.50 per copy, leaving \$8.45. Then, if the book is sold on Amazon, the bookstore commission amounts to 55% of the retail price, i.e. \$7.12. Take that away from \$8.45 and the publisher is left with \$1.33. Royalties at 75% of the net revenues are therefore  $0.75 \times \$1.33$  or \$1.00/copy, a fairly typical figure. {7}

### eBook Trends

eBooks are finally becoming popular, aided by selling platforms rolled out by Amazon, Apple, Sony, and Kobo, with

Google expected to follow soon. US sales are now in double digits, and a similar expansion expected in Europe and Brazil. Tablets and ebook readers are the preferred platform, except in China where the mobile phone may be pressed into service. Educational books are leading the way, though piracy remains a significant problem, as do VAT and copyright differences between countries. {13} eBook prices in Germany, France, Italy, and France are fairly high, at some 80-90% of paper version prices: those in the USA and UK are lower at 55 - 60%. {13} Educational ebooks in India are generally priced in the \$1-1.50 range. {14} Some country statistics: {13}

## **USA**

1. Book (all types) market size: \$27.4 billion.
2. eBook titles now available: 950,000.
3. 2010. eBook market share: 6.2% (13.6% fiction).
4. Leading eBook distributors: Amazon, Barnes and Noble, Apple.
5. eTextbooks: 80,000 titles in 17 languages (Pearson, Cengage, Elsevier, and Wolters Kluwer).

## **UK**

1. Book (all types) market size: £3.1 billion.
2. eBook titles now available: c. 1,000,000.
3. 2010. eBook market share: 6%
4. Leading eBook distributors: Taylor and Francis, Springer, Pearson and Penguin.

## **Brazil**

1. Book (all types) market size: €1.4 billion.
2. eBook titles now available: 4,000.

## **China**

1. Book (all types) market size: €8.2 billion.
2. eBook titles now available: 200,000.

## **India {15}**

1. Book (all types) market size: large.
2. eBook titles now available: moderate but growing.

3. Problems: piracy, low ebook prices, lack of confidence in ecommerce, lack of affordable ereaders.

#### Publishing Contract Terms

Publishing contracts will be fairly similar, whether for traditional or ebook, covering such matters as: {7}

1. Details of the book: format, print run, etc.
2. Obtaining ISBN and listings in national catalogues.
3. Period the contract holds (years or copies sold).
4. What happens after contract expires.
5. Supply of galley proofs to author.
6. Copyright issues: who is responsible for checking (often author).
7. Royalties to author depending on seller (author, publisher through bookstores, bookclubs, subsidiaries, etc.)
8. When and how royalties are paid.
9. Terms applying to author for copies (no. of free copies, discounts thereafter).
10. Advances (commonly one third at contract signing, one third on submission of galley proofs and one third on return of proofs).
11. How MS is submitted to publisher.
12. Cost of unauthorized author changes to galleys (\$/hour).
13. Responsibility for libel, copyright infringement (commonly author, who indemnifies publisher).
14. Any guarantees regarding copies printed or sold (generally none).
15. What the publisher will do towards marketing.
16. What the author will do towards marketing.

The publisher may wish to use the manuscript in ways other than producing ebooks. These 'subsidiary' rights may be licensed to a third party, when the author will get a share of the licensing fees.

## Book Publishing Contracts: Current Trends

Being brought out by a large publishing house bestows prestige, but not necessarily financial independence or peace of mind. Authors increasingly face one-sided agreements that: {7}

1. Do not ensure publication: authors consign their earning ability to another entity, and the book does not appear, even the modest advance being clawed back if the book is sold on to another publisher.
2. Stipulate that the next MS must be offered, completed, to the same publisher, who need not consider it immediately, can turn it down subsequently, and even change his mind if another publisher takes an interest.
3. Allow royalties (commonly only 8%) to be cut by half if the publisher sells through a big distributor.
4. Ditto if the publisher sells the rights to an affiliate.
5. Dispense with royalties if the publisher decides to make the book into a giveaway ebook for publicity purposes.
6. Require the author bear the costs of any libel suits, whoever is at fault, which the publisher can settle without consulting the author.
7. Allow that option to be consigned to third parties, who need not defend the action.
8. Remove last vestiges of author control.

All this turns, and must turn, authors into hard-nosed businessmen. Books of mass appeal have to be turned out regularly, and/or additional means of support found, usually reviewing and literary journalism.

## Libel

Far more threatening to the writer than copyright infringement is libel, particularly in England, in whose courts so many cases end up. {12} Libel is a written form of defamation defined as a 'false or unjustified injury to someone's good reputation.' That injury may be unintentional, and libel is a lurking danger to everyone who puts pen to paper. No

newspaper office is without a resident expert or their horror stories. All statements have to be double-checked, not only that the person quoted did in fact say that, but what they said was true and can be readily so demonstrated. Any doubt and the article is spiked, or the MS remains in the publisher's drawer. Disclaimers are not enough, and authors are most unwise to portray a villain who could in any way, however unwittingly, be linked to an innocent living person.

## Outlook

So the current gloom. Publishing, both conventional and electronic, does not currently offer an attractive business model for authors, agents or publishing houses.

## Questions

1. What are the advantages of epublising?
2. Why aren't ebooks cheaper (compare costs of traditional and epublising)?
3. What does a publishing contract cover?
4. Why could writers be a vanishing breed?
5. Explain copyright and libel. What measures should be taken to avoid legal actions?

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## Section Contents

## 5.24 DISTANCE LEARNING

Computer learning has been familiar in adult-learning centres for decades, but distance learning extends traditional teaching methods through Internet-supported systems to greatly enrich the learning experience, primarily through creating a sense of community and mutual support. Accredited distance learning (also called online education) benefits students who work full- or part-time and so can't attend class at normal hours.

In its commercial implementation, distance learning is used to train staff in company procedures and specialist skills.

### Teaching Programs

A wide range of software exists, from simple packages that convert text files to suitable HTML pages to fully-featured programs like those from Macromedia and Trainersoft. The last are very versatile and fully-featured — but of course expensive and time consuming to learn. Tutorials in HTML form are a cheaper option, but pages need to be placed in password-protected directories and some pay-to-view system installed. Many subscription companies supply this service.

Not everyone wishes to learn programming on top of putting a course together, and many companies supply simple page-generating software for elearning courses hosted with them. Some are purchased as separate modules for student, tutor and course administrator, but many are fully integrated and allow registration fees to be taken online. {1}

Those building their own educational systems will find Ning, Drupal, Sakai and Moodle particularly useful platforms.

### Features

Educational systems commonly include provision for:

1. Easy set up and use: training videos.
2. Customizable appearance.
3. Access from PC and mobile devices.

4. Security features.
5. Moderated or monitored daily.
6. Email and sms.
7. Charging systems: major credit cards and Paypal.
8. Curricula details.
9. Student attendance at classes and sessions.
10. Gradebooks with weighting schemes.
11. User groups.
12. Blogs.
13. Wikis.
14. Forums.
15. Online chat.
16. Quizzes and question banks.
17. Assessment tools.
18. Social networking.
19. Foreign language support.
20. Student portfolios.
21. Information libraries.

#### Quality

Most US colleges now offer online courses, some 77% of them, according to college presidents interviewed in 2011. Some 51% of presidents regarded them as equal in value to classroom courses, but only 29% of Americans agreed. Some 15% of these presidents also reported that most of their undergraduate students have taken an online course, and believe the figure will rise to 50% in ten years' time. {8}

#### The World Is Open

A recent appraisal of open learning organized prospects about ten key themes: {9}

**1. More material is becoming easier to access.** No one can now know everything, even of one discipline, but the Internet has made it possible to know where information is stored and how to make best use of it. That information can be accessed on PCs, laptops, smartphones, \$100 PCs, Internet cafes,

hotel rooms and even computer kiosks in the slums of New Delhi. Google Books, Global Text Project, Open Content Alliance and Open Library Project already provide access to millions of digitized titles.

**2. A Successful Business Model.** Though the formal and online learning courses are being blended in many universities, with students deciding on the mix best suited to their needs, there exist for-profit universities that use online methods exclusively. The University of Phoenix, for example, is the largest private institution in the US, serving a population that is two thirds women and of average age 35. Capella University occupies the second largest building in the state of Minnesota and had had 20,000 students in 2007.

Ramkhamhaeng, the open university of Bangkok, Thailand has over 600,000 students. The Indira Gandhi National University expected to have 2 million students by 2010. China had 1.1 million students in 2006, and another 2.7 million in correspondence courses. A decade from now could see distance learning accounting for a third to a half of all higher education and training in military, government and corporate establishments.

**3. Growth of Open Source and Free Software.** Software houses increasingly offer free trial periods, student versions, and cut-down renderings of their programs: a loss leader model that has come to be expected. But sometimes there is no commercial angle at all: Perl, Joomla, Unix and a host of similar computing languages and platforms have been developed by enthusiastic specialists and placed in the public domain. Professionals often prefer them: they're free, backed by large programming communities and can't be discontinued by corporate fiat.

**4. Free Online Courses.** MIT and other US universities (see below) are offering free courses online, and these are being translated to other languages and matched by an increasing number of similar courses in other countries.

**5. Portals for the People.** Access to information is becoming a fundamental human right, shown by the many thousands who contribute to Wikipedia (over 75,000) and the Encyclopedia of Life.

**6. Open Information Communities.** Youtube, MySpace, Facebook, etc. all created communities, and have led to sites hosting educational material: TeacherTube, SchoolTube, BigThink, Research Channel, SCiVee, WEbook, Scribd and the like.

**7. Electronic Collaboration.** Children increasingly collaborate and share experiences: in the USA on Club Penguin, and in China on 1Kg.org. Users of the last are asked to give away one kilogram of educational material as they travel through rural areas.

**8. Alternate Reality Learning.** Simulation is often used where practical training is prohibitively costly or dangerous (pilot skills, surgical techniques) and these approaches are spreading into school and college teaching. People learn by doing, and more so when it's enjoyable and satisfies clearly-formulated needs. Harvard, MIT, Stanford and other universities are creating 'islands' in Second Life, both for their students and the public at large. Similar sites teach community skills {14} and indeed much else. {15}

**9. Realtime Mobility and Portability.** Mobile phones are everywhere, and provide another teaching platform, particularly useful in deprived areas and in the third world generally. Mobiles phones and computer tablets travel with the student, who can therefore use the educational applications at any time. {16} An example is the SAT Score Quest for the iPad. {17} With devices like Livescribe's Pulse, students can take notes and recordings live, transferring them later to their computers. {18}

**10. Networks of Personalized Learning.** A networked information economy is emerging, with social media enabling students to share information and experiences. One example is Livemocha, where students learn languages by listening to native speakers. Other examples include Mixxer and

FriendsAbroad (now acquired by Babbel). {19} Podcasts provide a similar service: ChinesePod for Chinese {20} and Kantalk for English. More one-to-one courses are offered by MentorNet, Tutor, Smart Thinking, Tutor Vision and Growing Stars.

All these represented the convergence of three trends: a Web 2 learning infrastructure, billions of pages of free and open content, and a culture of participation and knowledge-sharing.

### Features of Online Learning Systems

Driven by the surge in mobile phone use and social media sites, the new world of online learning is: {12}

1. Personal: the courses can be tailored for individual needs.
2. Interactive: students learn by doing, creating and interacting.
3. Global: education reaches everyone with access to the Internet (or can play CDs).
4. Instant: students can start immediately, and continue at their own pace.
5. Largely free: even the commercial material is priced within most students' means.
6. Readily shared: with friends or learning colleagues.
7. Co-creative: students happily collaborate on projects.

### Free Courses

An increasing number of universities and institutions make teaching and other material freely available in digital form.

Examples:

1. *MITOpenCourseWare*. MIT's extensive list of free courses.
2. *Learning Materials for Community College Teaching*. Foothills Global Access.
3. *Japan OpenCourseWare*. Consortium of Japanese Universities which have been providing OCW in Japan.
4. *Open Yale Courses*. Free access to some introductory courses at Yale University.
5. *Open Education Resources*. OERCommons. Over 200 free textbooks, etc.

6. *Public Library of Science*. Many free papers in medical and biological sciences.
7. *Library Thing*. Cataloging and social networking site provides cheap access to digital books from 700 libraries round the world.
8. *Wikibooks*. Over 2,400 open textbooks.
9. *MERLOT*. Peer reviewed online teaching and learning materials.
10. *Connexions*. Content Commons of free, open-licensed educational material.
11. *Curriki*. Open source curriculum and resources for the classroom.
10. *Online Learning Resources*. BBC. Site listings.
11. *Library of Congress*. 'American Memory': material under 18 headings.

#### Useful Links

AuthorWare

Edu20

ClassBuilder

eLMS

US Online Colleges

Get Educated

#### Questions

1. How and why has distance learning become popular?
2. What features would you look for in selecting something for a. technical training of staff, and b. a university course leading to an accredited degree?
3. Describe some developments worldwide in distance learning.
4. Anyone can teach themselves to degree level today. Discuss.

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## Section Contents

## 5.25 SELLING ADVERTISING

Online advertising uses a variety of methods — contextual ads on search engine results pages, banner ads, rich media ads, social network advertising, interstitial ads, online classified advertising, advertising networks — to deliver marketing messages over the Internet.

Some websites are labors of love by enthusiasts, but the vast majority promote the goods or services of their parent company or of others. Such sites have to be continuously maintained and marketed: time-consuming activities, calling on specialist skills. Large companies absorb such costs in their public relations departments, but others need supplementary income. Unless smaller companies can charge for access, which is generally difficult, they may need revenues from advertisers.

But how do you get companies to advertise on your site, and agree a fair rate for doing so? And how do you ensure that the site is still yours, i.e. does not disappear under a blizzard of other people's banner adverts?

### Site Popularity

Value, individuality and utility are the key words. Your site has to be truly special and offer visitors what they cannot easily find elsewhere. That means providing some mixture of unique content, comprehensive links, online games or entertainment, free software and/or services. You're certainly not going to keep visitors coming to your site for the advertising alone — not unless yours is a portal site, which is another ball game. Naturally, you won't get the better companies to give your site a second glance unless it's a professional-looking affair that enjoys undoubted status and heavy traffic. Advertisers have their image to protect, and agreements with companies that don't bring appreciable numbers of new customers aren't worth the management time. With the current glut in advertising space, companies can afford to be choosy.

Whatever route you follow — banner adverts or sponsorship — you'll need something more than 25,000 visitors per month to interest advertisers, and that level of traffic is not easily achieved without considerable outlay in build time and marketing expense. You have to shell out a good deal before you can expect much to come in. Hence the balance that most companies aim for. Primarily, the sites promote their own products, but receive additional revenues by advertising complementary products from elsewhere.

### AdSense

Google and other search engines will pay you to post ads for their customers on your pages.

### Banner Ads

Banner ads can still be used to market your own products, but here we deal with selling on commission. To understand why the effectiveness of banner ads is now questioned, and rates have fallen, you should know something of the terminology.

Hits per month is simply the number of items (files, graphics, etc.) loaded down by visitors in the course of a month. As these items will include several gif or jpg images per page, plus frames sometimes, this information is of little value.

Webmasters and advertisers are interested in three measures:

1. Visitors per month: total number of visitors per month, including those who repeatedly visit the site.
2. Unique visitors per month: excludes repeat visitors.
3. Page impressions per month: total number of pages loaded down (i.e. viewed by visitors) in the course of the month.

All three should be high. Moreover, a genuinely popular site will see a high page impressions/visitors ratio, and an appreciable percentage of repeat visitors. Now the banner ads terminology:

CPM: cost per thousand pages viewed with the banner ad (M stands for the Roman thousand, incidentally, not month).

CTR: click through rate: percentage of people who actually click on a displayed banner ad: can be as high as 5%, but the average is about 0.4% and falling.

PPC: cost per thousand click-throughs from a banner ad on your site.

Rate Card: your rates, minimum buys, banner sizes and payment policies.

Media Kit: your accredited website traffic plus demographics: see below.

### Media Kit

Advertisers will want to inspect your site traffic statistics — visitors per month, unique visitors per month, page impressions per month. Access to the statistics supplied by the hosting company may satisfy them, but they can also demand an independent analysis of the server logs. And on the more general sites they'll also check that your visitors fit their target profiles. That means detailed information on gender, age, household income, profession, job title, responsibilities, budget responsibilities, etc. You'll have to get your visitors to complete a questionnaire, probably by offering some inducement.

Rate Card Now you can devise your rate card, which specifies:

1. What you charge for CPM or PPC.
2. Minimum orders.
3. Banner sizes possible (standard, sizes up to).
4. Any limits to banner file (memory) sizes.
5. Subject restrictions (adult material, gambling, etc.).
6. Agencies accepted?
7. Length of agreement.
8. Payment terms.
9. Tracking equipment employed.

Get CPM if you can. Advertisers can drive hard bargains at present, but you'll not make much money if you accept payment for action (either click through or commission on sales) or allow excess pages to be sold off cheaply at CPMs of a few dollars. Persistent and aggressive marketing is essential. Letters and emails may prepare the way, but generally you'll have to phone the decision makers in sales, armed with statistics and persuasive answers. It's hard work, and a trained salesperson can be a real asset.

#### Displaying Banner Ads: Mechanics

Banner ads are devices, sometimes 468 x 60 pixel images but more commonly separate pop-up pages, that invite viewers to click through to the site advertised. These have to be rotated randomly through the site, and the statistics recorded. A banner advertising agency can provide the necessary software, but you will otherwise have to purchase the software yourself, at anything from \$50 to \$20,000. The more expensive programs handle larger visitor flows, and provide real-time information that advertising companies require: pages viewed, click-throughs, click through rates, running totals and summaries of their advertising spend.

#### Working It Out

So how much are you going to make? Suppose your site has 500,000 page impressions per month, and you've sold CPM at \$50. Revenues are then  $\$50 \times 500$  or \$25,000 per month. The media agency may take 20% in commission, leaving you \$20,000 per month in net revenues.

Unfortunately, that figure \$50 is now optimistic, for three reasons:

1. Click-through rates have fallen from a late nineties average of 3% to perhaps 0.4% now, which has made advertisers reluctant to pay the CPM rates of a couple of years back.
2. Rates depend very much on the demographics of your visitors. If you can demonstrate that the majority are wealthy

professionals, then \$50 may be realistic. Other categories will be worth much less, however, from perhaps \$20 for average households to \$1 for students.

3. There's currently a glut of advertising space, and you'll be lucky to sell more than 30% of your available pages.

Doing the sums again, with \$5 and \$1 for CPM, gives monthly revenues of \$2,000 and \$400. Useful, but hardly a bonanza.

## Conclusions

Banner ads of big companies can give your site credibility and some revenue. Unfortunately, it can take years and a large advertising budget to build traffic sufficient for the advertising revenues to start providing a decent return. Many visitors dislike ads, particularly the pop-up variety that are difficult to close down, and employ software to prevent their appearance. Even more detested are advertising products unconnected with the site, and the navigation difficulties of dealing with sites that disable the browser back button. The worst examples are counterproductive, and shout desperation.

A comparison of advertising methods published by Overture (admittedly not an impartial source) indicates that only 4% of customers find products through Internet ads. Their breakdown was: search engines 42%, store URL 23%, search engine shopping channels 5%, email marketing 5%, Internet ads 4%, shopping bots 4%, price comparison engines 2% and the remaining 7% by other routes.

## Sponsorship versus Banner Ads

Whereas banner ads draw visitors away from your site, sponsorship does the opposite. The message and effectiveness of your site is enhanced and emphasized by a bonding between the site owner and its sponsor(s). Rather therefore than surround the page copy with peripheral adverts, you'll write copy that gradually develops into a pitch for the sponsor's products, only allowing links out when appropriate. Naturally, sponsor and site owner must see eye

to eye, and in the more successful sites do indeed share a common vision and passion for the site's objectives. But there's a complication. No site thrives unless it serves its customers, but a sponsored site has the additional requirement of steering itself towards the market objectives of possible sponsors. The winning site takes some time to build, therefore, and these are the recommended steps:

1. Identify the needs of your audience.
2. Ensure your site supplies that need, either by in house assessment or by contracted-out research.
3. Keep building site traffic through audience feedback.
4. Research companies that are also targeting your audience, analyzing their websites and company reports.
5. Draw up a shortlist of such companies, ensuring that you understand and can find common ground in their objectives and policies.
6. Make the appropriate approaches.
7. Bring in an agency if appropriate.
8. Explore and quantify the areas of mutual benefit.
9. Formalize matters, paying particular attention to:  
exclusivity: other sponsors or not?
10. Length of agreement.
11. Contingencies in sales, products or web traffic.
12. Policy shifts in one or both companies.

All advertising carries restrictions, but in sponsorship you are more closely identified with your sponsors, sharing in their image and business fortunes. These can be a problem in:

1. Responsibility. Who decides what is promoted on the site?
2. Diversification: can you live with a company very different from its incarnation of two years back?
3. Divorce: can a parting of the ways be amicable, and not injure company reputations?

Banner Ads and Sponsorship: Using an Agency

Advertising is a cut-throat business, and if the contracts are binding they are also very technical. Why not use a Ad Rep

Agency to act as honest broker? After all, you'll have your hands full with your side of the business. Some points to bear in mind. Agencies:

1. Take a high percentage of sales, up to 40%.
2. Are only interested in the larger sites, with a million hits a month or more.
3. Expect extensive demographics, with documentation.
4. Often handle TV advertising as well, which gets preference.
5. Require exclusive rights to sell ad space on your site for periods of 6 or 12 months.

By way of compensation, agencies employ experienced staff, who:

1. Know the business and can negotiate the optimum deal.
2. Are more at home in the rough and tumble of the advertising world.
3. Can better recognize the potential of your site, making helpful suggestions for improvement.
4. Liaise with the advertiser, saving you exasperating telephone conversations, etc.

#### Banner Ads: Third Party Networks

Rather than use an agency, some sites prefer to register with a third-party network that brings together ad hosting and the ad placing companies. Companies wishing to place banner ads register for membership, stating what they wish to pay (in CPM, CTR and/or CCT). Companies wishing to host banner ads also register for membership. Once granted, membership allows both parties to see what's on offer. There are generally no fees for membership, but the third-party network takes a commission from the hosting company's revenues.

#### Getting Paid: How Much Do You Charge?

Put yourself in your sponsor's shoes. What do they pay elsewhere for what you could offer them? Find out by at least checking the banner ad rates from competitor sites. Suppose they employed an agency — they almost certainly do — what

return do they get from their advertising spend here? What do other sites charge for sponsorship? Precise figures may be hard to come by, but you'll get some idea of what's reasonable at present. Show your sponsor that you're serious about their business, and you're halfway to finding the win-win relationship.

## Resources

A small selection of what can be found by Internet searches.

[Standard Rate and Data Service](#): Information on banner ad and sponsorship rates.

### **Finding an Agency**

[Advertising Age](#). News and views of the advertising industry, with numerous references.

[Burst Media](#). Advertising network dedicated to specialty-content publishers

[Media Bids](#). Helps you buy print advertising in newspapers or magazines.

### **Banner Ad Networks**

[24/7Media](#) Good variety of services; management through Open Adstream software.

[Double Click](#). One of best known. Offers categories and subcategories.

### **Banner Ad Networks: Pay Per Click Through**

[Add Network Comparisons](#). Prices for normal and high traffic pricing shown on site.

[Screen Scenes](#). Search engine for pay-per-click advertising solutions, plus resources for page build and marketing.

[ValueClick](#). Leading network with branches in Japan and Europe.

### **Banner Ad Networks: Pay Per Sale**

[LinkShare](#). Service some 400 companies: offices in US, UK and Japan.

[Commission Junction](#). Includes downloadable guides and success stories.

## **Banner Ad Exchanges**

ClickThru. Delivers one visitor to you for every listed site you visit.

Traffic Generation Network. Various options, based on your actions.

## **Banner Ad Rotation Software**

AdButler. Rental free if you include 5% of their own banners.

Add Tracking Review. Advice on choosing an ad tracking program, plus reviews of products.

## **Creating Banner Ads: Services**

Keeler Communications. One of the larger, award-winning banner design agencies.

Media Builder. Large selection of animated banners and other web elements.

## **Creating Banner Ads: Software**

Banner Maker Pro. Creates banner ads, buttons and animated gifs. Good variety of styles and animations.

## Questions

1. How do you get companies to advertise on your site?
2. What are banner ads? What is their metrics terminology?
3. What does a media kit include?
4. Compare sponsorship with banner ads.
5. In what circumstances would you employ a banner ad agency or network?

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## Section Contents

## 5.26 BECOMING AN ADSENSE PUBLISHER

Google's AdSense has revolutionized Internet advertising, and many sites are benefiting from its simple features.

Setup is straightforward.

1. First you need a decent site: informative and professional-looking, with 20+ pages and over 50 visitors a day.
2. You then go to AdSense and provide Google with brief details of your site, and to whom the revenue check should be sent.
3. Google appraise the site, and — all being well — email you back in a few days with acceptance and your Username and Password.
4. You access the AdSense site, make your choice of ad format, and the code needed is automatically generated for you on the page. You can set various aspects of the ads — color of background, typeface, box around, etc. (and also specify which sites you want blacklisted from advertising on your site, of which more later).
5. You copy the code with your browser, open your web pages in your usual HTML editor, and paste the code where you want the adverts to appear.
6. Upload the new pages and you're done. You can be earning a few minutes from receiving your acceptance email. Google also provide a revenue page where you watch your earnings steadily accumulate, and an AdSense viewer, since you cannot click on your site ads to see where they come from (you'll get yourself banned).

The process is pretty intuitive, and Google provide an abundance of notes and suggestions.

### Typical Results

How much do you typically earn? Google prohibits publication of results, but these sorts of figures are bandied about (all monthly):

	Site 1	Site 2	Site 3	Site 4	Site 5	Site 6
Page Impressions	7,440	9,720	16,670	22,820	84,580	124,620
Click-through Rate	3.2%	4.9%	2.1%	5.1%	1.9%	1.2%
Earnings: Total	\$68.10	\$79.50	\$165.70	\$1240.10	\$478.30	\$199.80
Earning per Click (cents)	29	17	47	106	30	13

Are they typical?

Not exactly. AdSense publishers fall into two categories:

1. Decent, run-of-the-mill sites that simply place AdSense Ads on their pages. Anecdotal evidence suggest these earn some \$100 to \$300/month for some 10,000 to 50,000 page impressions/month.
2. Sites specially designed for AdSense. We look at business models later, but AdSense professionals use some mix of tens to hundreds of quickly-created sites, each earning around \$50/month, often with one or more topnotch sites, well-placed and earning \$3000 or more each month.

Approaches are quite different, but we continue with what is common to all AdSense users, the AdSense online report, which you can access once you sign up. The relevant section looks like this:

Date	Page impressions	Clicks	Page CTR	Page eCPM <sub>l</sub>	Earnings
Thursday, September 8, 2005	70	0	0.0%	\$0.00	\$0.00
Friday, September 9, 2005	248	8	3.2%	\$9.15	\$2.27
Saturday, September 10, 2005	174	18	10.3%	\$22.30	\$3.88

Pages that do not generate click-throughs do not earn anything — and Google probably penalizes low click-through sites (i.e. with CT rates consistently below 0.5%) by sending them poorer-paying Ads.

You'll also note, looking at September 9<sup>th</sup> results, that Page CTR is  $8/248=0.0323$  or 3.2%. But what is eCPM? Google call

this the Effective Cost per 1000 impressions. For each page showing their ad on your site Google effectively charged advertisers \$9.15/1000, i.e. 0.915 cents.

Costs per click is another measure, in this case \$2.27/8 or 28.4 cents. In fact, because Google only pay you half (pundits reckon 40- 60%) of the revenue, the Adword advertisers were being charged 56.8 cents per click.

Why have eCPM at all, since it doesn't bear on your earnings? Because it facilitates Google's 'average cost-per-click', allowing Adword users to set a limit to their monthly market spend. Google adjusts click-through by sending adverts through to a variety of sites, those with high CTRs and those that don't perform so well — which means they are continually monitoring performance.

Your AdSense revenue depends on three things:

1. Traffic to your site.
2. Percentage of visitors clicking on the Google ads, which requires ads relevant to page content and site claims.
3. How much Google pays you for each click-through, which in turn depends on what advertisers are charged under Adwords.

Your aim is to increase all three. Professionals in fact run a campaign with 6 phases:

1. Finding high-paying keywords that will integrate into a decently informative site.
2. Prevent low-paying adverts being posted by Google on their site.
3. Improving CTRs by selecting the best ad styles, and placing them strategically on their pages.
4. Ensuring their site meets all Google requirements.
5. Getting the site noticed/listed quickly by the search engines.
6. Boosting traffic to the site.

None of this is brain surgery, but some elements need working on.

## **Multiple Sites**

You may want to put AdSense ads on more than one site. Do you have sign up with Google for each site?

No. You can add as many sites as you wish once accepted by Google. In fact — very important — you should **not** sign up again. An individual possessing more than one AdSense account infringes the regulations, and Google will terminate the agreement.

Google, in fact, allows you to monitor results from different sites through up to 200 channels. Matters are fully explained on the AdSense site, which also generates the code you need to produce specific reports sometimes, but in outline Google say:

1. Use URL Channels to track your performance without modifying your ad code. By entering a full or partial URL, you can begin tracking the performance of your pages. You can enter a top-level domain name to track all of the pages on that domain, or you can enter a partial URL to track all of the pages below a certain directory. Entering a full URL (i.e. ../page.html) will track the performance of that particular page.
2. Custom Channels allow you to track performance based on your specified criteria. By pasting channel-specific ad code into your pages, you can track a variety of metrics across a range of URLs. Use custom channels to track the performance of different ad formats, for example, or to compare different page topics to one another.

Two points. Google employ human researchers, which means that:

1. If you sign up with one site but then add inappropriate sites under the same account, you stand the risk of being caught out and your contract terminated (usually with loss of uncollected earnings to date, which are returned to Google Advertisers).
2. If you insist of breaking the rules by having multiple

accounts then you *must* use different people/companies, addresses and hosting companies. It's not difficult to discover who is who on the Internet.

## **Drawbacks**

Can Google AdSense harm your site? Yes. Two things can happen.

1. Your site looks cheap, and customers lose faith in what you're selling. If you're doing as well as you claim with your product or services, why would you need AdSense?
2. Though only a few percent click on the ads, that few percent may well be those predisposed to buy something but unfortunately leave your site.

Experiment. Consider placing AdSense a) on sites specially designed for them, not your flagship site, and/or b) integrate them boldly into the page design.

## **Staying Undetected**

One important matter before we continue: staying undetected. If you spend the odd hour researching the pay-per-click search engines, no one is going to mind. But if you conduct concentrated research — as you'll have to, particularly with some keyword search software — then you'll make a nuisance of yourself and get banned. It's understandable. Ppc advertisers pay for sales, not research, and if you spent the whole day in your local retail outlet just noting the prices you'd also find the manager stepping forward. You need to remain anonymous, which is achieved through a proxy server. There exist various free services, but since these are somewhat limiting, you may wish to purchase a commercial service/software for extended bouts of work.

### Finding High-Paying Ads

If you're taking AdSense seriously (rather than just placing ads on existing pages) you have three tasks:

1. Selecting keywords of high-paying Google Adwords where you can succeed against the competition.

2. Integrating those keywords into a coherent website.
3. Writing content-rich and search-engine-friendly pages for these keywords.

## Keyword Prices

Here is the range of keywords and prices for Google Adwords in late 2005, as estimated by Country Keywords:

Google Ad Price	Number of Keywords
\$50.00 +	130
\$20.00 +	3,716
\$10.00 +	13,896
\$5.00 +	38,789
\$3.00 +	73,225
\$1.00 +	206,691
\$0.50 +	310,296
\$0.25 +	399,767
\$0.15 +	454,718
\$0.10 +	484,375

Free services are fine if you just want to tweak the earning potential of an existing site. But if you want to really improve matters and/or look for new AdSense opportunities, then you'll need commercial Keyword Research Software. Only a few of these programs are helpful for AdSense, and you'll want to appraise the software/service on specific features, notably the following:

1. Proxy server setting for live research: can you research anonymously?
2. Size of keyword database: the larger the better.
3. Currency of database: static list or live results?
4. Keywords taken from Google Adwords or other ppc search engines?
5. Levels of searching: can you drill down to find obscure but high-quality keywords?
6. Data-handling: can you export results easily for further analysis?
7. Competing sites and/or competition measure included?
8. Search volume or keyword popularity shown?
9. Extra features.

## Coherent Website

So: you've found high-paying Google Adwords, which will generate good revenues when these ads are posted on your site. What next?

Two approaches.

1. Many, probably the majority of AdSense 'professionals' (often college kids hoping to supplement their income), find keyword niches and create one to ten new sites every day, getting them quickly listed but not expecting more than a modest \$100/month from each site. Neither site nor content has much finesse, but the totals can be impressive.
2. You create coherent sites grouped around an integrated *set* of keywords, firstly because such sites are preferred by Google, and secondly because this is often the best or only way of getting a decent ranking on the natural search engines.

You can't therefore build a site mixing timeshare with pension advice just because both provide high-paying ads — unless perhaps it's a local business site — but you can select an associated set of such keywords and craft a site around them. Commercial software allows you to find just the keywords you need.

## Writing the Pages

Someone of course has to write the pages, and that someone is generally you. Google insist on good content, and you'll only get return visitors if the material is attractive. Better chose something that interests you, or where you have firsthand knowledge. That is even more the case if you run a blog, which is a handy way of getting a new site listed quickly.

Whatever you do, you have to get traffic, which comes from sites with high ranking in the natural search engines for popular keywords, and falls away rapidly with declining rank. Sites outside the top 100 are rarely looked at. You'll probably get more traffic from a top 5 ranking on an unpopular keyword than a top 50 ranking with a popular keyword. It's a question

of balancing popularity and value against competition, but keyword software will give you a handle on this.

### Blocking Low-Paying Ads

But even though the top bids will be high for these keywords, there will also be advertisers paying much less, and their ads will be sent to your site from time to time, just so monthly marketing budgets are met. In fact, Google will send these ads much of the time, unless you block them. And since these lower bids can cut your revenue considerably, by a half or more, it pays to implement this step.

The key is the URL filtering feature that Google allows you to use to avoid showing competitor ads on your site. It looks like this:

Examples:	example.com	block all ads across all subdomains
	sports.example.com	block only ads across the 'sports' subdomain
	sports.example.com/widgets	block all ads below a specific directory
	sports.example.com/index.html	block all ads for a specific page

### Your Competitive Ad Filters

You can list up to 200 URLs with this facility. Once an URL appears on this list, Google won't send you ads from that source. Use keyword research programs to find these Scrooges.

Note that it can take up to 24 hours for the filter to take effect. Also remember to:

1. Enter the URL without the www., i.e. as *competitor.com* and not *www.competitor.com*.
2. Block your own site if you use Google Adwords
3. Block googlestore.com, which doesn't pay you.

### Selecting & Arranging the Ads

Google decide what ads they will post to your pages, but you can choose their format and where they will appear on each

page. Google are keen on large ads displayed prominently, but studies suggest:

1. Text ads perform better than pictorial banner ads: viewers have got tired of banners and tend to ignore them.
2. Box ads perform a little better than link units, perhaps some 25% better.
3. Vertical skyscraper ads generally perform better than lateral leaderboards, but not better than button or box units as large units stick out and look additional to the page.
4. Best results are obtained by integrating the ads into the page text — i.e. use the Google setup tools to produce ads that follow your color scheme and typeface. Do not use a border to the ads, and set the background to melt into the page background.

#### Positioning the Ads

Google recommends placing their ads as their heat map' indicates.

They say:

'The colors fade from dark orange (strongest performance) to light yellow (weakest performance). Other things being equal, ad placements above the fold tend to perform better than those below the fold. Ads placed near rich content and navigational aids usually do well because users are focused on those areas of a page.

While this heat map is useful as a positioning guideline, we strongly recommend putting your users first when deciding on ad placement. Think about their behavior on different pages, and what will be most useful and visible to them. You'll find that the most optimal ad position isn't always what you expect on certain pages.

For example, on pages where users are typically focused on

reading an article, ads placed directly below the end of the editorial content tend to perform very well.’

#### Acceptable Site

Google make their aims very clear:

‘AdSense delivers relevant text and image ads that are precisely targeted to your site and your site content. And when you add a Google search box to your site, AdSense delivers relevant text ads that are targeted to the Google search results pages generated by your visitors’ search request.’

and

‘With Google’s extensive advertiser base, we have ads for all categories of businesses - and for practically all types of content, no matter how broad or specialized. And since Google provides the ads, you have no advertiser relationships to maintain. The AdSense program represents advertisers ranging from large global brands to small and local companies. Ads are also targeted by geography, so global businesses can display local advertising with no additional effort. And you can use AdSense in many languages.’

Relevance is the key to Google. The more relevant and tightly-focused information your site delivers on some market sector, the more Google will like you, rewarding your higher CTR with more revenues. To be accepted at all, your site needs to:

1. Receive over 50 and preferably over 100 unique visitors/day.
2. Contain 20+ pages of original (not recycled) content.
3. Be free of profanity, pornography, gambling and socially undesirable traits.
4. Be free of ‘excessive’ advertising (i.e. not be *largely* composed of affiliate links)
5. Not be *both* an affiliate and have affiliates (can be one or the other, but not both)
6. Be free of sales pitches for specific products on pages

showing AdSense ads (which may conflict with ads Google will send).

7. Be professional-looking: easy to navigate, no broken links.

8. Include a 'contact us' (email or telephone) at the foot of each page.

### **Never:**

1. Click on the links (use the special Google viewing tool, and then type the URL into your browser toolbar if you must see who these advertisers are).

2. Modify the Google code after it has been generated for you.

3. Display Google ads on web pages with MP3, video, newsgroup and image results.

4. Display Google on a site requiring user to download a dialer to view the site.

5. Exceed the number of ads Google allows for each page: 3 ad units, 1 Google search box and 1 link box.

6. Place ads on no-content pages (e.g. welcome, thank you for your purchase, site map pages).

7. Place Google ads on pages that open in a new browser window.

8. Construct pages specifically for Google ads (e.g. describing ad services).

9. Construct pages essentially of affiliate links (unfair to Google advertisers).

10. Place other ads (e.g. Kanoodle) on same page as Google ads.

11. Get friends to click on the ads: Google has sophisticated equipment to detect such irregularities: suspension will follow.

12. Employ software to generate clicks: Google will find out and suspend your site.

13. Add pages not relevant to your site simply to get more or better-paying traffic: it won't work.

14. Use cloaking devices to generate multiple virtual pages: Google is waging war on such practices.

15. Use pop-ups, pop-unders or exit windows that interfere with site navigation.

16. Use excessive, irrelevant or repetitive keywords in the content or coding of pages.
17. Offer incentives to induce viewers to click on ads, either material or persuasive text (support us, click here for. . . etc.).
18. Label ads other than ‘sponsored links’ or advertisements’.
19. Promote tobacco, prescriptive drugs, alcohol or designer replicates.

### **Always:**

1. Remember Google’s aims: quality information and services. Professionalism shows, and Google will note it.
2. Accidents happen, or you may fall victim to illegal activities by competitors. If Google send you a warning email, always reply promptly and courteously, explaining the situation as fully as you understand it. You need Google far more than they need you.
3. Avoid hosting with companies that permit what Google disapproves of (adult sites, political rants, etc.) Check with their terms of service, and with hosting directories.
4. Do not link to sites that Google dislikes (as above).
5. Don’t be too clever. Continual site tweaking, adding `rel="nofollow"`, cloaking, etc. — none of these will do you any good.

### Getting Traffic

Traffic is the final key to good AdSense revenues, not only volume but the right sort of visitors. You can use the pay-per-click search engines if you are acting as an affiliate or selling your own products or services, but make sure that AdSense ads do not interfere with the selling process.

In general, you can’t use arbitrage, i.e. purchase Google Adwords to generate AdSense revenues. Google pay AdSense publishers only half of their Adword revenue, and a CTR of 10% is very good: you pay \$2 a click and get back  $0.5 \times 0.1 \times \$2$ , i.e. 10 cents.

You can experiment with the alternative pay-per-click search engines, but the same consideration usually applies. Their bid rates can be much lower, but not sufficiently so. And visitors sent by these ppc search engines are not always determined shoppers, ready to part with their money or click on further adverts.

Two strategies are worth considering, however:

1. You can get visitors to your pages by tightly-focused but poorly-paying keywords that have little competition, and then expect some visitors to stray over to other pages in your site. You'll need to lead them through with enticing copy, however, as most visitors look briefly at a page and then click on to another site: *and if you fall in love with Latin folklore customs, you may want to think about buying a property in Mexico through USA-based companies that know the ropes . . .*
2. Google treats sites as coherent entities. That means a site with a good proportion of its pages ranking well against reasonable competition will have its remaining pages boosted in the Google rankings, even when those pages individually face phenomenal competition. You can therefore 'float' your better-paying pages with less competitive pages of low-paying ads, providing always that the two associate naturally.

### AdSense-Friendly Pages

You'll optimize your pages as you would for the natural search engines generally, paying special attention to Google's preferences. It may also help to:

1. Chunk your text into sections introduced by <H1> or <H2> headers: these headers should contain the keywords you're targeting.
2. Ensure targeted keywords appear in page title, description and meta tags.
3. Place keyword(s) near the start and end of the page text.
4. Internally link your page to others with related keywords on your site.

5. Externally link via keywords (i.e. the keyword is the link, rather than 'click here').

#### AdSense Business Models

Many AdSense professionals prefer to create a large number of separate sites targeting similar market niches. Individually, the sites don't make much, but each \$1-\$5/day/site mounts up to an appreciable monthly income. The approach is some variation of:

1. Research the market to find a profitable niche.
2. Create a large keyword list for the niche in question.
3. Research to find the optimal 5, 10. . . associated keywords.
4. Create a site with custom templates/computer-generated software: each page corresponds to an optimal keyword.
5. Add a relevant trade link section for reciprocal listing.
6. Submit to Google, generally with a Google sitemap.
7. Use blog and ping techniques to get site listed rapidly.
8. Add new content to the site daily.
9. Repeat 3 to 7 to create new sites. Use cheap .info domains and reseller hosting, but use several hosting companies.
10. Link sites on a non-reciprocal basis.
11. Use various promotional techniques (including press releases) to boost traffic.
12. An additional — but risky — approach is to create 'virtual pages' on the fly using cloaking techniques.

#### What Works and What Doesn't

Many of the AdSense business models that netted their authors six-figure incomes no longer do so, though the now out-of-date ebooks and software continue to sell. The current state of play seems to be as follows:

1. Java Redirects: redirects from many sites that boosted traffic on your main earning site. Detected and banned.
2. Link Exchanges and Link Farms. Ineffective: Google looks for good non-reciprocal links.
3. Virtual page generation by server software. Detected and banned.

4. Proper page generation but automatically with software. Being detected and ignored.
5. Splogs. Content scraped from other sites followed by automatic blog and ping. Being detected and ignored.

#### Additional Suggestions

Companies need to experiment and monitor results. Ecommerce Digest's findings *for its own sites* over the November 2005 - January 2007 period were:

1. Google analyzes each site as a whole and decides (through unknown algorithms) what the site should earn based on number of pages, ranking, market sector and how the Ads actually perform on your site. That means that earnings will fluctuate far more than page impressions or click-through rates. Google is balancing its books.
2. Despite claims to the contrary, Google does not always send appropriate Ads. 'Bad days' can see unattractive Ads sent that are not relevant to your page, or even to your site. Google is dumping on you to meet Advertisers' monthly budgets.
3. Site upgrades (new pages, new structures, new designs) bring a day or two of adjustment as Google reevaluate your site. Trends in eCPM, CTR and earnings are broken as new trends settle into place.
4. Google evaluate your site (in fact all your sites: see below) every couple of weeks or so. Trends then settle into their previous form if there have been no major site changes.
5. Google slightly adjusts the earnings on a day-to-day basis. Just as Google allows advertisers to agree a monthly marketing spend, so they will send you high earnings for a day or two followed by low earnings immediately afterwards. Google are not 'playing games with you' so much as matching Adwords and AdSense requirements.
6. Doubling the number of site pages will not necessarily double the earnings: the new pages have to fit in with Google's idea of relevance and be good earners in themselves (see 'smart pricing' below), but adding pages to

one site may boost earnings on a second site if that second site has pages similar (but not identical) to the pages in the first site — even though those first site pages do not receive many click-throughs. Again some overall site earning concept seems to operate, as though Google is continually checking your overall page offerings.

7. High-paying keywords are important, and a few pages with these may earn more than the rest of the site put together.

8. High-paying keywords need to be used site-wide. If, for example, to support the affiliate program for golf equipment you add a large section on making affiliate programs pay, Google will *not* regard that section as belonging to the lucrative affiliate market sector, but simply as part of your golfing site.

9. High-paying keywords can be smuggled in as ‘practical’ keywords (see above), but gains are not as claimed by keyword services.

10. You cannot block advertisers to any appreciable extent: a site of any size will need several times the 200 allowed under competitive filters.

11. The above apply to some extent to *all* the sites in your account with Google. If earnings fall in one site on a particular day, they will also tend to do so on other sites of yours, even though in different market sectors. That means you must give some thought to: setting up an appropriate mix of sites, and/or opening a different account with Google — which has to be a different person, different company, different bank account, different server and different domain owner. Using multiple accounts is against the terms of service with Google, of course, so the details really *must* be different.

12. High-paying keywords may be the *single most important* factor, but in choosing these you must bear in mind that pages have to receive visitors. Google Advertisers pay high bid prices to get ahead of the competition. Ten dollar plus keywords are those facing millions of competing sites, and there’s no point in having them on your site unless the pages concerned beat the competition by:

- a. Being part of a top-ranked site (extensive, good content, deservedly popular)
- b. Benefit from visitor spill over from other pages (often limited)
- c. Attracting visitors by cheaper pay-per-clicks (generally difficult)

13. Average bid price is more important than the highest: i.e. where advertisers are willing to pay handsomely for a 5<sup>th</sup> or 10<sup>th</sup> ranking position. You need software to identify those keywords quickly: expected clicks per month, other ppc search engine data, number of Google Ad campaigns running on a keyword.

14. Google continually monitors your site (how they detect click fraud), and may send you better-paying Ads if/when your CTRs improve. Keywords must be used intelligently — site-wide, and worked in as ‘practical’ keywords.

15. The *second essential* factor is traffic, the number of pages viewed each day. Remember that blogs will get your site noticed quickly but may not improve ranking or traffic.

16. Software that automatically generates virtual pages will not build a loyal clientele, and will get you banned when detected.

17. Software that automatically generates ‘real’ pages from material already on the Internet does not conflict with Google’s terms of service but does clutter the Internet with junk. Money is being made this way, but Google may be forced to ban or penalize them in time.

18. The *third essential* factor is relevance. Visitors will not click on Adwords unless they find something of interest. You can achieve ranking and traffic with page copy built around popular keywords, but not get decent click-throughs because Google will not send you appropriate ads. In short, you have to be upfront, with Google and your visitors.

19. A *fourth essential* factor is what Google call ‘smart pricing’. If a click from one of your web pages is less likely to turn into an online sale, or other business result for the GoogleAd publisher, Google reduces the amount you earn per click.

That reduction affects the earning power of all your sites, as Google treats them as a unit. You need to understand your readership, and experiment by selectively removing AdSense code from the offending pages/sites.

20. Though monitoring results is important, indeed essential, you can only alter what is amenable to change. In practice that means: monitoring visitor behaviour as in any other website, visiting the site regularly to see the Ads being displayed. A glance once a day is not sufficient, and tracking software only records the Ads actually clicked on. You want to know what Ads *aren't* clicked on, so that you can prevent them appearing (by changing page copy, adjusting page layout or through competitor filters).

21. In contrast to AdSense for content, AdSense for search generally gives derisory returns, and seems not worth bothering with.

#### Alternatives to AdSense

The bulletin boards are full of hard luck stories, of AdSense publishers who've apparently had their accounts terminated through no fault of their own. A few manage to get their accounts reinstated by presenting their server logs, but most remain banned. The only recourse then is to try the many alternatives to AdSense, well advertised but not generally (to judge by bulletin boards) paying so well.

#### Questions

1. Describe the main features of the Google AdSense program.
2. How do you find the high-paying keywords? Realistically?
3. What is an acceptable AdSense site to Google?
4. What constitutes an *unacceptable* AdSense site to Google?
5. List the important do's and don't's when using Google AdSense.
6. How should companies experiment? Give a few of Ecommerce Digest's findings.

7. List several alternatives to AdSense. Why don't they compete effectively?

#### Sources and Further Reading

1. Using Google AdWords and AdSense by Michael Miller. Que. June 2010.
2. Make Easy Money with Google: Using the AdSense Advertising Program by Eric Giguère Peachpit Press. June 2005.
3. How To Make Money With AdSense. Understanding AdSense. Comprehensive guide and newsletter.
4. The Top Ten Alternatives to Google AdSense. Ross Walker. One of many such listings.

#### Section Contents

## 5.27 BECOMING AN AFFILIATE

Establishing a brand identity on the web takes time, and many small companies become an affiliate to supplement their revenues. Amazon Books started the idea. Companies providing literary content, or selling travel products etc., placed a link from their site to a recommended book, a convenience to visitors that also earned commission for the site. The link recorded the site originating the sale, and software maintained by Amazon managed all aspects of the process thereafter. The link was a simple piece of HTML code, readily cut and pasted to the page, and affiliates could view sales through a password-managed account.

Amazon still run their own system, but many companies have handed the process over to Affiliate Solution Providers. The fee or percentage of sales taken by the third party company covers:

1. Maintaining lists of potential affiliates and companies looking for affiliates.
2. Supplying links to the affiliate sites.
3. Maintaining records of sales and commissions earned.
4. Providing password-secured sites where sales records can be viewed.
5. Publishing a simple-to-read report.
6. Paying commissions at agreed intervals.

### **Pay-by-Lead Deals**

Free offers and newsletters are a popular way of building traffic, and also of securing emails for later marketing. Pay-by-lead deals reward affiliates who get visitors to take up these offers, usually by payments in the 25 cents to \$5 range, but occasionally substantially more.

### **Dealing Direct**

You can sometimes cut out the middleman and deal direct with the companies whose products you wish to represent. The link software itself is readily available, but you'll have to

come to some arrangement with the company concerned over its purchase, coding and/or installation, particularly on managing sales and commissions.

### Applying

How do you become an affiliate? Simple. You either look at the merchants represented by affiliate solution providers, or visit specialist affiliate sites presenting their own recommendations. Alternatively, you can make your own list by searching for affiliate opportunities available from the companies of interest to you. You'll appraise the goods or services concerned, scrutinize the terms and conditions applying, and sign up. An online form will ask for details of yourself, your website and the account into which the commissions will be paid. Acceptance is often automatic — particularly if you have already been accepted by the affiliate solution provider — or you'll get an email from the merchant a day or so later when they've inspected your site.

### Finding an Affiliate Solution Provider

An Internet search will locate dozens of providers, but you need to:

1. Shop around for the best deal, one where companies supply quality goods/services.
2. Have popular products/services that really sell.
3. Offer lifetime commissions.
4. Happily provide names of other affiliates.
5. Assist their affiliates with good product information.
6. Not insist on exclusive contracts.
7. Allow independent sales copy/evaluations.
8. Consult third-party sites and manuals for advice on selecting a competent and reputable provider (some 40% of companies are not apparently happy with their initial choice).

Creating a site with dozens of affiliate links is just the start. You'll need to work hard to:

1. Make your site outstanding: i.e. provide uniquely useful content.
2. Promote effectively.
3. Keep promoting through search engines, pay per click search engines and email marketing.
4. Establish trust, confidence and authority.
5. Actually sell the affiliate products.

### Marketing the Product

While it's easy to become an affiliate, competition is fierce, the popular products being promoted by thousands (and sometimes tens of thousands) of affiliates. There are many sites with advice, courses and ebooks, but the points constantly stressed are:

1. Planning: find out what's really selling, and by what methods.
2. Content: your site must provide free/unique/helpful content to be popular.
3. Research: you must understand affiliate products to endorse them.
4. Suitability: products must be appropriate to your visitor's needs and wants.
5. Quality: you need topnotch products you can be proud of.
6. Commissions should be sufficiently generous to repay your efforts in promoting the products.
7. Do not engage in hard-sell, but create a willingness to purchase by engendering trust and confidence in your visitors.
8. Replace banners supplied by informative text links — if allowed to by the merchant.
9. Consider adding a doorway page between your recommendation and the merchant's site, one where you can supply more information to the potential purchaser.
10. Tacking on affiliate programs to an existing site doesn't usually work: you'll need to redesign the site around a tightly-focused group of affiliate opportunities.

### Current Picture

1. Anecdotal evidence suggest that 95% of affiliates make no money at all, a figure supported by an eMarketer eAdvertising report back in 2000, which showed that the top 10 web companies earned 76% of online advertisement dollars, and top 50 earned 95%. Even earlier, in September 1997, a Jakob Nielsen article suggested that only the top 0.01% of websites could support themselves by advertising alone.

2. Smaller sites do make a success of affiliates schemes, but may not be models you want to follow. These companies focus on selling by:

a. constantly researching the changing world of the Internet to identify new opportunities and exploit them for the 6-12 months they exist. Quick to move in, they are equally quick to move on.

b. constructing very basic (but effective) sites that can be put up in a few hours.

c. operating several such sites (often as many as 20) at any one time. Sites that don't pay are quickly dumped.

d. using fairly unscrupulous methods to promote their sites with the search engines, accepting that some will break the rules and be closed down.

e. operating through a chain of companies to evade legal restrictions.

## Questions

1. How does selling through affiliate work? What do the two parties look for?
2. What are the advantages of working with an affiliate solution provider?
3. What sort of company would act as an affiliate? Is it worthwhile doing so today?

## Sources and Further Reading

1. *ClickBank*. One of the best known Affiliate Solution Providers.
2. *Affiliate Software Review*. Detailed comparisons of affiliate programs, plus free ebook on subscribing to newsletter.
3. *100 Best Affiliate Programs*. Lists rates and services. Also useful

coverage of web-hosting, ecommerce hosting and merchant account providers.

4. *Affiliate Marketing*. Articles, guides and free newsletter.

5. *AffiliateMatch*. Articles and affiliate program recommendations.

6. *Affiliate Tips*. Articles, listings and free newsletter on affiliate programs.

7. *Associate Programs*. Over 5,700 affiliate opportunities listed, plus helpful newsletter.

8. *DoubleClick*. Good advice on affiliates, marketing strategies and industry research.

## Section Contents

## 5.28 SELLING PHYSICAL GOODS

The ecommerce benefits of transferring an existing business online are obvious: the company is building on established skills and using existing suppliers and customer base.

No one should underestimate the resources needed to bring an ecommerce store into being. Even with an ‘all-in hosting’ an ‘out of the box’ solution, or third party merchant services, it takes time, effort and flair to create a compelling website. And a good many more months to set up warehousing, office accommodation, fulfillment arrangements, staffing and a legal presence. After that comes the long cash drain while traffic and sales slowly build.

Nonetheless, planned and built properly, the resulting good e-shop can be just as effective as its big chain counterpart — provided it remembers the rules of Internet selling.

Most of the obvious things have now been done. You can’t compete with the likes of Amazon Books or eBay auctions unless you have their millions to play with, and even then you’re very unlikely to catch up. Your opportunities lie in what they cannot accomplish, in what is called niche marketing. Every city can support a few bookstores, but never one that severely restricts its stock – to books on antiques or tropical fish, for example. Yet these would be eminently suited to the Internet. Even Amazon carries only the smallest fraction of what’s available, and devotees would switch to the specialist outlet, knowing that what wasn’t stocked by you simply wasn’t to be had. Your catchment area will be larger, which means that your selling line has to be better researched and focused. In short, you have to think long and hard about the market you’re in. The point is worth laboring. To compete in the free-for-all of the Internet, you need to:

1. Establish that sufficient demand exists for your product or products.
2. Research and define your own market niche.

3. Sell in a manner or at a price that your competitors cannot or would not wish to match, e.g.
  - a. unrivaled selection.
  - b. enthusiastic knowledge and expertise.
  - c. personalized service.
  - d. providing useful help sheets.
  - e. with detailed information on products.
  - f. superb after sales service.
4. Maintain your selling advantage when:
  - a. sales really take off
  - b. competitors move against you.

#### Current Picture

The great killer is the advertising required in an increasingly overcrowded marketplace, which generally keeps customer acquisition costs above \$40. Customer service — email and telephone support, clear returns policies, guarantees, helpful advice on site — are therefore critical in courting the repeat customer. Larger sites will need deep pockets for the years in which it takes to build brand awareness and loyalty.

#### Competing in a Market Niche

Suppose you find your proposed market niche is already occupied, which is often the case. Other companies have got there first, and there seems hardly the opportunity for another player. Is that the end of your business plan?

It can be. There's clearly no point in throwing good money after bad, and you'll have the good sense to swallow your disappointment and find something else.

But before abandoning the plan, look carefully at the competition. Have they got it right? Is there something you could bring that would outdistance them — in presentation, range of products, sales advice? You'll need to be very careful, as you're going to further subdivide the market, and competitors are certainly not going to stand idly by. But a detailed appraisal may show you're still in with a chance.

Possibly their stock is not fully illustrated or described. Or their ordering system is a disaster. Or they're not promoting themselves very well. But just make sure that you really can do better, and have the necessary resources. Anything they've put in to their e-store you will have to double: time, money, contacts, inside information. Rehash the business plan, and don't underestimate the challenges.

#### Corporate eBusiness

Corporations face their own problems, and planning here is generally on a project level.

The company will present its goods online with a shopping cart, a portal or an auction site. The server can be run by the company or by a third party web hosting company. A bulletin board, online chat, a company blog and/or social media site may be useful additions.

#### Fulfillment

##### **Buy from Local Suppliers**

Companies won't tie up space and capital by carrying more stocks than absolutely necessary, and many therefore enter into arrangements with local suppliers. Orders are phoned through as needed, collected, packaged and dispatched. Stock levels are communicated to them on a regular basis, and companies have backup suppliers just in case.

##### **Drop Ship from Distributors**

The above arrangement suits many fledgeling companies, but it's still a nuisance, taking up much of the working day. An alternative becoming increasingly attractive is drop shipping. Suppliers handle specific brands, and will ship your orders directly to the customer. You just fax or email the drop ship company with the order, and they package with your logo, add the delivery slip, and send it off. Of course there's a charge for the service, and you have to locate the companies carrying the products you sell. Delivery is very much in their hands,

moreover, and they may not keep you fully informed on items temporarily out of stock. Any delays will reflect on you, as customers are unaware of the shipping procedure.

### **Employ a Fulfillment Company**

Further down the road is a fulfillment company. The contract you draw up with a fulfillment company requires the company to keep all your products ready for immediate delivery. You email or fax the order — or have it redirected automatically from your website — and the fulfillment company does the rest. Fulfillment companies are efficient, but not cheap.

### **Fulfillment Companies: Terminology**

Fulfillment companies charge on various bases. Below is the usual terminology. Do your sums carefully.

**Setup:** initial charge to cover cost of preparing to take your products.

**Order processing:** usually a cost per order, plus a cost per item in the order.

**Order minimum:** what you'll have to pay each month, even with few orders.

**Receive merchandise:** fee for checking shipments.

**Product assembly:** fee for assembling consignment for you.

**Restocking:** fee for checking inventory level and reordering as necessary.

**Storage:** cost of storing items, per pallet or cubic foot.

**Returns:** also called a restocking fee: charge for items returned by customers.

**Minimum contract:** minimum period your contract runs with fulfillment company.

**Transaction:** charge for handling credit card transactions for you.

**Shopping cart services:** fee for linking your shopping cart orders directly to the fulfillment house.

### Taking the Money

The shopping cart will handle payment details, linking through to your merchant account, or an Internet payment provider.

## Questions

1. What, in terms of increasing outlay, are the best ways of selling physical goods over the Internet?
2. Describe your unique selling proposition: i.e. how you will beat the existing competition in some market sector of your choice.
3. How will you fulfill orders? Give the options.
4. List and explain fulfillment company terminology.

## Sources and Further Reading

1. Ecommerce Information: listings.
2. Ecommerce Marketing: listings.
3. Business Information: listings.

## Section Contents

## 5.29 CORPORATE ECOMMERCE

While corporations don't face the time and financial restraints of small ecommerce merchants, their problems are equally daunting — the need for:

1. Astute decisions on technical matters.
2. Strategic planning that integrates very different disciplines and departments.
3. Delivery of complex projects within time and budget.

Moreover, they are often handicapped by:

1. Tangled management structures.
2. Changing objectives.
3. Non-communication and/or rivalry between divisions.
4. Decision-making remote from shopfloor realities.
5. Wavering commitment to ebusiness.

As a result, the larger companies often get ecommerce wrong — bloated graphic design, poor navigation, nonexistent customer feedback, a confusing ordering process.

### Project Management

Some 90% of IT projects overrun on time and/or budgets. Specialized software exists for project management, but experience suggests it's also wise to:

1. Get main board approval: ideally one director should be personally responsible for and committed to the project.
2. Appoint a project leader who enjoys the confidence of staff and senior management.
3. Make sure objectives and delivery times are crystal clear and agreed by all parties.
4. Not to be overly-ambitious: stick as far as possible to tried and tested solutions.
5. Test to ensure that plans are realistic; then add a generous contingency factor.
6. Employ the right staff: i.e. find staff for the project rather than tailor the project to the staff available.

7. Achieve a proper balance of personalities: the visionaries and the solid coders.
8. Outsource sections if necessary but monitor closely and insist on onerous penalties for noncompliance.
9. Establish a proper reporting structure with clear responsibilities and reporting procedures.
10. Instigate regular meetings, if necessary training staff in these essential skills.
11. Keep senior management fully up to date on time and cost expectations.

### Skills Integration

All businesses require a mix of specialized skills, but the need for understanding between very different disciplines and personalities becomes acute in corporate ecommerce. Senior management is responsible for the company's future position in the market place. Sales will understand marketing and customer psychology. The Art Department involves itself with company image and branding. Only the IT Department knows what is and is not feasible on the programming side. Any website that doesn't marry and build on all these disciplines is doomed to failure.

Essential is respect for and understanding of different jobs — not as a pious wish, but by practical measures: detailed project management, consultation and temporary secondments. The better staff are usually curious of other departments and enjoy having their horizons broadened. Cross fertilization can achieve wonders in a demanding but supportive working environment.

### Corporate Ecommerce Solutions

Even large companies with their own IT staff often prefer to buy and adapt a fully-functioning, integrated system rather than develop their own software from scratch.

A brief listing of some popular systems:

Arriba. Wide range of solutions available, including those to streamline a company's internal operations.

BroadVision. Ecommerce and content management solutions with emphasis on personalization and customer relationship management.

OpenMarket. Comprehensive set of tools to develop all aspects of ebusiness: products, entertainment, marketing, content. Caters for wide range of platforms and formats.

Websphere. One of a wide suite of IBM corporate products.

iPlanet. Sun's Application Server. Java platform with live and historical traffic reporting.

Kana iCare Suite of integrated programs for ecommerce and crm.

mySAP. Various solutions for large companies wishing to streamline operations.

#### Questions

1. What problems do staff in large corporations commonly face in implementing ecommerce?
2. Suggest some practical measures for managing such projects.
3. Compare three popular corporate ecommerce solutions. How far is an objective appraisal possible?

#### Sources and Further Reading

1. Baseline. Project management centre covering matters like for CRM (customer resource management), ERP (enterprise resource planning), SFM (sales force management), SCM (supply chain management) and EP (electronic procurement).
2. AMR Research. Business application and technology research, focusing on ecommerce, customer relationship management, etc.
3. BitPipe. White papers, product literature and case studies.
4. Forrester Research. Forrester's TechRankings undertakes evaluations of the better-known portal servers.

#### Section Contents

## 5.30 ECOMMERCE SERVERS

Most large companies will not be building their own website but employing consultants and third-party programs to do so. Such programs are complex, requiring IT skills to implement properly, but provide a full width of integrated ecommerce services.

What does building such a site entail, and what are the key points that management should bear in mind?

General Points

### **Plan**

Websites serve many purposes, but an ecommerce site designed purely to sell products or services has to be a selling machine, with every page reflecting its marketing strategy. Companies also need to focus on their unique strengths, and not despise the simple requirements laid out in *Research for the Small Company*.

### **Look Ahead**

Off-the-shelf software required to run a major ecommerce site is costly, and made more so by the extra programming required to customize and maintain it appropriately. Rather than be continually upgrading, and training their staff to cope with a weekly-more complicated system, companies generally install something to meet all anticipated requirements for several years ahead. What many do not do, unfortunately, is ask themselves:

1. Can we cope if the software house goes out of business or no longer supports our system? How secure is our supplier here?
2. Is the system sufficiently intuitive for non-technical (sales, strategy, financial control) staff to use it effectively?
3. Can our IT Department work beyond its everyday 'firefighting' remit and periodically remodel the software to meet our changing needs?

4. Does the software come with business intelligence programs, enabling us to make immediate sense of the data collected? Or can a third-party add-on (to monitor customer behaviour and interpret the results) be closely integrated with the system?
5. Can our business data be readily transferred to the database systems of software we may need to install some ten years from now?
6. How much of our previous necessary but costly coding can be transferred?
7. What performance and scalability do we require if our sales projections are met?
8. What foreign language support is there?
9. Can we accommodate local and sometimes complicated sales taxes and shipping costs?

#### System Build

Evaluating software is an essential but time consuming affair. The software houses produce white papers on their products, and there are independent surveys and studies that, though often expensive, pay their way in quickly narrowing down the possibilities. Large companies often choose by reputation, which is considered a safe but sometimes costly approach. In making any selection, companies need to know their requirements, and produce considered answers to such questions as:

1. How many webservers are required?
2. What other servers are required — list server, proxy server, audio/video server, news server, chat server, fax server, workgroup server, ad server, auction server, b2b server and/or databaserver for customer, product and sales data?
3. How many CPUs should each server have (scaled vertically or horizontally)?
4. What connection speed to the Internet is required?
5. Should we maintain the servers in house or employ a hosting company?

Simulators and services to help companies assess their requirements include Sonoma, Adido, NGIT, Eguitel and many telecom companies. Vertical scaling involves improving the CPUs and adding more CPUs to the server: space is conserved but the system is vulnerable to breakdowns. Horizontal scaling entails adding more computers to a network and installing load balancing software: a cheaper and less vulnerable option, though networks may take up valuable office space. Improved performance can also be achieved by combining related requests into batches, improving database design and storing frequently used data more in cache than on hard disk.

Static web pages are constrained by the server's input-output (I/O) specifications, and less by CPU speeds. Dynamic pages (registration, online purchase, form-filling, download of audio or video files), however, require more processing power, and can benefit from CPU scaling.

Systems typically go through a 'systems development life cycle' (SDLC), which consists of:

1. Analysis and planning.
2. Design.
3. Build.
4. Testing.
5. Implementation.

All are major steps requiring much effort and expertise.

Design first needs a logical design:

Then comes a physical design where the best hardware and software components are selected to fulfill the plan.

Testing itself may consume half the time and budget, and commonly passes from unit testing (testing all modules individually), through system testing (testing the whole system in the way it will normally operate) through to acceptance testing (company's key managers —IT, Sales, Personnel, Marketing, Finance, Production, etc. — verify that the system works to their requirements).

## Maintenance

Later comes 'benchmarking', when the web team compare the system's design, ease of use, speed of response, etc. to those of competitors and the industry generally. Shortcomings then have to be put right. Indeed, annual maintenance costs, not only keeping the product lines and prices up to date, but making by week improvements to improve customer experience, generally exceed total build costs. A typical breakdown is: {11}

System annual maintenance: 35%

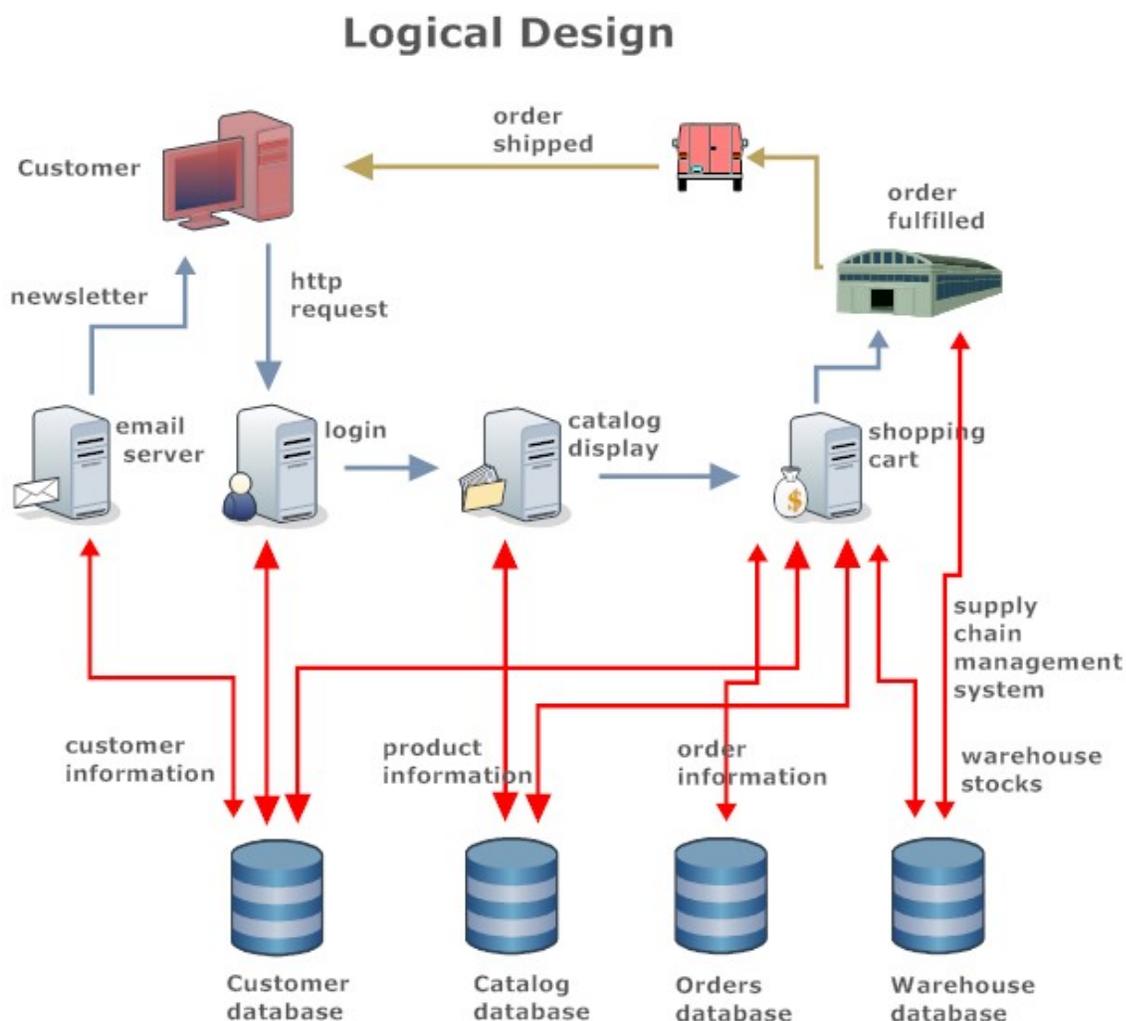
System development: 22%

Content update: 15%

Hardware costs: 10%

Telecommunications annual costs: 10%

Software costs: 8%



## Questions

1. You've been asked to manage the ecommerce implementation for a large company. What questions would

you ask of available software? How would you obtain a second opinion?

2. What is system build? What questions does it attempt to answer?

3. Give an example of logical design. What contingencies would you factor in?

4. The allocated budget is \$2 million over two years. How would you allocate funds, and why?

### Sources and Further Reading

1. *Application servers*. Server Watch. Listings and links to specifications.

2. *Welcome to Apache Geronimo*. Apache Geronimo. Open source: world's most popular server for small and medium-sized enterprises.

3. *Microsoft's Internet Information Services (IIS)* Wikipedia. Technical. The world's most popular server after Apache.

4. *IBM WebSphere Application Server V7.0 Web Services Guide* by Henry Cui, Raymond Josef Edward A. Lara, Rosaline Makar, Nicky Moelholm and Felipe Pittella Rodrigues. IBM Redbooks. July 2009.

5. *WebSphere Application Server Community Edition V2.1.1 Documentation*. IBM. Detailed manual.

6. Welcome to the WebSphere Application Server Information Center. IBM. Indication of the complexities of modern servers.

7. Broadvision K2. Broadvision. A high-end product.

8. ATG Commerce 10. One of the most expensive systems on the market. Company now acquired by Oracle.

9. Intershop Infinity Suite 6.4. Another high-end, fully-featured system.

10. *Multi-tier architecture*. Geek. Brief article giving the basics.

11. *Building an Ecommerce Site*. Section 4 in *E-commerce 2010* by Kenneth C. Laudon and Carol Guercio Traver. Pearson 2010.

### Section Contents

## 5.31 STAYING SAFE

1. The merchant is always responsible for security of the Internet-connected PC where customer details are handled. Virus protection and a firewall are the minimum requirements. To be absolutely safe, sensitive information and customer details should be stored on zip-disks or a physically separate PC. Always keep multiple back-ups of essential information, and ensure they are stored safely off-site.
2. Where customers order by email, information should be encrypted with PGP or similar software. Or payment should be made by specially encrypted checks and ordering software.
3. Where credit cards are taken online and processed later, it's the merchant's responsibility to check security of the hosting company's webserver. Use a reputable company and demand detailed replies to your queries.
4. Where credit cards are taken online and processed in real time, four situations arise:
  - a. Company uses an Internet payment service bureau. Sensitive information is handled entirely by the service bureau, which is responsible for its security. Other customer and order details are your responsibility as in 3. above.
  - b. Company possesses an ecommerce merchant account but uses the digital certificate supplied by the hosting company. A cheap option acceptable for smallish transactions with SMEs. Check out the hosting company, and the terms and conditions applying to the digital certificate.
  - c. Company possesses an ecommerce merchant account and obtains its own digital certificate. Check out the hosting company, and enter into a dialogue with the certification authority: they will certainly probe your credentials.
  - d. Company possesses a merchant account, and runs the business from its own server. Company needs trained IT staff to maintain all aspects of security — firewalls, Kerberos, SSL, and a digital certificate for the server.

Security is a vexing, costly and complicated business, but a single lapse can be expensive in lost funds, records and reputation. Don't wait for disaster to strike, but stay proactive, employing a security expert where necessary.

#### Fraud Prevention

Companies do not have to accept every online order, or not immediately. Escrow services are widely available. Trade associations and other institutions provide useful information and support. Payment service providers have levels of security. The order page can ask for further details, and its country drop-down list be amended to exclude the worst offenders.

Affiliate businesses need to be especially careful, and in these ways:

1. Prevent competitors stealing their affiliate links by using inexpensive software for the purpose.
2. Prevent bogus clicks-throughs by competitors who do not purchase but aim to bankrupt them with the pay-per-click search engines.
3. Impression fraud by competitors aiming to lower their click-through rates and so disqualify their ads with Google.

The last two scams are often outsourced to low-wage outlets and/or employ special software. Companies need to track their clicks with special click auditing software (sometimes included in bid management software), or ensure that the company that runs their pay-per-click campaigns does so.

#### Webpage Content

Companies are responsible for the content of their web pages, which means ensuring:

1. Nothing is libelous or could be construed so.
2. Material does not infringe copyright.
3. Links don't damage the interests of sites linked to (deep-linking may).

4. Pages don't fall foul of search engine and directory requirements.

America is a litigious society. Play safe, and even consider cloaking techniques to prevent information being extracted from pages and made the basis of frivolous lawsuits.

#### Customer Data

Companies are *always* responsible for customer information: an onerous task if it includes credit card and/or bank details. Use secure webforms that automatically transfer and store customer information safely on a third-party secure site. Encrypt it. Keep it off Internet-connected machines. Make several copies and store safely off-site. Seventy percent of companies that lose their customer data are reputed to go out of business within the year.

#### Webservers

Webserver security is highly technical, but you should check or ask about:

1. The financial standing of the hosting company, and how long they have been in business.
2. Guaranteed uptime.
3. Security protocols to cope with denial-of-service and hacker attacks.
4. Regularity of backups: does it include user logs, product databases, order tracking logs, server-side scripts, etc.?
5. Ensure ([www.whois.net](http://www.whois.net)) that you and not the hosting company remain the administrative and technical contact for your domain and — most critically — the registrant of the domain.
6. Backup: ring them at 3 a.m. Sunday morning if they claim 24/7 telephone support.
7. Complaints procedure: you don't want your site dumped because of an unwarranted complaint from a competitor.

8. Other sites being hosted with them (read their terms of service: association with spam or porn sites won't help your business).

9. The business address of the server (whois).

10. The path to the server (tracing program).

11. Visit forums to see what webmasters really think about hosting companies.

12. Scrutinize the contract (and employ a business lawyer to check copyright, complaints, fees and service renewal / discontinuation matters).

You may also wish to:

13. Host alternative company domains with another company: you can then switch painlessly if the first goes out of business or suffers a prolonged denial of service.

## Viruses

Computers need to be kept free of viruses and spyware by running the appropriate software regularly. The firewall settings also need to be checked periodically.

## Online Storage

You may wish to store highly confidential information (passwords, bank accounts, etc.) on password-protected directories on your PCs, but do ensure you encrypt the files first.

A better solution is to employ professional online storage facilities, which offer various levels of security. They are not expensive, and some ISPs offer limited storage free to customers. Particularly useful are services that allow customer-sensitive material to be sent directly from your web pages and stored in a secure facility for later processing.

## Legal Matters

Your company is bound by the laws and regulations of the state or country in which it is incorporated. Check that you understand the basics, and have experts to consult if and

when needed. Be especially careful of material that could offend the authorities or religious groups abroad, be considered inflammatory, or supportive of outlawed or terrorist groups — i.e. keep your social and political aspirations for another site and another name.

## Tax

You'll have to pay tax somewhere on earnings, and matters have become further complicated by the global nature of ecommerce. VAT is a nightmare, particularly in Europe. Your accountant will advise, but always keep proper records in a safe place.

## Disaster Recovery

Some hosting companies offer a disaster recovery service — usually at a steep monthly price — but the best approach is to prevent disaster striking in the first place by following mandatory routines. Nonetheless, if the unthinkable does happen, all is not necessarily lost.

## Questions

1. What information must the merchant keep safe?
2. Briefly describe the other security matters the merchant is responsible for.
3. How would you evaluate the security measures of your hosting company?

## Sources and Further Reading

1. [About Internet Security](#). About's usual good advice and listings.
2. [AntiOnline](#). Extensive information, discussion forum and live chat on Internet security.
3. [Internet Fraud Watch](#). Provides free articles, advice and bulletins on anti-fraud measures useful to merchants.
4. [Internet ScamBusters](#). Scams to watch out for: not specifically ecommerce.
5. [National Consumer League](#). Many useful tips on minimizing fraud.
6. [National Security Institute](#). Alerts, government standards and articles

(dry but authoritative).

7. SecurityFocus. Articles on all aspects of Internet security, sometimes rather technical.

8. Security Magazine. News, product reviews and free magazine (if you qualify).

9. Wilder's Security Forums. Grouped under threat and software.

10. Webhosting. More news items than articles, but with some salutary horror stories.

## Section Contents

## 5.32 CUSTOMER RELATIONSHIP MANAGEMENT

Customer Relationship Management programs manage a company's interactions with customers, clients and sales prospects. At its most basic, CRM tracks every stage in the sales process for every prospective client, but many systems also handle opportunities, territories, sales forecasts, analytics, workflow automation, quote generation, and product information. Some also employ mobile phones, social media and/or cloud-computing, the last being particularly attractive to smaller companies wanting to employ expensive software on a 'pay per use' basis.

CRM data can also help bridge the technology divides that commonly develop in big companies (e.g. between R&D and Marketing).

### Types

There are various incarnations, generally grouped by the aspects stressed.

**Sales Force Management (SFM) or Sales Force Automation (SFA)** concentrates on the sales process, enabling companies to use their sales representatives more effectively.

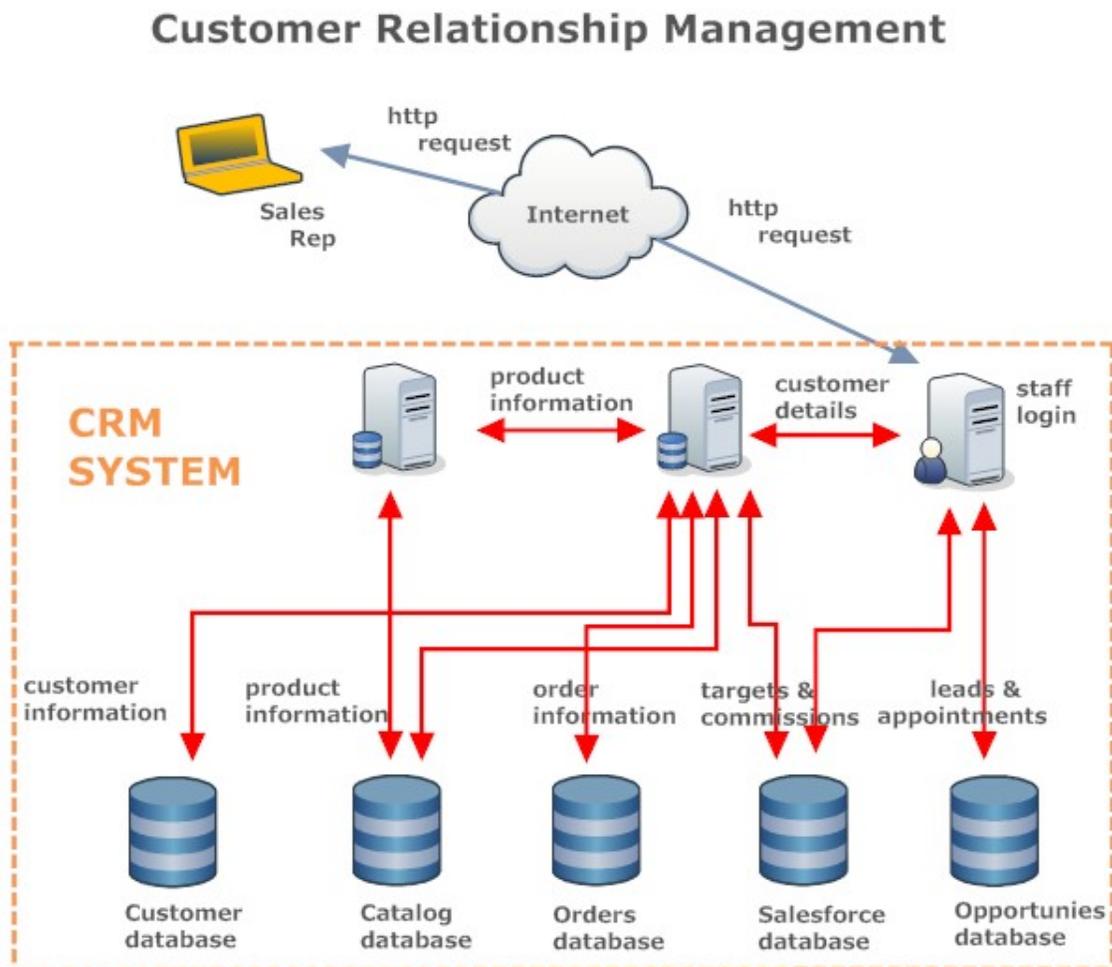
**Marketing CRM systems** focus on identifying and targeting potential clients to generate leads for the sales team. Media used include email, Internet search, social media, telephone and direct mail. Metrics include clicks, responses, leads, deals, and revenue.

**Prospect Relationship Management (PRM)** tracks customer behaviour from first contact to sale, nurturing the relationship throughout.

**Appointment CRM** helps sales, customer support, and service personnel to arrange effective meetings with customers and prospects.

**Analytics** are generally accessed by sales, marketing, and service, and often integrated with web statistics to compare on- and off-line marketing campaigns.

## Advantages



When used properly, CRM systems provide:

1. Quick access to all critical account data, including a company overview, key sales data, relevant documents, partners involved in the account, and data sharing rules.
2. Integration of data from a wide variety of sources: email address books, calendars, company data, personnel profiles, financial data, industry contacts, etc.
3. Improved management of marketing campaigns, with the important metrics displayed in customizable reports and visual presentations.
4. A more effective sales force, with data, quotes and

examples immediately to hand.

5. Better forecasts of product demand and sales revenues.

#### Problems

CRM systems have a mixed reputation. A 2003 Gartner report estimated that more than \$1 billion had been spent on software that was left unused, and a 2007 TMCnet article cited employee resistance as still the biggest problem. Many earlier models were:

1. Non-intuitive, making employees reluctant to climb the steep learning curve.
2. Inflexible: companies had to fit their practices round the software.
3. Simply automated flawed customer management practices rather than redesigned them according to best practice.
4. Over-complex.
5. Implemented in a fragmented way.
6. Liable to expose company shortcomings to their customers.
7. Lacking in an acceptable level of security
8. Binding the company to the system: if the software house failed, then so could they.

Essential to successful implementation are:

1. Strategic planning with a thought-through rationale and clear targets.
2. Acceptance by all relevant departments.
3. Staff training and continued support.

#### Questions

1. What is customer relationship management? Give examples of where it could be useful.
2. Describe a typical crm system.
3. What are the pros and cons of customer relationship management?
4. Give a short history of customer relationship management implementation in the USA.

## Sources and Further Reading

1. *Top 5 On-Demand CRM Software Comparison Chart*. CRMCompare. February 2011 Detailed comparison of 5 systems.
2. *CRM Comparison 2010. 180 Systems*. 13 system comparison in Excel format.
3. *CRM Comparison Chart*. CRMExposed. 8 detailed comparisons: dated 2009.
4. *CRM Software Comparison Table*. Concentrix. 2011. Compares 3 'best of breed' systems.
5. *Customer relationship management*. Wikipedia. Detailed article with extensive references.
6. *CRM Adoption 'Biggest Problem' in 83 Percent of Cases* by David Sims. November 2007. TMCnet. Battles faced by management in implementing CRM systems.

## Section Contents

### 5.33 SUPPLY CHAIN MANAGEMENT

Supply chain management (SCM) is the management of a network of interconnected businesses involved in the ultimate provision of product and service packages required by end customers. {1}

Other definitions explain further. 'Supply chain strategies require a total systems view of the linkages in the chain that work together efficiently to create customer satisfaction at the end point of delivery to the consumer. As a consequence costs must be lowered throughout the chain by driving out unnecessary costs and focusing attention on adding value. Throughput efficiency must be increased, bottlenecks removed and performance measurement must focus on total systems efficiency and equitable reward distribution to those in the supply chain adding value. The supply chain system must be responsive to customer requirements.' {2}

'Supply chain management is the systemic, strategic coordination of the traditional business functions and the tactics across these business functions within a particular company and across businesses within the supply chain, for the purposes of improving the long-term performance of the individual companies and the supply chain as a whole.' {3}

Supply chain management software (SCMS) is a business term which refers to an integrated range of software tools or modules used in executing supply chain transactions, managing supplier relationships and controlling associated business processes. Such systems, which commonly allow forecasting and include report and chart creation tools, cover five areas:

1. Customer requirement processing.
2. Purchase order processing.
3. Inventory management.
4. Goods receipt and warehouse management.
5. Procurement.

## Classification

Supply chain management embraces Industrial Consortia, Digital Exchanges and Private Industrial Networks. E-Procurement lacks the two-way interconnectedness of information.

Unsegregated	Supply Chain Management			
Vertical or Horizontal Market	Vertical		Horizontal	
Owned By	Several Companies	3 <sup>rd</sup> Party Independent Operator	One Controlling Company	3 <sup>rd</sup> Party Independent Operator
Size	Varies	Small	Large	Small
Grouping	Industrial Consortium	Digital Exchange	Private Industrial Network	E-Procurement

## Areas of Use

SCM is commonly used today in:

1. Customer Services, where it integrates with CRM systems.
2. Procurement, by closer cooperation with suppliers that benefits all parties.
3. Product Development, identifying customer requirements and shortening time to market.
4. Manufacturing Flow, avoiding bottlenecks and increasing flexibility to changing market conditions.
5. Distribution Networks, improving links between manufacturers, wholesalers and retailers.
6. Outsourcing to specialist partners, with strategic decisions taken at central level but logistics handled locally.
7. Performance Measurement, where costs, customer service, productivity, assets and quality control can all be readily monitored and improved.
8. Warehousing, reducing inventories, labour costs and delivery times.



Material Control, etc. In a second stage of development, these systems were integrated under one plan, and this last plan was then vertically integrated with upstream suppliers and downstream customers.

This model was developed further, first by being expanded over national boundaries (globalized), then specialized as companies focused on 'core competencies' and built networks of 'best-in-class partners' that were themselves responsive to market changes in suppliers and customers. Finally, (Web 2.0) companies diversified, using the Internet to increase creativity, information sharing, and collaboration among partners and others.

### Problems

Earlier implementations were unrealistic, not sufficiently aware that manufacturers have customer preferences, delivery times can be negotiable, and that supply interruptions are sometimes beyond the control of all parties. Improvements have come with better exchange of information, more diverse supply lines and disaster planning.

### Advantages

A realistic and properly implemented SCM system offers many benefits:

1. Better management of all the factors contributing to the purchase and production cycles.
2. Reductions in human error.
3. Greater productivity.
4. Lower costs
5. Reduced inventories.
6. Shorter planning times.
7. Better communication between departments.
8. More reliable forecasting.

### Questions

1. Explain how supply chain management systems work.
2. Outline supply chain management systems' eight areas of application.
3. How did supply chain management systems evolve: give a short history of the US development.
4. What the advantages and disadvantages of supply chain management systems?

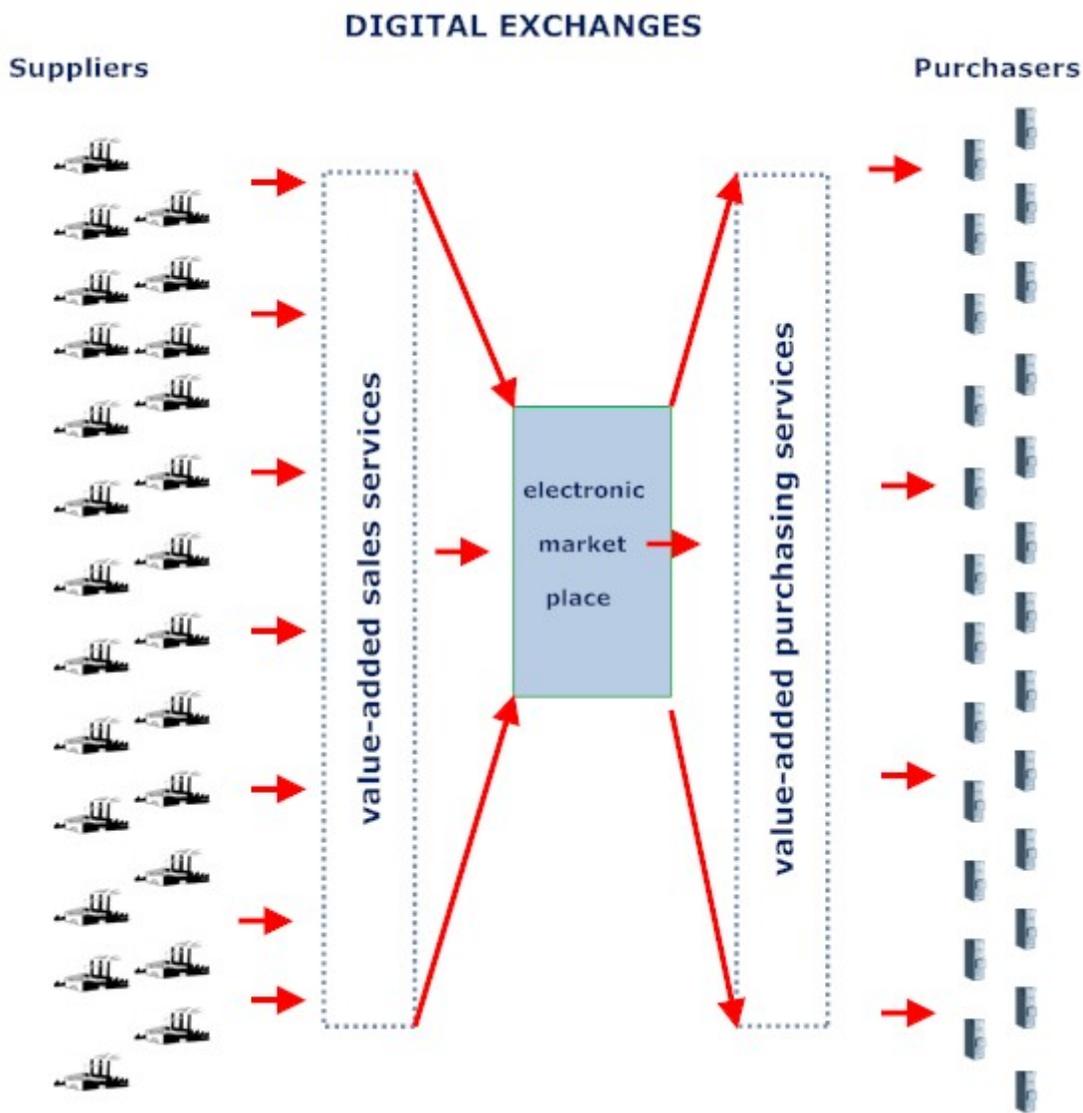
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#### Section Contents

## 5.34 DIGITAL EXCHANGES

Digital exchanges are independently-owned marketplaces that allow multiple suppliers and purchasers to trade in real time. Most operate in vertical markets, and earn commissions on transactions. They are particularly employed for spot-purchasing by large companies in the IT, food and industrial equipment sectors.



Many exchanges were launched in the dotcom boom, probably some 1,500, but failed because the larger purchasers preferred to deal with a selected list of suppliers through private industrial networks. Digital exchanges may stabilize at some 200 odd. {1}

Example: Intercontinental Exchange

IntercontinentalExchange, Inc., (ICE) is an American financial company that operates Internet-based marketplaces which trade a wide range of products — futures, over-the-counter energy and commodity contracts, derivative financial products, energy products (crude and refined oil, natural gas, power, and emissions), and soft commodities (sugar, cotton and coffee), foreign exchange and equity index futures. ICE is headquartered in Atlanta, but also has offices in Calgary, Chicago, Houston, London, New York and Singapore. The company joined forces with Nasdaq in 2011 to bid against Deutsche Borse after the latter announced a \$9.5 billion deal to merge with NYSE Euronext, but the bids were withdrawn after encountering antitrust regulations.

ICE is organized into three business lines:

1. ICE Markets: futures, options, and over the counter markets. Energy futures are traded via ICE Futures Europe. Soft commodity futures/options are handled by ICE Futures US
2. ICE Services: electronic trade confirmations and education.
3. ICE Data: electronic delivery of market data, including real-time trades, historical prices and daily indices.

#### Advantages

The benefits of digital exchange depend on the industry concerned, but Active International, for example, which trades excess inventory or assets, emphasizes these advantages. A company can:

1. Realize much better returns on excess inventory or other assets than traditional liquidators can offer.
2. Decrease cash outlay by using excess inventory, real estate holdings or capital equipment in lieu of cash to acquire the goods and services a business requires to thrive: desirable ad space, retail marketing, freight, warehousing, event space, hotel rooms, etc.
3. Extend the reach and power of their marketing plans without spending additional cash.

4. Improve and sustain growth by making assets work harder for them.
5. Increase product distribution and discover new channels that can be leveraged around the globe.

#### Questions

1. Distinguish between eprocurement, digital exchanges, industrial consortia and private industrial networks.
2. Under what keywords would you undertake a search for eprocurement systems on the Internet?
3. Explain how digital exchanges work. What are their advantages?

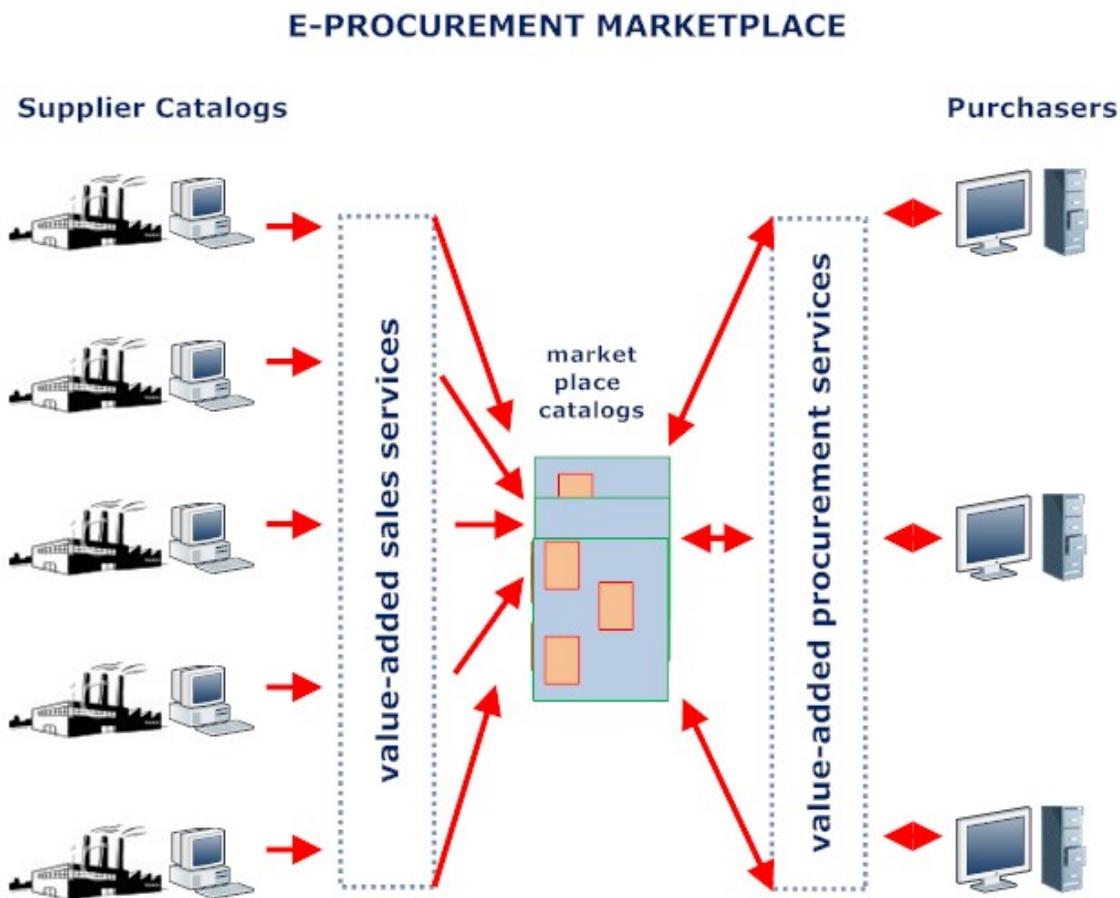
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#### Section Contents

## 5.35 EPROCUREMENT

eProcurement is the digital-enabled purchase and sale of supplies, commonly business-to-business or business-to-government, but occasionally business-to-customer.



Third party software enables companies and their business facilities to communicate directly with suppliers, and effectively manage all interactions between them. Such interactions include correspondence, bids, questions and answers, previous pricing, multiple emails sent to multiple participants, and customized catalogues where purchases will encompass handling, shipping and insurance charges, and financial data can be imported directly into company financial systems.

eProcurement helps companies focus on of their key suppliers, and maintain an open line of communication before, during and after procurement. Information in digital form allows for ready comparisons on price and reliability,

eliminates unnecessary paperwork, and promotes a better understanding of buyer and supplier requirements.

### Types of Net Marketplace

It is usual to distinguish direct good (goods used in the manufacturing process) from indirect goods (goods simply used to support manufacturing). Contractual purchasing (where goods are purchased over a long period by contract between the parties) also needs to be distinguished from spot purchasing (one-off, made as needed, with no relationship necessarily between the parties). With those distinctions in place, net markets can be characterized as edistributers, independent exchanges, eprocurement and industry consortia. {8}

Purchase/Input Type	Direct Inputs	Indirect Inputs
Spot Purchasing	Independent Exchanges	eDistributors
Contractual Purchasing	Industry Consortia	eProcurement
Type of Market	Vertical Markets	Horizontal Markets

### eProcurement Types

Seven main types of eprocurement can be distinguished: {1}

1. Web-based ERP (Enterprise Resource Planning): creating and approving purchasing requisitions, placing purchase orders and receiving goods and services.
2. eMRO (Maintenance, Repair and Overhaul): as ERP except that the goods and services are nonproduct-related MRO supplies.
3. eSourcing: identifying new suppliers for a specific category of purchasing requirements.
4. eTendering: sending requests for information and prices to suppliers and receiving their responses.
5. eReverse auctioning: buying and services from a number of known or unknown suppliers.
6. eInforming: gathering and distributing purchasing

information between internal and external parties.

7. eMarketsites: integrates buyers and suppliers with their associated order and financial systems: opens up value chains.

#### Advantages

1. Realtime intelligence of the customer needs.
2. Purchases can be tracked and made to comply with company guidelines.
3. Overview of current suppliers and options becomes available.

#### Questions

1. Distinguish between eprocurement, digital exchanges, industrial consortia and private industrial networks.
2. Under what keywords would you undertake a search for eprocurement systems on the Internet?
3. Name and briefly describe the seven types of eprocurement systems
4. Explain how eprocurement systems work. What are their advantages?

#### Sources and Further Reading

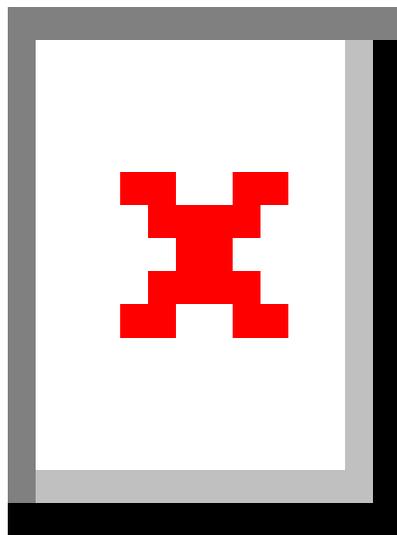
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2. *e-Procurement*. UK Government. Resource for authorities wishing to adopt eprocurement.
3. *eProcurement*. Government of California. Portal for the various California State contracts register.
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5. *eProcurement System*. Government of Madhya Pradesh. Indian example: slow site.
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## Section Contents

## 5.36 INDUSTRIAL CONSORTIA

An industry consortium is an industry-owned vertical market that enables buyers to purchase direct inputs (both goods and services) from a limited number of invited participants. {1}



Industrial consortia aim to:

1. Develop stable relationships within the industry.
2. Establish long-term contractual purchasing.
3. Create industry-wide standards through common data definitions, network standards and computing platforms.
4. Synchronize developments between interested parties.
5. Unify all supply chains within the industry, across tiers of companies and their divisions.

6. Regulate themselves, returning profits to the industry as a whole. {1}.

Most Fortune 500 and other large companies belong to industrial consortia, sometimes to several.

The consortia recoup investment and operating expenses by:

1. Charging subscription and transaction fees.
2. Forging closer ties between companies.
3. More efficient procurement.
4. More transparent competition between vendors.

### History

Industrial consortia appeared around the turn of the century as a response to independently-owned exchanges, which were viewed by established companies as interlopers, returning profits to the exchanges and their investors rather than to the industry itself. Being reluctant to join the exchanges, the large players in the chemical and automotive industries create a liquidity gap, making them even less useful to the industries concerned. Value added services required the link up of existing ERP systems, which large companies were again reluctant to allow when the benefit would go to exchanges, both as increased profits and IT know-how. Rather than leave such vital matters in the hands of third parties, the large companies took over the design, management and regulation of the networks themselves, 'paying to own' rather than 'paying to play'. The independent exchanges dwindled, and industry supply-and-purchase systems consolidated around some 60 industrial consortia. {1}

### Operation

Consortia offer many facilities to improve profitability within the industry, including:

1. Participants selected for their efficiency and reliability.
2. Well-honed procurement processes.
3. A wide range of pricing mechanisms: auctions, fixed prices and RFQs (request for quotation).

Industrial Consortia	Industry
Exostar	Aerospace
SupplyOn	Automotive, Aerospace and Manufacturing
Elemica	Chemical
Dairy.Com	Dairy Products
Global Healthcare Exchange	Medical Services and Supplies
Quadrem	Metals, Minerals and Mining
OceanConnect	Risk Risk Management for Ship Owners, Traders, Refiners, and Financial Institutions
TheSeam	Food and Beverage
Transplace	Freight and Carrier Services

## Examples of Industrial Consortia

### Consortia Size

#### **Exostar**

Exostar's founding partners included BAE Systems, Rolls Royce, Boeing, Lockheed Martin and Raytheon. Its aerospace consortium currently includes Supply Pass (connecting buyers and suppliers via the Internet), SourcePass (providing a dynamic bidding environment) and ProcurePass (a procurement service). {6} In July 2010, Exostar was fulfilling the needs of over 70,000 companies in 95 countries with transactions totalling \$35 billion annually. {7}

#### **Quadrem**

Quadrem serves the mining, minerals and metals industries, and began in May 2000 with 14 founding members. In July 2011, this industrial consortium (termed a transaction delivery network) was connecting more than 80,000 suppliers and 1,500 buyers and handling more than \$20 billion worth of orders annually. {8}

### Questions

1. Distinguish between eprocurement, digital exchanges, industrial consortia and private industrial networks.
2. What are the aims of industrial consortia?
3. How did industrial consortia develop in America?.
4. Describe some US industrial consortia, with financial data as available.

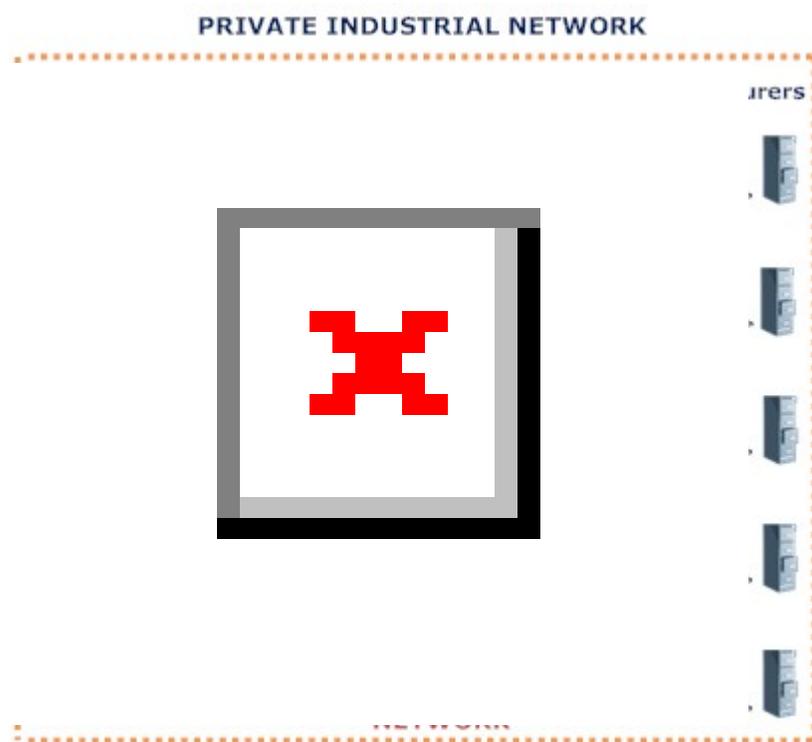
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7. *Exostar Reaches Corporate Milestone*. Exostar. July 2010.
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## Section Contents

## 5.37 PRIVATE INDUSTRIAL NETWORKS

As the name suggests, Private industrial networks are web-enabled networks that coordinate transactions between specific companies — in all aspects and all divisions: suppliers, distributors, retail, procurement, delivery and so on. Such systems are also called collaborative, as they facilitate efficiencies throughout the network. Many large companies (Wal-mart, Coca-Cola, Nike, Hewlett-Packard, IBM, Microsoft, Cisco Systems, Dell and General Electric) operate private industrial networks, which indeed form the largest part of B2B ecommerce today.



Specific objectives include:

1. More efficient buying and selling throughout an industry.
2. Resource planning on an enterprise- and industry-wide scale.
3. Increased supply chain visibility to all interested parties, i.e. inventory levels of buyers and suppliers can be monitored and kept to efficient levels.
4. Closer relationships between buyers and suppliers, improving demand forecasting, communications and conflict

resolution.

5. Transglobal operations.

6. Risk reduction, with financial derivatives, insurance and a futures market employed to prevent supply and demand imbalances. Unlike industrial consortia, which are collectively owned by several major companies, private industrial networks generally have a single, sponsoring company that sets and enforces the rules, only inviting other companies to participate as needed.

Examples

### **Ace Hardware**

Ace Hardware, a cooperative of 5,100 retail stores employs a private industrial network to manage inventory levels and liaise with suppliers. Previously, some 30 procurement managers were employed and some 7-10 days were required to process an order. These have been replaced with 14 Ace distribution centres and 9 key suppliers. And whereas suppliers previously had no access to Ace inventory levels, they can now forecast demand with some accuracy. Manco, one supplier of 200 products, has been able to reduce distribution costs by 28% and freight costs by 18%. {2} {3} {4}

### **Wal-mart**

Wal-mart operates the largest supply chain in the world, which it has aggressively developed from EDI-based collaborative system of the late 1980s. A Retail Link was introduced in 1991, which connected large suppliers to Wal-mart's own inventory management system, requiring them to track sales by store, replenishing items by rules of Wal-mart's devising. In 1997, Wal-mart moved Retail Link to an extranet, and then upgraded the system to a more collaborative forecasting, planning and replenishment system. In 2002, Wal-mart switched to an Internet-based private network, adapting an AS2 package from iSoft for the purpose. Wal-mart's rapid growth required extension of its financial services system, and it hired SAP to build a global system. As a result, Wal-mart

continued to grow during the the 2009 recession, while competitors suffered 10-20% declines in revenues. Such successes have spurred competitors to also build private industrial networks: e.g. Agentrics and J.C. Penney. {5} {6} {7}

## **Chrysler**

Chrysler's Supply Partner Information Network (SPIN) allows suppliers worldwide to access both Chryslers real-time procurement, inventory and demand forecasting systems, and its long-term strategy considerations. Within SPIN, Chrysler's Part Quality Supply System tracks all production parts from supplier to shipper, factory installation and after-sales replacement. Chysler estimate the system has improved productivity by 20%. {8} {9} {10}

## Collaborative Commerce

Private Industrial networks are more than efficient supply chain systems, but can coordinate efforts in product design and engineering. CPFR (collaborative resource planning and replenishment) can help, throughout the network, to forecast demand, develop production plans, coordinate stocking, warehousing and shipping to ensure retail inventories are kept at optimal levels. By keeping everyone in the loop — company, suppliers and customers — such systems can exercise quality and quantity control, ensuring that products meet their manufacturer's claims, and that customer suggestions and needs are fed back to production.

## Fair Competition

Information sharing between competitors in the fields of airline reservation, railroad terminal facilities and film distribution has generated a large body of case law and scholarship that determines when such collaboration becomes illegal. Much is tolerated, in fact, until competition is harmed and customers face higher prices and/or reduced selection. There are many academic papers on the subject of antitrust legislation in

business-to-business marketplaces, and the US Federal Trade Commission continually monitors behaviour for collusion, monopsony power and exclusionary behaviour.

#### Questions

1. Distinguish between eprocurement, digital exchanges, industrial consortia and private industrial networks.
2. Under what keywords would you undertake a search for private industrial networks on the Internet?
3. Explain how private industrial networks work. What are their advantages?
4. Provide three examples of their commercial use.
5. What legal challenges could private industrial networks face?

#### Sources and Further Reading

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4. *Ace Hardware Starts A Voice Recognition Trial for Finding Products* by Evan Schuman. StoreFrontBackTalk. August 2009.
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6. *How Wal-Mart Works* by Caroline Wilbert. HowStuffWorks. 2007.
7. *How Wal-Mart Lost Its Technology Edge* by Thomas Wailgum. CIO. October 2007.
8. Laudon and Traver: 12-40.
9. *Supply Chain Integration in the Automotive Industry* by L Cassivi, L.A. Lefebvre and G. Le Hen. 8<sup>th</sup> International Conference on Management of Technology. February 2000.
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#### Section Contents

## **6. MARKETING THE BUSINESS**

### **Identifying the Customer**

Keyword Research

Market Segment

Customer Tracking

Metrics

### **Campaigns**

Marketing Campaigns

Marketing with Social Media

Marketing with Mobile Platforms

Selling through Affiliates

Press Releases

Copy Writing

Pay per Click Marketing

Search Engine Optimization

Improving the Business

Even the best goods and services will remain unknown if not appropriately marketed, to the right market sector at the right price. Offline methods, not listed here, are also important, particularly before a site becomes well known. Think newspapers, specialist magazines, yellow pages, local business centres and the like.

Book Contents

## 6.1 KEYWORD RESEARCH

Keyword programs form an indispensable part of Internet business planning. For any particular keyword or phrase, keyword search programs return:

1. An estimate of the number of Internet searches made monthly by the leading search engines with that keyword, as an exact phrase or broadly corresponding,
2. Number of competing pages/sites with that keyword in the page text or page heading,
3. Cost per click-through for the keyword on the pay-per-click search engines,
4. Various combinations of items 1-3, and often
5. An analysis of prominent competitor sites.

Keyword programs are used to:

1. Obtain a good ranking in the search engines (seo: search engine optimization),
2. Find a marketing niche (niche miners),
3. Select the optimal keywords for pay-per-click advertising (ppc advertisers) and
4. Design sites to earn money by carrying Google adverts (AdSense publishers).

There are many free services, which an Internet search will locate.

Product	Niche Miners	SEO	PPC Advertisers	AdSense Publishers	Useability
Wordtracker	8	10	6	4	6
Adword Equalizer	7	4	8	6	10
Ad Word Analyzer	7	4	6	6	8
Keyword Locator	9	6	10	8	10
Rapid Keywords	6	6	8	6	6
Keyword Discovery	10	10	8	6	8
Web CEO	8	10	8	6	9
Adword Accelerator	8	2	6	6	10
Market Samuri	9	6	8	8	10
NicheBot	9	7	5	2	7

Most companies employ commercial services and/or software, of which a small selection is listed above:

Many of these programs provide free trials and/or videos explaining how to get the best from them.

#### Questions

1. What do keyword research programs measure?
2. Why is that information important?
3. What would you do if keyword research showed no opportunities in your market sector as a. a large company with an established brand name and b. a small company just starting up?

#### Sources and Further Reading

Keyword research is discussed on marketing strategy sites, abundantly distributed on the Internet. A few of the many:

1. *Bruce Clay*. Internet business consultants with excellent advice on optimization, marketing and Internet strategy.
2. *Google AdWords Handbook: 21 Ways to Maximize Results*. 153 pp. ebook by Andrew Goodman.
3. *Keyword Marketing Superstar*. Brief articles and useful reviews of software under nine headings, including ppc management.
4. *PayPerClickSearchEngines*. A guide to the top ten pay-per-click search engines: includes brief reviews.
5. *Search Engine Watch*. Abundant information, much free. Otherwise by paid membership.
6. *Web Search*. Very full articles, tips and resources on all aspects of website promotion.
7. *Marketing Sherpa*. Good range of ebooks on most aspects of ecommerce.
8. *Compare Your Clicks*. Free online program that compares keyword prices in 7 ppc search engines.

#### Section Contents

## 6.2 MARKET SEGMENT

It's a commonly-observed rule that 80% of sales come from 20% of customers. But how do companies find and focus on that lucrative 20%?

The usual recommendations are:

1. Listen in to Sales telephone conversations and note customer responses/questions.
2. Visit Internet discussion forums.
3. Set up a product advisory council of existing customers, on- or off-line.
4. Include detailed (but not intrusive) questionnaires in newsletter etc. sign-ups.
5. Make sales copy more focused, experiment and monitor results carefully.
6. Employ traffic analysis software.
7. Use funnel analysis.
8. Identify market segments by code snippets added to selected pages, and then guide those segments through web pages specially written to appeal and/or close the sale.

### Surveys

Recommendations 1, 2, 3 and 5 are straightforward. For recommendation 4, companies can analyze customers' requirements more closely with online surveys: consider using SurveyMonkey, Zoomerang, Survey Gizmo and/or Key Survey. Smaller companies often use a 'squeeze page' where a free report, newsletter or coupon is provided in exchange for an email address and answers to a brief questionnaire.

Companies employing social media will want to identify who and what is influencing your consumers' choice, whether these influencers are bloggers, forum leaders, or just conversationalists with lots of friends on the social networks.

## Market Sales Copy More Focused

What works, works. Each market is slightly different, and companies have to demonstrate their credentials by using a language that conveys honesty and knowledge. Testing is essential. Companies need to see what others are doing, make an educated attempt to go one better, and then test, test, test, monitoring carefully. Often they analyze with the “5W1H” formula:

**Who** are we advertising to?

**What** does our product do for them?

**Why** is it superior to alternative products?

**How** can we prove our case?

**Where** should we advertise to reach prime prospects?

**When** is the best time to reach them?

## **Dotcom Copy Types**

Several years ago, Creativity Works (now another company) identified eight types of Internet shopper, and the grouping is still useful:

1. Dotcom colonists: mostly male with a wide age range and low household income: ecommerce cautious.
2. Progressers: generally young male using Internet for personal and career interests.
3. New.commers: new to the web and expect everything to be free.
4. Mouse Masters: male, median age under 30, been on Internet for 3+ years, technically-minded.
5. Party Animals: median age under 35, sociable but low disposable incomes.
6. Career surfers: organized, limit Internet time to essentials, stick to information.
7. Nice'n'Eazees: older users, savvy but comfortable with purchasing online.
8. Scouts: share information, want the clear facts, dislike jargon.

Web traffic and funnel analysis (suggestions 6 and 7) are described under customer tracking.

### Undertake Segment Analysis

It will be wise, if sufficient information is available, to undertake proper segment analysis, both in the planning and 'improving the business' stages.

### Capturing the Customer

There are three steps:

1. Identify market segments by code snippets added to selected pages
2. Guide those segments through specially written-web pages, and
3. Design the appropriate website

### **Identifying Market Segments**

Traffic analysis programs (Google Analytics and commercial services) allow companies to define customer segments and track their progress through a site. Typical customer segments might be those which 1. have made several purchases in the last year, 2. made a single purchase, 3. get to the shopping cart but don't purchase, 4. subscribe to the newsletter, 5. come from north America during evening hours, etc. User-defined visitor types are created by the program, which generates the required code. This code is added to web pages, a cookie given to visitors, and the visitor tracked by such cookies thereafter. The traffic analysis 'dashboard' presents the results, usually in graph form to the detail required.

### **Page Navigation**

Companies cannot forcibly drive visitors through their sites, but they can (and do) design their pages to attract the desired behaviour. If funnel analysis has shown, for example, that guarantees and returns policies are vital elements in customer

confidence, then these will be stressed in the preferred path to the shopping cart.

### **Appropriate Website**

Just as retail outlets, ebusiness sites have to meet customer expectations, and adopt common appearances. Consider what the language (words, sentence structure, tone), the color scheme and what the graphics suggest in these different cases.

### **Pharmacy**

Drugstore.Com. Clean but friendly interface: professional attitude supported by detailed health guide.

Pharmacy.Org. Basic listings, not attractive, not selling anything: academic but well-ranked and useful.

PHRA. American professional association: note impersonal image fostered by graphics and quiet writing.

### **Health Foods**

Green People. Purely functional listing: supplying information but not predisposing surfer to buy anything.

Nutra Ingredients. Cool, professional and concise: scientist's language on dietary supplements.

Solid Gold Health. Flagship site for pet food products: friendly style emphasizing community commitments and integrity.

Sun Organic Farm. Attractive logo, clean layout and "honest to goodness" pictures: small, friendly business.

Vegetarian Restaurants. Listing of US and Canadian restaurants: 35,000 visitors/month. Not selling: supported by Google ads and contributions.

### **Financial Advice**

Forbes. Big business America: snappy journalism but still with sponsored links: 'everything has to pay its way'.

4 Money Extra. Essentially a linked series of billboards offering services: positive attitudes: 'always helpful'.

Saga. Tour company offering no-nonsense services to the relatively prosperous: testimonials but no hard sell.

### **Home-Based Business**

Alberta Rose. Portal site packed with box ads: 'something for everyone, just take your pick'.

Kleeneze. Door-to-door selling updated: note company turnover but little salesman figures.

Scam Busters. Upfront advice in friendly format: income from Google ads and affiliate schemes.

Wire Sculpture. Hard sells courses and materials, but poses as a friendly amateur site.

Work From Home. Part of the successful SiteSell hosting service. Plain format but persuasive statistics.

### **Computer Hardware Sales**

CNet Reviews. Respected, in-depth reviews with customer ratings: works (probably) on a commission basis.

Dev Hardware. In depth articles almost overwhelmed by banner ads and promotions.

Geeks. Functional: extensive listings of computer hardware: selling point is range on offer, not expertise or advice.

Hardware Central. Plain techie format and no-nonsense price compare facility: in fact selective but friendly.

Tom's Hardware Guide. Friendly techie's site supported by advertising.

### **Lifestyles**

Atlanta Homes and Lifestyles. Advertising glossy magazine: elegant format and quality graphics.

Lifestyles. For swingers and lifestyle couples: hot graphics and crowded text.

New LifeStyles. Catering for senior citizens: note the font colors and soft-focus graphics.

Pioneer Thinking. Home and family: crafts, cooking, dollar savers: uncrowded, friendly copy with homely graphics.

### **Hotels**

Gold Coast Directory. Banner graphic to set mood and then extensive listings: some very stylish.

London Hotels. Compact search and booking site, with format

carried through to (modest) hotels featured.

RedRoof. Standard format: adequate graphics, excellent location maps: crisp, detailed and businesslike copy.

Star Hotels. Minimalist format but with more information only a click away: up-market business travelers.

World Hotels. Handsome color scheme, dynamic graphics, understated elegance: top end of the market.

### **Holiday Cottages**

Chez Nous. Blue-gray color scheme and shots of swimming pools etc. create a Mediterranean air.

Cottages Direct. Directory with online booking: modest and helpful copy: thumbnail graphics.

Dales Holiday Cottages. Directory: fresh color scheme and bold, clean text suggest similar accommodation.

National Trust Holiday Cottages. UK's leading heritage association: site has 'restrained quality' feel.

UK Evergreen. Rural impression created with gray-green color scheme, local photos and unassuming copy.

### **Corporations**

General Motors. Flagship site: clean and lean: limited copy, hard-edge graphics.

GlaxoSmithKline. Human angle stressed with graphics, mission statements and friendly display font colors.

Philips Electronics. Minimalist site: gray-blue colors, much white space and mix of photos and hand-drawn graphics.

RioTinto Plc. An extended Annual Report, dense with factual information but little personality.

Walmart. Cheap, brash and simple: 'what you see is what you get'.

Allegiance to market sector comes first, a niche then being carved by selective appeal to customer groupings. Health food companies are miles away from sites aimed at computer geeks, for example, and even the last vary widely: the personal recommendation site, the enthusiast, for the busy professional, the corporate buyer. Each is 'professional-looking' in its own fashion, therefore, and 'good design' is not

aesthetics. What matters is the image conveyed, and that can only be appraised by extended analysis and comparison of competitor sites — most of whom will have conducted the very same exercise.

#### Questions

1. What is market segment, and how may it be found by Internet-based businesses?
2. Explain, with three examples, how you would modify your ad copy to target a market segment.
3. What the two major ways of targeting a market sector with the company website?
4. Take three common market sectors and find two new website examples. In your opinion, in what ways do they succeed and/or fail?

#### Sources and Further Reading

1. *Web Analytics: An Hour a Day* by Avinash Kaushik. Sybex. June 2007
2. *Sams Teach Yourself Google Analytics in 10 Minutes* by Michael Miller. Sams. June 2010.
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#### Section Contents

## 6.3 CUSTOMER TRACKING

Most hosting companies supply traffic statistics: daily or monthly figures for pages viewed, average time spent on the site, pages entered by or left, sites and search engines generating the visitor traffic. All repay careful scrutiny, but companies generally need more information if they are to read the minds and motivations of their customers, which in turn indicates which pages need to be extended or improved.

The largest companies employ their own proprietary programs, but others use services provide by third parties. A snippet of code is added to all pages in the site, and this code sends the third party server the necessary statistics: page come from, page gone to, and how long the page in question was viewed. The more sophisticated programs aggregate the information in helpful measures (conversion rates, ROI, etc.) and provide sales staff with vital metrics.

Introduction: Test Splitting

Small differences in copy or page layout can make huge differences to sales. Companies generally follow the advertising industry and continually experiment, monitoring the results carefully. Needless to say, the site has to work flawlessly, with all questions and customer options anticipated and funnelled towards the checkout page. The shorter the selling route, the better is the conversion rate generally.

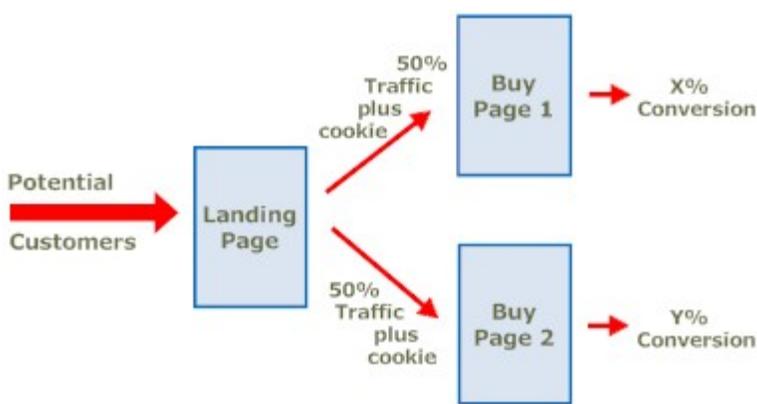
Ad copy in generally tested in two places:

1. The *search engine ad*, the more so as click through-rates here will markedly affect what is paid for each click.
2. The *landing page*, which directly affects the cost of acquiring a customer.

Several search engines do not generally interfere with the first option, directing different ads to different landing pages. For the second, companies need to split-test. The principle is simple. A visitor coming to a site is given a cookie, and

directed to one of two test pages. The two pages are similar, but have differences whose effect the company wishes to measure — different sales copy, prices, or perhaps free gifts. By monitoring subsequent behaviour, marketers can tell which gives the better result.

Won't customers be confused if they come back later and are taken to the other test page? Yes, but they're not. The software allocates each visitor to one of two equal streams, and the cookie ensures that later visitors go back to the same test page as before. The picture might be this:



If y% is more than x%, then Buypage2 is the more successful. But how do you create the pages and get them to work?

Various programs are available, but the approaches are much the same. The landing page has some embedded code to give the visitor a cookie, and to send them to testpage1 or testpage2. These and the buypages also have embedded code, which counts the number of times they are visited, and stores this information in a database. Commonly the language used is PHP, which links up neatly with the MySQL databases supplied by Unix-based hosting companies (or possibly ASP and an Access database on a Windows-based server.)

Hosting companies will explain what's entailed, and databases are often tossed in for free these days.

### **Test Splitting Resources**

Conversion Booster is a split tester for the Windows platform, and Marketing Strategy needs php4 and a MySQL database.

## Traffic Analysis

Even the most basic web traffic programs (such as commonly provided by web hosting companies) will provide some data on:

1. Visitors by country. More detailed analytics will show a breakdown to city, together with the total number of visits, pages per visit, average time on site, percent new visits, and bounce (only one page visited) rate.
2. Visitors by language: more detailed programs again with a breakdown as above.
3. Visitor trends over time: hour, day, week, and month.
4. Visitor loyalty: what percent returned one, two, three days ago, etc. How long they stayed and on what pages.
5. Visitors' browsers: useful to ensure the site looks its best.
6. Visitor's equipment: operating system, screen colours, resolution, flash versions installed, java support: all suggesting sophistication or wealth of visitors.
7. Visitors' network properties: ISPs they use, which hosts drive the most traffic, and at what speeds their visitors connect: useful as 6.
8. Visitors' mobile devices: becoming increasingly essential to know and build alternative sites for.

## More Advanced Metrics

Most companies require more data, and use programs that provide click density analysis and task completion rates.

### **Click Density Analysis**

Click density analysis records where on web pages visitors actually clicked. In time a pattern of clicks emerges ('heat map') which identifies points of interest and links etc. that are overlooked or not of interest to visitors.

### **Task Completion Analysis**

Task completion analysis measures the ease or otherwise by which visitors accomplish what they visited a website for, be that simply for information or to make a purchase. Visitor

behaviour has therefore to be tracked, its purpose identified, and the number of pages viewed and/or time taken to accomplish that purpose measured as site modifications are made. Sites easy to navigate become popular and more successful with sales.

### **Funnel Analysis**

Funnel analysis measures the ease or otherwise with which a visitor *step by step* accomplishes a desired task on the website. If the four-step path had these conversion rates 100% > Index Page 60% > Product List 18% > Product Pricing 29% > Purchase, the overall site conversion would be 3.1%, with a significant problem identified in the step from the Product List page to Product Pricing page. Website redesign would be indicated, possibly by incorporating prices with the product list.

### **Advanced Metrics Resources**

Currently there are three big vendors: Coremetrics, Omniture, WebTrends, and WebSideStory, and many mid-market vendors such as ClickLab, HitsLink, Index Tools, and Virtual Traffic Master. In 2006 Google released an excellent tracking tool: its free Google Analytics Traffic Moniker.

#### Interpreting the Figures

Traffic analytics programs generate vast amounts of data, whose value lies only in what they have been set to measure, and how intelligently those measurements are interpreted. Companies are therefore usually advised to continually modify pages and tracking measures so as to:

1. Analyze (ever more closely) the market segment they are selling into.
2. Construct models of their target customers.
3. Study the website behaviour of those customers with task completion and funnel analysis to identify the key selling points.
4. Track the metrics of the key selling points as they are intelligently extended and modified.

Marketing can then get a sensible handle on such questions as:

1. What are the most productive inbound traffic streams, and which sources are we missing?
2. Have we become better at allowing our customers to solve their problems via self-help on the website, or is telephone support preferable?
3. Are product white papers impacting on the bottom line?
4. What is the cost for us to earn each dollar on our website?
5. How does our website affect offline sales?

These and other answers need to be compared with industry averages, available from Hitwise, American Customer Satisfaction Index and other sources.

#### Questions

1. Why is tracking the customer's progress through a website important, and how is it accomplished?
2. What traffic information is commonly provided by hosting companies? How can it be useful?
3. Explain test splitting.
4. Name three advanced metrics, and explain what they do.
5. What sort of questions does marketing expect these metrics to answer?

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3. Click Density Analysis. [RecommendedWebTools](#). Explanation, example and recommended services.
4. *Web's Key Management Metric: Task Completion* by Gerry McGovern. May 2007. [CMSWire](#). Brief account.
5. *Funnel Analysis for Online business* by 'Paul'. April 2010. [WebAnalyticsSimplified](#). Pictorial explanation.
6. A 4 Step Multivariate Testing Process That Works by Alex Cohen. November 2011. [SearchEngineWatch](#). Simple introduction.

## Section Contents

## 6.4 MARKETING METRICS

Advertising is expensive, and marketers employ various measures —‘metrics’—to quantify the effect of their marketing spends.

### Advertising Terminology

Most terms are fairly self-explanatory:

1. *Click-through*: the process of clicking through an online advertisement to the advertiser’s destination.
2. *Click-through rate*: (CTR): the average number of click-throughs per hundred ad impressions, expressed as a percentage.
3. *Conversion rate*: the percentage of visitors who take a desired action.
4. *Cost-per-action*: (CPA): online advertising payment model in which payment is based solely on qualifying actions such as sales or registrations.
5. *Cost-per-click*: (CPC): the cost or cost-equivalent paid per click-through.
6. *Cost per thousand impressions*: (CPM)
7. *Customer acquisition cost*: the cost associated with acquiring a new customer.
8. *Hit*: request of a file (not web page, which commonly consists of several files: text, graphics, etc.) from a Web server.
9. *Hybrid model*: a combination of two or more online marketing payment models.
10. *Impression*: a single instance of an online advertisement being displayed.
11. *Page view*: request to load a single HTML page.
12. *Pay per click*: (PPC): online advertising payment model in which payment is based on qualifying click-throughs.
13. *Pay per lead*: (PPL): online advertising payment model in which payment is based based on qualifying leads.
14. *Pay per sale*: (PPS): online advertising payment model in

which payment is based based on qualifying sales.

15. *Site stickiness*: the amount of time spent at a site over a given time period.

16. *Unique visitors*: number of individuals visiting a website at least once over a fixed time frame, often a 30 day period.

17. *Web site traffic*: the number of visits and visitors a web site receives.

## Social Media

Matters become more complicated with marketing through social influence because it's not the metrics on social media platforms that are important, but the effect of employing the whole range of social media (blogs, message boards, podcasts, bookmarks, social networks, communities, wikis) and social influencers (people who have great influence on their peers by virtue of how much content they share online) to achieve the company's marketing aims. Additional terms:

1. *Social media*: technologies allowing communication between individuals and their friends: e.g. Facebook, Twitter, WordPress, Wikipedia, Flickr and YouTube
2. *Social networks*: groups of people or communities that share a common interest, perspective, or background.
3. *Social graph*: the broad collection of people, places, and interests that makes us individuals.
4. *Positional or peer influencer*: someone close to the consumer who carries personal sway with him or her.

## Questions

1. Define ten of the commonly-used marketing metrics.
2. Explain the difficulties in using marketing metrics in social media marketing. What measures are nonetheless used?

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2. *Internet Marketing Reference*. MarketingTerms. Simple but useful

dictionaries of marketing terms, plus links to others.

3. *The new advertising metrics* by Eric Picard. April 2010.

iMediaConnection. Introduction to metrics applicable to social media.

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2009.

6. *Twitter Marketing for Dummies* by Kyle Lacy. For Dummies. 2009.

7. *Facebook Marketing: An Hour A Day* by Chris Treadaway and Mari Smith. Sybex. 2010.

8. *Social Media 101: Tactics and Tips to Develop Your Business Online* by Chris Brogan. Wiley. 2010.

## Section Contents

## 6.5 MARKETING CAMPAIGNS

Internet marketing campaigns follow market research, i.e. companies first identify their market niche and segmentation and then devise cost-effective ways of reaching their preferred customers. In short, they have:

1. Found out what potential customers really want by surveys, market research, and customer tracking on their existing website(s).
2. Assessed the competition, their strengths and their marketing approaches.
3. Focused on what they can do and their competitors can't: their unique selling proposition.
4. Devised clear contingency plans to counter competitor moves against them.
5. Looked at potential new markets.
6. Constructed a timetable for traffic levels, conversion rates and sales.
7. Costed each marketing phase accurately.
8. Set up contingency plans for unexpectedly high or low sales.

### With a Website

Internet companies may sell goods and services through emails, blogs, content management systems, distance learning and other platforms. If a company website is required, that site has to:

1. Reflect the unique selling proposition, and the company's market position vis a vis the competition.
2. Have a professional appearance, inspiring trust and confidence.
3. Be designed around the selling process. Copy must draw visitors in, emphasizing value to them. Navigation should be clear and trouble-free — not merely possible to follow, but impossible to get lost in.
4. Testimonials should be placed strategically (and be

genuine).

5. Guarantees and returns policies should be clearly stated (and adhered to).

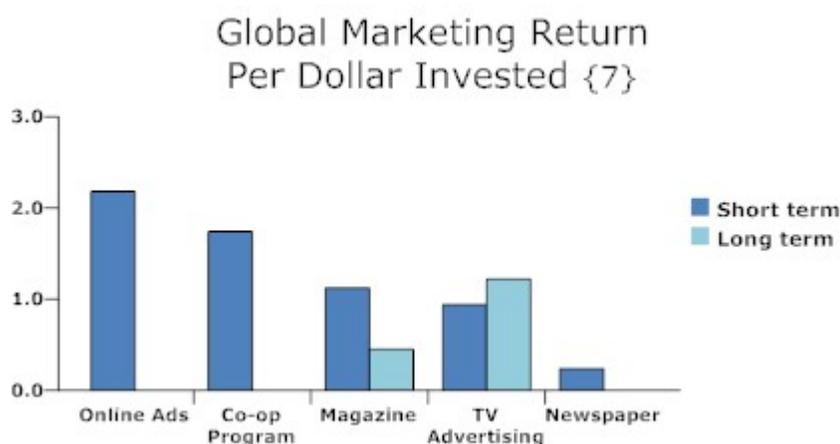
6. Email and telephone (preferably toll-free) support should feature prominently.

### Types of Internet Marketing

Internet companies market their products by some combination of:

1. Websites well-ranked by the search engines (search engine optimization).
2. Pay-per-click advertising campaign.
3. Email marketing campaign.
4. Social media (including blogs).
5. Selling through affiliates.
6. Press releases.
7. Conventional, off-line advertising.

Not all advertising is created equal. Nielson found: {7}



1. The global return (in 3 months) on all advertising media averaged \$1.09 per dollar spent, i.e. 9%.
2. Return varied with the medium employed, from \$2.18 for online ads to a paltry 24 cents for newspaper advertising.
3. An extra 30-40% return could be achieved by using each medium more effectively.
4. Over-promotion and excessive discounting had a negative

impact.

5. Market size matters: online ads are more effective in China than in the US or Europe.

### Setting Objectives

All campaigns set targets, which are commonly aim to:

1. Earn more direct revenue per ecommerce effort.
2. Reach new customers
3. Communicate better with existing customers.
4. Establish a base from which to market future products and services.
5. Connect better with people in different demographic groups.
6. Increase referral business.
7. Reposition the business or brand.

### Deciding the Metrics

Given the sheer volume of data that customer tracking programs generate, companies first decide what they will measure ('metrics) on a regular and consistent basis, and then analyze those metrics in a spreadsheet program before making visual presentations for management meetings.

### Running the Campaign

Marketing is less a technique than an education. Rooted in an understanding of how people instinctively think and feel, marketing has to find a way of accommodating whatever is being sold to a particular conception. The product or service may not be the best going, but it has to satisfy perceived requirements, creating a relationship that is both sympathetic and reassuring.

The only sure way of marketing a product is therefore to plan intelligently, follow the plan meticulously, assess results, and keep modifying the plan. Even minor changes to copy and page layout may alter visitor performance and sales, which is

a reason for continually experimenting and monitoring the appropriate metrics carefully.

#### Questions

1. What is a marketing campaign, and what are its common objectives?
2. Names six types of Internet-based marketing campaigns.
3. How can a web site be part of a marketing campaign?
4. Marketing campaigns are continually modified. Discuss.

#### Sources and Further Reading

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2. *Marketing Experiments*. Reports and monthly newsletters are now free.
3. *Idea Site for Business*. Marketing ideas for entrepreneurs and the smaller business.
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5. *Promotion World*. Hundreds of free articles on promoting websites, with reviews of services and products.
6. *Internet Marketing*. Advice, books, links and brief software reviews.
7. *Is Your Marketing Investment Delivering Expected Return?* Nielson. October 2009. Short promotional document.

#### Section Contents

## 6.6 MARKETING WITH SOCIAL MEDIA

Here we look in detail at running a marketing campaign with social media.

First, you may want to analyze your customers' requirements more closely with online surveys: consider using SurveyMonkey, Zoomerang, Survey Gizmo and/or Key Survey, perhaps rewarding participants with some gift or company token. Ideally, you'll want to identify 1. who and what is influencing your consumers' choice, 2. whether these influencers are bloggers, forum leaders, or just conversationalists with lots of friends on the social networks, and 3. turn the influencers into brand advocates by developing better relationships with them.

### Setting Objectives

Before proceeding further, you'll need to know exactly what your marketing intends to achieve:

1. More direct revenue for your ecommerce effort?
2. Trying to reach new customers?
3. Communicate better with existing customers?
4. Improve your customer engagement or image metrics?
5. Establishing a base from which to market future products and services?
6. Connecting better with people in different demographic groups?
7. Finding sets of customers you can benchmark against other customer lists (email, newsletter subscribers, show/conference attendees)?
8. Increase referral business?
9. Reposition your business or brand?

In short, you'll have to ask yourself:

1. What you want to say.
2. How will you say it.

3. Whether to use your own content or point to other content on the Internet.
4. Who will post the content.
5. What creative input is needed (logos, icons, ongoing graphic design work, custom applications) to fulfill your objectives.

### Choosing the Right Platform

Marketers rarely restrict themselves to the one social media platform — Facebook, MySpace, Twitter, YouTube, etc. — because their customers will generally be active on several. It doesn't cost much more to target several platforms, moreover, but you do need to understand your customers properly, which entails more research than is usual in marketing campaigns. You'll need to know:

1. Time spent on each social platform, what they specifically do there, and how they use it to interact with each other. Quantcast and Compete will help.
2. Who takes the decisions, particularly in B2B companies: LinkedIn may help.
3. Social platform popularity trends: increasing in influence, and in what areas?
4. What platforms are appropriate to your brand or product. A rock group would be ideal for MySpace, but not LinkedIn, for example.

### Preparing the Campaign

Whatever platform you choose, your initial goal will be research. You'll be looking in your market sector for companies using social media, to learn from their successes and failures, and pick up useful tips. You'll also be managing expectations in your own company, laying out what could be expected in terms of sales, improved customer service, more targeted advertising and media interest. All of these will need to be quantified, for your boss's presentations and your own peace of mind.

## **Appraise your staff**

You might want to start by sending a questionnaire to all involved, perhaps asking:

1. What's your impression of social media?
2. Do you use Facebook or Twitter yourself?
3. What were the best campaigns the company developed for dealing directly with customers?
4. What opportunities still exist to improve customer engagement?
5. What would constitute success in social media?

Also important, though you can't quiz them directly, will be questions like:

1. Does your boss secretly think social media is a waste of time? Can you win him/her over?
2. Is the increased workload manageable? Are staff prepared for this?
3. Does management *really* want the project to succeed?
4. What executive(s) is/are prepared to support you, or give a fair deciding vote?

## **Understand your customers**

1. Set up focus groups.
2. Talk to people you already know in your target demographics.
3. Create a survey on SurveyMonkey or similar service.

## **Establish Work Roles**

1. Who is going to do what?
2. Are the skills sets in place, or is further training needed?
3. Are these divisions supportive?
  - a. branding: logos and brand assets.
  - b. design: new or modified image assets,
  - c. product management.
4. Can you coordinate with other online campaigns, email marketing promotions, etc.?
5. Will webmasters work with other websites and Facebook?

## **Research best practices and success stories**

Keep up with events by browsing your business or industry magazines, trade shows, Facebook, Twitter, and the search engines. Exchange experiences with those in other companies grappling with the same problems. Visit some of these regularly:

1. Enterprise. Web analyst blog.
2. Mashable. News and views on social media.
3. AllFacebook. Facebook news, surveys and events.
4. InsideFacebook. Facebook and the Facebook platform for marketers and developers.
5. SocialmediaExaminer. Guide to the social media jungle.
6. Danah Boyd. Social media researcher blog, with recent articles.

## **Assess the social media activity of competitors**

Keep track of what your competitors are doing on Facebook fan pages, twitter accounts, blogs, or other social media. Quantify this. What buzz are their efforts creating?

## **Decide Metrics**

How are your marketing efforts going to be detected and measured? What does management see as most important? You/they will want a handle on Facebook updates per day, ad spend per day, number of customer interactions, cost per interaction, cost per extra fan, and return on investment.

## **Establish the Reporting Procedure**

What has to be presented, and by whom? Who should attend the meetings? You should in phase one have assessed the political makeup of your company, and you'll need to strike the right balance between reporting to everyone and getting on with the job. Monthly management meetings are often a good compromise.

## **Trial Runs**

If your marketing campaign involves considerable company resources, you may want to start by running a trial so that 1.

mistakes don't jeopardize the whole campaign, and 2. you can apply the experience gained.

## **Social Media Personality**

Authenticity is important in social media. Visitors want to engage with real people who have distinct voices and opinions, not with the 'brand voice', and certainly not the 'corporation speak' of the chairman's annual statement. In larger companies that generally means several people who represent distinct areas of work: customer support, product information, industry insights, or whatever. Each of these groups needs to be familiar with the rules, social norms, and the best practices of participating in the social web, and to keep in mind their own company guidelines for blogging and PR statements. You'll have to choose your representatives carefully, and perhaps give some training.

### Using Facebook

Facebook largely walks you through the setup process. First, you're asked for basic information: account/profile: first name, last name, email address, password, gender, and full date of birth (you may subsequently wish to edit this, and you can also set up a fake account). Next, you're asked to login, so that Facebook can search for any Facebook friends you may already have. Then comes the Profile, where you're asked for a good deal more information, particularly on schools and workplace. After that, you have two areas to concentrate on: Friends and Newsfeed, both important if your Facebook site is to look busy. Friends have the right to see information on you, and the more friends the better, obviously. The Newsfeed is a running list of the latest updates across the user's unique social graph — not only from friends but fan pages and information collected by third-party applications you have installed: status updates, photos, events, and links to other sites or articles on the Internet .

## **Your Facebook Presence**

It's probably best to start with your customers in planning your Facebook campaign:

1. Why do they interact with your company?
2. What added value do you provide them?
3. What do they get from you they can't find elsewhere?
4. Is it a product or lifestyle you promote?
5. What personas do you visualize for your customers?

In more detail, you will want to ask yourself:

1. What is most recognizable about your brand?
2. Does your brand have a spokesperson or character who 'is' what you are trying to sell? If not, can you create someone?
3. What is the goal of your project: improved sales, image, customer service?
4. What specific metrics will you use to measure success?
5. Do your executives view social media as an opportunity, a risk, or an unknown?
6. Do you have official policies for blogging, employee activity on social media, and outreach to customers?
7. What types of content do you possess that would be interesting to share with social media users?
8. Are you willing to share interesting content from third-party sources on the Web with your customers?
9. Do you have staff keen to cope with the time and skills needed for the campaign?
10. What is your backup plan, and is there an objective third-party who can help with problems?

With answers in mind you'll go on to:

1. Define your customers.
2. Determine your goals and objectives.
3. Decide your Facebook configuration options.
4. Create a compelling page.

After that, it's the usual marketing cycle of:

1. Create or find content,
2. Publish content

3. Monitor the daily metrics,
4. Analyze, revise, and
5. Plan the next campaign, but note that the cycle in social influence marketing is much less structured, with the conversations often being left to run on as participants wish.

### **Creating a Facebook Presence**

In Facebook you can use:

1. Traditional banner ads, purchased through the Microsoft adCenter.
2. Social ads, targeted by demographics and user interests.
3. Sponsored stories, which appear in the user's newsfeed, and may link to a Facebook page or external site.
4. Gift sponsorships, a facebook application that lets users buy gifts for friends and family.
5. Facebook pages, where you add blog posts, photos.
6. Twitter feeds, event information, coupons, Flash widgets, etc.
7. Facebook events, inviting guests and reporting on afterwards.
8. Facebook applications, e.g. games, quizzes, tools etc.
9. Facebook groups: though more for user to user, you can contribute.
10. Facebook connect, where you can directly link your company site pages to Facebook.

### **Creating your Advert**

Click the Facebook advertising section to view the text input box. Here you'll type in a. the destination URL, b. advert title (no more than 35 characters), and c. body text (no more than 135 characters). Click the 'Browse' button to source your logo or graphic, and then the 'Continue' button to view the stats from any earlier advert, Click the 'Create' button, and you'll be taken to the 'Targeting' page. Here you can set location, age, birthday, sex, keywords, education, workplace, relationship, interested in and languages to select the target audience: the page will show the estimated target size. If happy with the

input, click 'Continue' to see the 'Campaigns and Pricing' page. Here you'll decide whether to pay for impressions or click-throughs, set your daily budget and schedule your ad campaign. Impressions guarantees you a certain number of impressions, or placements on the screen ( \$2 CPM will give you 1,000 impressions for two dollars). In click-throughs you pay only when someone clicks on your advert. You'll need to experiment to find what's best for the advert in question.

That's it, though do remember to prepare the advert in advance, or you may be cut off with just 135 characters entered. Facebook will review your ad, either pass or reject it, usually without much explanation. If the ad is rejected, consult the Facebook guidelines, rewrite the ad and submit again.

### Using Metrics

Facebook gives you a wealth of metrics, of which these may be the most important:

Feature	Core Metrics	Derivative Metrics
Profile	No. of Friends No. of Wall posts	Total No. of Fans/Friends added/lost per day No. of Likes per day Ratio of Likes/Wall posts Ratio of Comments/Wall posts
Fan Page	No. of Fans No. of Likes No. of Comments No. of Walls posts	
Group	No. of Group members	
Applications	No. of Daily active users No. of Fans	

The 'Facebook Insights' metric (available for the fan page only) will give you: Summary of the activity on the fan page over the last week as measured by interactions, 'likes', comments, and wall posts

Post Quality: relevance of your posts over time.

Graph of interactions over time along with data on the demographics of fans who have interacted on the Fan page.

Chart of the total number of fans you've had over time, along with demographics details on your fans as a group.

The Facebook 'Interactions Over Time' metric will give you: Interactions Per Post, a measure of how engaging is your content.

Post Quality: relevance of your posts over time.

Posts: number of times you and your users have put things on your Wall.

Discussion Posts: number of posts on your Discussion tab.

Reviews number of times Facebook users have reviewed something on your fan page.

Number of times Facebook users have mentioned your fan page in a status update.

The Facebook 'All Fans over Time' metric will give you:

1. Total Fans / Unsubscribed Fans: total number of fans over time, overlaid with the total number of fans who have chosen to hide your posts in their news Feed (unsubscribers).
2. New / Removed Fans Charts: shows you how you're pleasing or annoying your fans.
3. Top Countries: helpful if you're running international campaigns.
4. Demographics: gender and age over time.
5. Page Views: trend of page views and unique visitors to your fan page over time.
6. Unsubscribes/Resubscribes: popularity trend.
7. Media Consumption: number specific content views you upload to Facebook: audio, video, and photo.

Keep a daily record, and save the figures in a some spreadsheet program like Excel for later analysis.

### **Analyzing the Data**

Typically, you or your management will be interested in:

1. Marketing reach: how many more fans/page views/interactions/new customers are created for each dollar spent.
2. Investment: each new fan costs you \$P and generates \$Q in lifetime revenue, for a lifetime return on investment of \$R.
3. Comparisons: how figures compare to advertising on Google, Yahoo! and more traditional means.
4. Geography: how the figures vary with States or country.

5. Competition: how your figures probably compare with those of competitors.

#### Using MySpace

Marketing facilities on MySpace are like those of Facebook, but more limited.

You'll want first to set up your MySpace profile, encouraging people to become friends of your brand and join a conversation. The profile can be jazzed up with video clips, photos, RSS feeds, tweets, event information, and product announcements.

You may want to use the banner ads, which come in 728 x 90, 350 x 250, and 160 x 600 pixel sizes. All are cost per click (CPC) advertisements, and can be targeted by demographics and user interests. As with Facebook, you're told how your audience narrows with each additional user interest filter. An ad builder lets you upload the advert, modify it online, and then track the campaign progress through a dashboard. More information is given on the MySpace advertising page.

If your brand has an entertaining application, you can promote it through the MySpace apps program. MySpace has strong links to the music industry, and special provision for musician sponsorship. It also enables you to use vocal adverts, either as streaming or downloads. Custom packages are available, and you can buy ringtones to sponsor.

OpenID resembles Facebook's connect service, but it is open-source. Users can log into third-party sites and, using MySpace username and password, be connected directly to your MySpace profile — i.e. you can add social media features to your company website(s).

#### Using Google Plus

When launched in July 2011, Google Plus allowed individuals to share stories with their Circles, get involved in discussions, post photos, and participate in

video conference calls (called Hangouts). Popularity grew rapidly, but it was the November 2011 update that made the platform useful to marketers by introducing business pages. Companies were enabled to create pages where visitors commented on the material — as text, uploaded photos, videos and online chat.

Google Plus has a mix of Facebook and Twitter features:

1. *Circles* are different collections of people you want to connect with and follow: friends, family and acquaintances by default, and others customized as needed. Like Twitter, these circles do not necessarily follow you back. People you don't wish to hear from can be added to a *blocked circle*.
2. *Profiles* act as 'about' page: levels of privacy apply so you can decide who sees what about you (or your product).
3. *Streams* resemble the 'wall' of Facebook: updates of people you're following with circle. Several tag types can be employed.
4. *Picasa*, one of Google's (free) cloud computing services, can be incorporated in Google Plus, allowing photos to be viewed and edited.
5. *Hangouts* are video chat sessions, for which you'll need a webcam and a microphone. In hangouts you can also start a YouTube session.
6. Huddles are text messages sent to chosen people, who'll need to have Google Plus installed on their smartphones.
7. Information is held in Google databases: a simple one called *Colossus* and a distributed storage system called *Big Table*.
8. Controls (what you do with the data) are handled by Java and Javascript, but the hangouts relies on the extensible messaging and presence protocol (XMPP), extensions to XMPP like Jingle, real-time transport protocol (RTP), session traversal utilities for NAT (STUN) and secure real-time transport protocol.
9. Business pages can be made for several entities, but profiles apply strictly to people. Pages carry votes (+1 button) and default to public view.
10. Local pages have special fields that show geographic locations.

The recommended procedure for companies joining Google Plus is:

1. Chose a host account that's readily accessible to contributors.
2. Choose the appropriate account on the create page: local business, product or brand, company or organization, arts, entertainment or

sport.

3. Fill in details of your company, website and business type.
4. Optimize your public image with logo and reasons to visit.
5. Click to promote your page.
6. Customize your page further as interest develops.

Of interest to marketers:

1. Better showing on Google search engine through information collected from your circle of friends.
2. More focused Google search results (and policing of +1 votes).
3. The +1 vote appears in search engine results, and can affect the 'quality score' and click-through rates, both important in Google Ads.
4. Sites with +1 votes get more visitors.
5. Google searchers can go directly to a company by simply adding + to that company's name.
6. Circles can differentiate between types of friends (called labels) — vital to market segmentation.

Using Twitter

Creating an account is straightforward. You may want to input your own name, then the company name, a password and an email address. In fact you can have several accounts: company, personal and a special account for conferences, etc. You'll be asked to select who to follow, and then search for friends with gmail, yahoo, hotmail and/or linkedin. That done, you'll want to write your profile and add a photo. Though you can now write your first tweet, you'll probably want to develop and follow a proper marketing plan, adopting the procedures described above under Facebook.

Google Analytics, Statcounter, Clicky, Yahoo! Web Analytics and/or Twittercounter will help you make sense of your Twitter traffic.

A hashtag lets you to tag your tweets by designating them with the pound sign (#). With that done, you can monitor what's happening on your hashtag subjects with #hashtags, Happn.in, HashTweeps, Twitterfall, Monitter and/or What the Trend (all with slightly different features).

At present, you can't buy advertising space on Twitter, and must concentrate on building relationships, as have Zappos and the Ford Motor Company. You'll want to take ownership of

your Twitter handle by signing up with your company or brand name, and then use this account to subtly feature company news, special promotions, offers, respond to questions, and/or resolve customer service issues. The key word is subtly: continual and outright promotions will be seen as spam, and your Twitter account may be terminated. The better approach is stimulate conversations, develop those conversations in a friendly, natural way, and follow everyone who follows you — at least till you sort out the more important. You can search within Twitter itself with Twitter search engine, Twollow, or use real-time engines like Tweetmeme, Twazzup and Tweetbeep. To find customers in your local area (or competitors) consider Twellow, Twitterment, Nearby Tweets and/or TwitterLocal.

Other search engines you may want to use include CrowdEye, Social Mention and TweepSearch. The HootSuite provides a host of features in the one application. Remember not just to listen in, but respond — helpfully, sympathetically, supplying detailed information as required. You're building goodwill, but also looking for the influential tweeters with large followings. Twinfluence will help you to measure that influence, and you may also want to search the Twitter directory with WeFollow.

### Using YouTube

You need first to set up a channel, which allows you to create a profile of your company and link to it through your website. Set up is straightforward, indeed automatic: a channel is created as soon as you sign up for an account and upload your video. Make sure that you customize the channel to match your company's identity. To get your marketing video actually viewed against a competition of 150,000 or more uploads every day is of course more difficult. Some suggestions:

1. Make the content match the style and format of YouTube.
2. Keep the running time to five minutes or less, and stay within the 100MB limit on file sizes.
3. Organize the video clips by themes.
4. Learn from how your clips have been tagged to use those or similar

tags again.

5. Send a YouTube email and Bulletin when viewers request one.
6. Leave complimentary responses on clips of other users.
7. Notify those who watch your videos (subscribers) of forthcoming releases.
8. Use the paid advertising services, either self-service ads or campaign-based advertising. YouTube provides the usual metrics.

### Local Social Networks

You may also wish to consider the location-based social networks like Loopt, Brightkite, Whrrl and Foursquare that use web-connected smartphones to detect a user's location and make that information available to friends and/or nearby merchants.

### Influencers

As much as possible, you'll want to enlist the help of 'influencers', particularly:

1. Those in positions of authority
2. Individuals or institutions recognized as expert
3. Media elites (journalists, commentators, and talk-show hosts)
4. Cultural elites (celebrities, artists, and musicians)
5. The socially connected (leaders of communities and business networks)

Your PR department probably maintains a list, but you will also want to actively seek them out, replying to their blog, story or tweet post. Some suggestions:

1. Ask your customers whom they seek for advice.
2. Watch the media, especially television.
3. Find whom your competitors, suppliers, and business partners generally use.
4. Attend conferences, seminars and exhibitions.
5. Evaluate the online authority of candidates with Technorati, etc.
6. Become an influencer yourself.

To reach 'referent influencers' you may want to use tools that

1. map users and how they relate to each other on social platforms, and
2. capture personality attributes, number of friends, their activity on social platforms, and what response their actions cause.

Tools include Unbound Technologies, Rapleaf and Google's Social Graph API. Other companies analyze cookie data to infer relationships: e.g. 33Across and Media6Degrees. Another approach is to set up discussion groups and bulletin boards on your own site(s), and identify the more influential voices contributing.

'Positional influencers' are more difficult to reach, but you can go a long way with promotions, family incentives and letting users share your website information with ShareThis. You can carry also your online response into offline marketing by putting customer response into brochures, stores, seminars and PR events.

## Metrics

Though social influence marketing was once regarded as unmeasurable, that attitude has changed. All marketing campaigns need targets, and the metrics needed to measure progress towards those targets are widely available.

The social media platform will generally provide you with the raw data needed, though you'll probably need to enter that data into a spreadsheet program like Excel to bring it all together, and integrate it with influences on parallel marketing campaigns to arrive at costed results your management can use. Platform metrics (see the Facebook examples above) include:

1. Traffic: impressions, unique visits and basic engagement, including page views per visit.
2. Demographics: age, gender, income, education, and location.
3. Sociographics: customers' friends, relative importance and position in customers' social graphs.
4. Social activity: customer's specific activity on your social platform.

Overall measures are still a matter of debate, with continuing discussion on the Interactive Advertising Bureau site.

Nonetheless, an overall 'score' will include:

1. Reach: the total share of consumer conversations that your brand enjoys online.
2. Sentiment: degree to which consumers like, dislike, or have no opinion of your brand.
3. Competitor comparisons: how your reach and sentiment scores measure against your competitors.
4. Market sector comparisons: how your reach and sentiment scores measure against the average market sector scores.

Third-party software and services are widely available. A small selection:

Monitoring companies: Visible Technologies, Vocus, TNS Cymfony, Nielsen BuzzMetrics and Scout Labs count the total number of conversations relating to your brand and then add a sentiment rating (positive, neutral, and negative).

Unbound Technologies and Rapter help identify your referent influencers.

Clearspring and Gigya assess positional influence by tracking how visitors download widgets and use them on their own pages.

### Analyzing the Competition

You can home in on your market sector and competitor activities with these tools:

1. Technorati: blog search engine
2. Google Blog Search: popular blog search engine
3. BlogPulse: a powerful alternative to Technorati
4. Quantcast: provides and analyzes website statistics
5. Compete: provides and analyzes website statistics
6. LinkedIn: professional and business profiles
7. Nielsen BuzzMetrics: a buzz-monitoring service for the social web
8. Twitter Search: official Twitter search engine.
9. Tweet Scan: searches Twitter and its competitor Identi.ca
10. comScore: a high-end service for analyzing website statistics
11. Lexicon: tool to estimate buzz within Facebook.
12. BoardReader: tool to view and analyze activity on discussion

boards.

You'll also find it helpful to set up a Google Alert and Twitter Alert for each of your competitors or their specific activities.

HowSociable offers a similar service.

## Resources

1. *The Social Media Marketing Blog*. Scott Mony's blog with extensive list of further websites/blogs.
2. *Social Media Marketing*. SearchEngineWatch articles on various aspects of social media marketing.
3. *Social Media Marketing*. Business Exchange articles.
4. *Top 5 Facebook Case Studies from 2010*. Free 48 pp. pdf booklet.
5. *6 Key Metrics for a Social Media Measurement Dashboard*. SearchEngineWatch article: December 2010.
6. *Hootsuite*. Social media management service.
7. *Sprout Social*. Platform to Twitter, Facebook and LinkedIn.
8. *Vitruve*. Personalizes your social media networks.
9. *Involver*. Sophisticated suite of tools.
10. *Ping.fm*. Automatically updates multiple social media accounts: free
11. *Unilyzer*. Social media analytics and presentation software.
12. *Social Oomph*. Schedule messages on Twitter and Facebook Fan pages.
13. *Nutshell Mail*. Brings all your social network into your mail box for free.
14. *Gist*. Brings all your contacts into one place: free to start.
15. *Marketo*. Monitors B2B social media conversations.
16. *KickApps*. Social networking applications.
17. *Awareness.Inc*. Social marketing toolkits.
18. *XGenSEO*. Builds links to social media sites.
19. *Buzzstream*. SEO and link building software.
20. *SeoIntelligence*. SEO tools for the marketer.
21. *99 Tools to Help You Generate Leads with Social Media*. Hubspot.

## Questions

1. How would you convince your management to use social media marketing?
2. What social media platform would you use and why?
3. How would you locate important 'influencers' and enlist their help?

4. What metrics would you use? Illustrate with three different market sectors.
5. How would you appraise the competition in selling a. investment advice, b. US holidays and c. baby products?

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2. *Twitter Marketing for Dummies* by Kyle Lacy. For Dummies. November 2009.
3. *Facebook Marketing: An Hour A Day* by Chris Treadaway and Mari Smith. Sybex. May 2010.
4. *Social Media 101: Tactics and Tips to Develop Your Business Online* by Chris Brogan. Wiley. February 2010.
5. How Google Plus Works by Jonathan Strickland. *How Stuff Works*. Undated, probably August 2011. Extended technical article, with references

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## 6.7 MOBILE MARKETING CAMPAIGNS

Mobile marketing has decided advantages over older marketing approaches: it's cost effective, targeted, scalable, personal, shareable, portable, flexible, interactive, immediate, measurable, effective, actionable, repeatable and fun.

Mobile marketing is increasingly employed by large companies. BMW achieved a 30% conversion rate on snow tires in 2008 through customized MMS messages. Starbucks' 2009 mobile loyalty campaign in Mexico experienced a 60% redemption rate on the coupons offered. A UK 'Virgin Festival' got the word out by encouraging users to download a mobile survival kit, and then sign up for text messaging when featured bands went on stage.

Mobile use seems natural: every minute, besides making and receiving calls, users are:

Accessing news and information

Following the latest celebrity gossip

Looking up addresses and finding directions

Buying products, images and ring tones

Receiving coupons and promotional discounts from their favorite stores

Playing games

Listening to music and watching movies

Responding to their favorite brand's messages

Supporting movements and political candidates

Socializing with friends and marketers

Updating friends and family with their locations and activities

Requirements

Mobile marketing is not for all companies, however. It requires:

1. Considerable resources: planning, money, and manpower.
2. Clear objectives.

3. Repeated testing, that the technical aspects function, and staff are ready to handle the response.

4. Specific design, namely:

- a. 'creative' page (enticing visitors to click through and/or sign up)
- b. landing page ( promoting a specific product, service, or application)
- c. effective targeting
- d. careful analysis of results

5. A decision whether to use on-deck or off-deck services. In on-deck web access the carrier operates through a branded portal (WAP deck) filled with content supplied through deals the carrier has made with news organizations, record labels, TV networks, etc. (Carriers earn revenue by earning a cut of, or charging for subscriptions to, premium content on their decks.)

6. Use of a mobile advertising networks that can plan, conduct and analyze an advertising program. A short list (check the services and policies, which vary considerably):

AdMob	Ad Infuse
BuzzCity	Admoda
Itsmys	Decktrade
Third Screen Media	AdWords
ZestADZ	Medio MobileNow
4 <sup>th</sup> Screen Advertising	Mojiva
AditOn	JumpTap
Amobee	GoldSpot Media
Celltick	Microsoft Mobile Advertising
Digital SIDEBAR	Utarget
	Unanimis

7. Use of a mobile phone application to help market the product/services. You can:

- a. get your company listed by the application,
- b. develop your own , or
- c. employ one of the many mobile application development companies:

Air2Web

Gateway Mobitech Research & Development

Macronimous.com

Plazmic Inc.

Endeavour

ValueLabs

724 Solutions

#### 8. Detailed tracking, certainly of:

- a. messages sent
- b. messages received
- c. links clicked (if applicable)
- d. conversion from links (if applicable)

Second-generation iPhones are equipped with GPS features. Of the tracking services available, Admob, Bango and Mobilytics are sophisticated, Omniture and Webtrends well established, and Google Analytics is free and often all you need. For tracking with a mobile device, consider ExactTarget, mobileStorm, Flurry and Pivotal Veracity. For tracking customer loyalty, consider Unica, mobileStorm and Responsys.

#### Questions

1. Draw up a marketing campaign using mobile phones.
2. Compare the services of three mobile application development companies.
3. Describe in detail the tracking services now available.

#### Sources and Further Reading

1. Mobile Design and Development: Practical Concepts and Techniques for Creating Mobile Sites and Web Apps by Brian Fling. 336 pp. O'Reilly Media. August 2009.
2. The Business of iPhone App Development: Making and Marketing Apps that Succeed by Dave Wooldridge and Michael Schneider. 408 pp. Apress. March 2010.
3. Starting an iPhone Application Business For Dummies by Aaron Nicholson, Joel Elad and Damien Stolarz. 324 pp. For Dummies. October 2009.
4. Mobile Marketing: Finding Your Customers No Matter Where They Are by Cindy Crum. Que. February 2010.

5. The Internet Retailer Survey: Mobile Commerce Retailers diving into mobile commerce are coming up with significant sales by Mark Brohan. Internet Retailer. September 2011.

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## 6.8 SELLING THROUGH AFFILIATES

Affiliation offers an excellent way of getting your products sold, in two ways, by:

1. Multiplying your selling outlets, and
2. Predisposing visitors to buy your products. Having a third party recommend you greatly increases sales.

But how do you find suitable companies, and set up the software to handle such sales?

Recall the principles. You want your products sold. Another company would be happy to sell your products on a commission basis. Affiliate solution providers bring the two parties together, charging a fee for the matchmaking, and for keeping tabs on sales.

Traffic from other sites is redirected to yours, but you only pay commission on sales made, plus a share to the affiliate solution provider. Whatever the link type employed – and it may be a banner ad, a storefront, email or a simple text link – an embedded piece of code identifies the originating site, allowing automated records to be kept for inspection and settlement. Some large and very small outfits still run their own affiliation programs, but the majority of companies have handed over the task to an affiliate solution provider.

By running your own affiliates program you can:

1. Cut out the affiliate solution provider's share of the commission.
2. Set your own commission rates, which is commonly:
  - a. a percentage commission,
  - b. a flat fee, or
  - c. a combination of flat rate and commission.
3. Set your own terms and conditions for payment:
  - a. dates when commissions are paid.
  - b. minimum to be reached before accrued commission is paid.
4. Set dates when commissions are paid.

5. Decide how many tiers of commission you will pay.
6. Better control the affiliate site content:
  - a. ban adult and antisocial material
  - b. exclude competitors.
  - c. limit participation in other affiliate programs.
7. Dictate affiliate site performance:
  - a. minimum traffic.
  - b. professional appearance, etc. of the site.

The disadvantages are equally obvious: you have to:

1. Write or purchase the software needed to create links and track sales.
2. Maintain extensive records.
3. Handle queries and difficulties originating at the affiliate site.

### Finding the Software

Affiliate solution providers will generally provide the software required — to create links, store records of purchases, calculate commissions, allow commissions to be viewed, and to automatically send out payments. To run your own affiliates, you will either have to buy the software or rent a hosted service. A brief selection:

	Software or Hosted	Pay by click ©, lead (l) and or saletype (s)	Tracking by	Fraud Prevention Measures Employed
Affiliate Shop	Hosted	c l s	cookie	yes
AffiliateWiz	Software	c l s	cookie	-
InterNeka	Hosted	s	cookie	yes
My Affiliate	Software	c l s	cookie	yes
My Referer	Hosted	c l s	cookie	yes
YourAff	Hosted & Software	c l s	cgi	-

### Finding Suitable Affiliates

It's the job of affiliate solution providers to supply you with a list of suitable candidates, and these will have signed up to common terms and conditions. Making your own list is more problematical, but you can:

1. Research the rates, terms and conditions applying in your market sector.
2. Use search engine and directories to identify possible candidates.
3. Visit the websites of companies concerned to check suitability.
4. Approach the companies with details of your products, traffic and trading history.
5. Negotiate an agreement.

What will you look for in an affiliate? Probably:

1. A popular and professional-looking site that enhances your reputation.
2. Complementary interests: the site has to endorse products its readers want or need.
3. Good customer service: sales may be clinched at your site, but the affiliate should engender a sense of community and trust — check they answer faxes and emails promptly.

What will your affiliates be looking for? Much the same:

1. A fair contract.
2. Quality products or services.
3. Free offers and/or newsletter.
4. Content sharing.
5. In-depth information on your products and services.
6. Regular supply of market-tested copy that really sells.
7. Proper backup for your products.
8. Prompt payment of commissions.
9. Transparent accounting procedures: industry-standard software that allows them to check sales and commissions.

Working with an Affiliate Solution Provider

Dozens of affiliate solution providers exist, some very small and covering only a narrow range of products. Terms and conditions will vary, but all employ an editor to check that your product(s) and company are suitable. Do your homework, therefore, noting in particular:

1. Client list. Ask for testimonials, and permission to approach clients.
2. Fees. Three sets of fees are usually imposed: a setup or initiation fee, a monthly maintenance charge, and a commission on sales. All three vary widely, from nil in some categories to charges in the thousands of dollars per month. Find a provider that won't break the bank if sales really take off.
3. Exclusivity. You are not generally tied to using the one affiliate solution provider, but check should you ever expect to complicate matters.
4. Tiers of commission. Affiliates will want to know if they can introduce others to your product and earn a share of the extra commission.
5. Specialization. Is the provider likely to find you the right sort of affiliate? Check their client list.
6. Setup details. Your affiliates will probably be given a few lines of code to simply paste into their websites, but again ask: anything complicated, involved programming expense, will not be popular.
7. Terms and conditions. Ensure you understand the regulations and can live with them. Your terms and conditions have to match those of the affiliate solution provider — e.g. you can't offer a 'lifetime guarantee' if the provider limits the warrantee to 3 months.
8. Check your site. The better providers can be choosy, so make sure your site is looking its best before applying. And get that product page up to scratch. It is to this page that affiliates will link, and the provider will go through its details with a fine toothcomb.

Affiliate solution providers are widely listed on the web.

#### Current Picture

Most companies employ affiliate solution providers because the numbers are otherwise unmanageable. Popular products today are marketed by thousands or tens of thousands of

affiliates, only the smallest percentage of whom will generate sales worth having.

Does that matter? The affiliate solution providers handle the mechanics, and their commissions are high precisely because of the work involved. Nonetheless, research suggests that the companies do best when they take a close interest in their affiliates, helping them with tutorials, catchy ads and intelligent landing pages.

Studies by Marketing Experiments {8} have shown that working with a small band of carefully-chosen partners is often preferable to the scatter approach of affiliate marketing. Partners are serious, learn from each other and exchange information: their success is more closely tied to the fortunes of the product they represent.

#### Affiliate Fraud

Most affiliates do an honest job, but these are the scams reported of late:

1. Fake transactions: some fraudsters use scripts to generate bogus leads or transactions.
2. Parasites: adware may steal traffic from legitimate affiliates, causing them to move on.
3. Typosquatting: fraudsters set up URLs similar to yours and then 'sell' you back your traffic.
4. Copycats: fraudulent sites steal copy and graphics from a legitimate site and pose as a good affiliate.
5. Spammers: tarnish your brand by sending spam emails purporting to come from you.

Your best defenses are to:

1. Screen affiliates carefully,
2. Flag undesirables and watch for their activities,
3. Monitor affiliate sites and newsletters, and
4. Check for unusual levels or patterns of visitor activity. Be especially suspicious of immediate demands for payment, and keep in touch with other affiliate managers. A useful site is [ABestWeb Parasiteware Forum](#).

## Questions

1. Why would you sell through affiliates, and what sort of goods and services? How does selling through affiliates work? What do the two parties look for?
2. What are the advantages and disadvantages of running your own affiliates program?
3. What will you be looking for in your affiliates? What will they expect?
4. Outline the types of affiliate fraud you may encounter. What countermeasures should you take?

## Sources and Further Reading

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2. *Affiliate Software Review*. Detailed comparisons of affiliate programs, plus free ebook on subscribing to newsletter.
3. *100 Best Affiliate Programs*. Lists rates and services. Also useful coverage of web-hosting, ecommerce hosting and merchant account providers.
4. *Affiliate Marketing*. Articles, guides and free newsletter.
5. *AffiliateMatch*. Articles and affiliate program recommendations.
6. *Affiliate Tips*. Articles, listings and free newsletter on affiliate programs.
7. *DoubleClick*. Good advice on affiliates, marketing strategies and industry research.
8. *Marketing Experiments*. Now a very useful repository of information.

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## 6.9 MARKETING BY PRESS RELEASES

Press releases are an admirable way of getting a business site known, and are commonly issued to announce:

1. Launch of a website or service.
2. New relationship with another business.
3. Good news or financial results.
4. Appointment of a senior executive.
5. Important market research findings.

All news is grist to the business mill, and correspondents rely on a steady supply. Distribution is handled by a news bureau, but the companies either write the copy themselves or (generally) employ professionals.

### DIY Press Releases

Press releases are written to a standard format:

1. Title: as with the newspaper headline, the intention is to grab the reader's attention.
2. Summary: two or three sentences that stress the importance of the release.
3. Body: two paragraphs giving the details, with individuals quoted.
4. Company information: what the company is and does, location, when founded, etc.
5. Contact information: phone, fax, email, company URL, and name(s) of personnel who can be contacted for more information.

Editors want news, not company hype, and companies will be more successful if their piece is topical and includes leads to matters of current concern. Proofing is the company's responsibility, not the press bureau's.

### Hiring a Pro

Press releases are not difficult, but professionals are always happier working with other professionals. Whatever

companies write, therefore, it'll probably be given a final polishing if an advertising agency handles your promotion. Companies need to accept the situation, but make sure the facts are right.

### Getting the News Out

Email and the Internet has greatly assisted the dissemination of business news, but the principles remain the same: the press release needs to land promptly on the desks of the relevant journalists and editors. First and foremost, the piece must be relevant to the business publication, and interesting to its readers. Large companies have their own press officers, who keep up contacts in the business world. Smaller companies will also email their piece to editors of likely websites and magazines, but make more use of news bureaus, which email the piece to hundreds, if not thousands, of journalists worldwide. Companies should be aware that:

1. They must check with journalists and editors (phone or slowmail) before emailing that they accept press releases.
2. Results take time: they may have to resubmit.
3. Releases should be brief and to the point: more information will be asked for.
4. Facts and figures should be kept at hand for subsequent phone calls.

### Evolving Picture

Press releases today are less aimed at trade and consumer media outlets, and more at providing solid company information to savvy journalists and customers. According to 2005 surveys by Middleberg/Ross and the Pew Internet Project, 98% of journalists go online daily to:

1. Conduct article research. (92%)
2. Find new sources and experts. (76%)
3. Find press releases. (73%)

The trends are reflected in the larger news bureaus. PR Web sends out 60,000-100,000 press release emails daily, and its

web-related sites are among the top 2,500 most visited. PR Newswire reaches 22,000 media points in the US, and its articles are archived in over 3,600 web sites, databases and online services.

Press releases can be very effective. Marketing Experiments spent \$990 on 7 press releases to generate 3,000 visitors — which compares favorably with ppc charges. The press releases also generated 6 interviews and increased their incoming links from 2,500 to 12,500.

### Questions

1. What are press releases used for?
2. What is the standard format for a press release?
3. When would you disseminate the press release yourself, and when employ professional bureaus?
4. Prepare a costed comparison of a popular press bureau service and a DIY approach.

### Sources and Further Reading

1. Web Digest For Marketers. Free weekly email newsletter reviewing marketing-orientated websites.
2. MediaPost. Excellent information source: 35,000 listed in media people finder, and 3,000 articles.
3. Care and Feeding of the Press. Advice from the Internet Press Guild on getting the best from press releases.
4. Successworks. Markets search engine copywriting courses.
5. Marketing Experiments. Directory of research articles and courses.
6. Promotion World. Hundreds of free articles on promoting websites, with reviews of services and products.

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## 6.10 COPY WRITING

Copy writing is a skilled trade, and larger companies employ professionals. For smaller companies that must write their own advertisements and webpages, the usual advice is as follows:

If genius is 99% perspiration, copy writing writing depends much more on information: the proverbial mix is 50% information, 25% personalization, 15% inspiration and 10% perspiration. In other words, to sell something, you have to *know* your product, and be *committed* to it. Only then can you make your message **A**tractive **I**nteresting, **D**esirable, **C**onvincing and **A**ctionable (AIDCA). Note the sequence. Copywriting is writing that gets something *done* by understanding how customers react: your customers, the one you really want.

What's the Main Idea?

What is real benefit you are offering customers? Not the specifications, or how you are better than others. What is the *one essential benefit*, material or psychological, that your *customers* will get?

You could expect to know this, since it underwrites your unique selling proposition, the reason why your site exists at all. But plans get modified, and in copy writing you are turning the business around to look at it from the customers' point of view. What's in it for *them*? Why should they spend time on your site, and, more importantly, *buy* something?

Language of Sales Copy

Sales copy has a language of its own. Words certainly have to be appropriate — nothing is more a giveaway than jargon misused — but sales copy will often use:

1. Short sentences lacking verbs or proper punctuation: *Our offer to you. . . Because we care* etc.

2. Clichés: *exclusive offer, act now, yours free*, etc.
3. Wild exaggeration: *unbelievable offer, only while stocks last*, etc.
4. Colloquialisms: *techies will hate our saying so*, etc.
5. Words repeatedly rather than find an alternative, hammering home a simple message.
6. Trite rimes: *beans meanz heinz*, etc.

## Sales Copy Practices

These points are often made:

1. Stick to the one theme. Decide on your 'big idea' and develop that properly.
2. Remember the AIDCA formula. Conviction is essential. You have to *convince* the reader to *do* something (which is why information by itself won't sell). You must build interest into desire, and then strengthen that desire with supporting testimony or facts, propelling the reader to take the required action. *Get your copy here. Buy at today's special price.* Etc.
3. Keep the message succinct, alluring and engaging. Short sentences work best. Introduce them with **Revealed, Free, Remarkable, Latest, Guaranteed, Killer, Secrets.** . . etc. Carry the message on with: *But, However, So, Because, What's more.* . . .
4. Support your claims with specifications, comparisons and testimonials. Be specific, particularly if addressed to senior management: *135% sales boost in 4 months* rather than *spectacular results*.
5. Hook interest with your opening words. Commonly this is done with a headline

Revealed: The Secrets of **Successful** CopyWriting

that summarizes the *benefits*, followed by copy that hooks interest.

Get it right *first* time. *What you will learn. Never-before-revealed* secrets from the man who. . . *Thirty years* of advising the top brands brings you. . . *Explode* sales with these . . .

Plus . . . *absolutely free* to the first one thousand subscribers.

. . .

6. Use graphics, and preferably photos, but keep them relevant.

7. Balance graphics and text: each should support the other.

8. Less is more. Don't clutter the page or your story line with too many examples or clinching arguments. Leave white space for impact.

9. Maintain a consistent tone and look.

10. Be specific and friendly: *we're here to help* rather than *XZY is a company dedicated to maximizing customer satisfaction*. . .

11. Be positive. *We'd be pleased to hear from you* rather than *We always answer emails, even the stupid ones*.

12. The logo is sacrosanct. Never alter or play with it.

### Structuring the Sales Copy

The Internet imposes its own organization, but in general an advert consists of four parts: headline (proposition), lead-in paragraph, main argument, and lead-out-paragraph that relates back to the main proposition.

### Headlines

Keep them short: everyone reads the first three words but only 60% beyond six.

Headlines have to be relevant and intriguing, leading *into* the message but not spelling it out.

Headlines can be picture captions, but they must enhance the message by drawing attention to certain of its elements.

Headlines commonly fall into one of these categories:

1. Question: *where can you get impartial advice?*

2. Directive: *stay ahead of the pack*.

3. Comparison: *no one offers a better service*.

4. Challenge: *find something cheaper and we'll refund twice the difference*.

5. Invitation: *take out a subscription now and you could win*

\$100.

6. Promise: *your money back if you don't double your sales in six months.*

7. Anticipation: *imagine driving out with the car of your choice.*

8. Location: *it's already a hot, sunny day. . .*

9. Representation: *Mr. Kipling makes exceedingly good cakes.*

10. Demonstration: *just one call netted Rolytop Engineering 481 new prospects!*

11. News-making: *congrats. . . from one award-winner to another.*

### **Lead-In**

These one or two sentences are vital, second only to the call to action. They never repeat or explain the headline, but link it to the main argument, or, more exactly, lead into it. Headline: *Where Can You Get Impartial Advice?* Lead in: *It's not easy to know who to trust when it comes to pension advice. So many policies, so much fine print.*

### **Main argument**

Here you make your case, succinctly and persuasively.

Copywriters often adopt one of these approaches:

1. Logical. Picks up the headline and lead-in by developing the 'main idea' point by point, buttressing the benefits with example and testimony.
2. Corporate. Concentrates on the ideology behind a product rather than the benefits. Something of a PR exercise, and facts have to be totally accurate.
3. Story line. Adds human interest to a product, and is often used when benefits are few or unclear.
4. Character led. Testimonial in style, where the testimony comes from an expert or celebrity.
5. Oddball. Uses the unexpected: humor, verse, foreign phrases.
6. Caption. A linked series of captions to photographs or illustrations.

If of any length, the main argument may be broken into subheads and captions, each addressing a specific point (when they may be resolution points: see below).

Finally, and most important, the main argument has to end in a call to action: *check our product specifications, ring us for a copy today, click the download button here.*

### **Lead-Out**

Concluding sentence or sentences that create a warm and lasting impression on the reader. Will often be a slogan, something that rounds off the headline, and/or provides confidence and continuity to the marketing campaign. Slogans themselves have common features. Generally they are 1. friendly, 2. make promises, 3. call for action, 4. create ideals, 5. are memorable, 6. repeat key words, 7. stress status, 8. wrap everything up in a few short words.

### Writing for the Internet

All sales copy needs to be succinct and engaging. If interest flags, then the reader turns over. But the Internet has accustomed readers to even snappier writing, and they expect the main idea to emerge quickly. No corporation speak, generalities or coy humor.

Reading habits are also different. Surfers are impatient, and not always intelligent. Place a hyperlink in mid-sentence, and they'll click on it, arriving at page that loses them, since they didn't complete the sentence. Webpages are not pages in a traditional sense, moreover, but screens, where they'll probably start about the middle, perhaps shooting to a graphic that has caught their eye. Then they're off again. What isn't immediately apparent won't be looked for. *Sign up here, view product lines, visit our store locations*, etc. — your key messages — all have to be placed optimally. So:

1. Plan the whole site around the selling process: give a site plan if really necessary.
2. Ensure the benefits promised in landing pages are carried through by directing visitors through specially-written pages.

3. Work out exactly what each page has to do.
4. Lead up to that action appropriately, placing subtle confidence-building information/messages at strategic points.
5. Ensure the page directs attention to where the copy really starts.
6. Place points of resolution (nouns with links to side pages) that anticipate questions in the selling process: *our product compared with others*, etc.
7. Ensure the points of resolution pages do answer the likely questions, and bring the visitor back into the sales process. Even if later: *before you go, sign up for our free newsletter*, etc.
8. Use an imperative verb to get action, but imply a benefit: *contact a representative to discuss your needs*.
9. Clear the page of clutter: unnecessary text, distracting links, competing claims.
10. Understand what readers expect on arriving at a page in question, what has drawn them there: build on that, but don't repeat what's previously been told them: fulfill some of their expectations in taking readers further.
11. Get third parties, even your spouse, to check that readers do as intended.
12. Screen out unwanted visitors if you're employing the pay-for-clicks search engines: *wholesale only, we are not cheap but . . .* etc.
13. Your copy — particularly headings — still have to be search engine friendly if the page is to rank well: a further complication.
14. Use task completion and funnel analysis to track the movement of visitors through your site.

#### Pay-Per-Click Ad Copy

Marketing Experiments tested the pulling power of ad copy written for Google Adwords and Adsense. They found that:

1. Most important was the ad title or headline.
2. Title should feature keywords reflecting your selling advantage (account can be set up to automatically include a

vast number of keywords).

3. Display URL should be short, memorable and include the www.
4. Hype was a turnoff, but subtle suggestion of urgency did work.
5. Short, precise sentences were needed, not just keywords.
6. Credibility factors were important: *5 star merchant rating*, etc.
7. Ad conversion rate was important, but not sufficient to risk low click-through rates getting you dropped by Google.
8. Consumers are jaded: ads saying the reverse of what's expected could be effective.
9. Repeated testing is essential.

#### Know the Customer

Companies cannot communicate with a vacuum, and 'male professionals between the ages of 25 and 50' is not a brief to excite the copywriter. Valuable information on customers is often obtained through:

1. Sales telephone conversations and customer responses/questions.
2. Internet discussion forums.
3. Product advisory council of existing customers, on- or off-line.
4. Detailed (but not intrusive) questionnaires in newsletter sign-ups.
5. Experiments with more focused sales copy, results being continually monitored.

#### Questions

1. What is the aim of copywriting?
2. How does copywriting differ from normal writing?
3. List some important copywriting practices.
4. How would you rewrite something for web page viewing? Explain why.

5. What should appear in pay-per-click ad copy?
6. How can your ad copy target the market sector effectively?

#### Sources and Further Reading

1. Advertising Age. Ad business news plus industry data on advertising and marketing.
2. Internet Advertising Resource Ad Guide. Useful listings of resources and services under various categories: includes teaching software.
3. Psychology of Consumers. Somewhat theoretical, but very clear and thorough series of articles.
4. Selling Power. Online version of magazine with 200,000 subscribers. Practical articles.
5. Web Digest For Marketers. Free weekly email newsletter reviewing marketing-orientated websites.
6. MediaPost. Excellent information source: 35,000 listed in media people finder, and 3,000 articles.
7. Marketing Experiments. Directory of research articles and courses.

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## 6.11 PAY PER CLICK MARKETING

For many emerchants, the days when they could get decent sales from ‘free’ listings on Yahoo, MSN or Google are distant memory. Unless the site has lots of useful and possibly unique content — time-consuming to create and maintain — paying for click-throughs may be the only hope of getting sales from the search engines. And these are not free of headaches. There are scores of pay-for-click search-engines to choose from. Successful campaigns tend to be expensive, the larger companies employing experts and shelling out tens or hundreds of thousands of dollars in click fees every month. Special software or services have to be employed to optimize the strategies, and to monitor results. The keywords themselves are often overpriced, perhaps kept purposely so by the big companies wanting to close down the competition. Some hostile ‘customers’ may generate clicks automatically with robots, and traffic logs need to be monitored to obtain a refund from the search engine(s) concerned. And, if that weren’t enough, the accompanying site descriptions can be rewritten by the pay-for-click search engines, requiring emerchants to adjust their budget upwards or their traffic downwards.

To succeed against these odds, companies generally:

1. Research customer needs and strategies.
2. Write a compelling advert to bring them to their site.
3. Place that ad with one or more of the pay per click search engines, ensuring that the bid price they pay a. generates sufficient traffic and b. gives an acceptable customer acquisition cost.
4. Reinforce interest with an attractive landing page.
5. Lead customers naturally through the checkout process.

Signing Up

Submission is usually straightforward. Companies first open an account and deposit money, usually through a credit card. Next they fill out the Signup form, bidding on the keyword phrases where they want their site to appear. They also specify a title (max 40 characters) and a description (max 190 characters). The title and description can vary for each keyword, even if linked to the same page, but keywords must relate to the linked page. Since results depend upon the title and short ad description, many companies employ a copywriter at this point.

Campaigns need to be planned, usually with these overlapping objectives:

1. Search for optimal keywords with professional software (see below). Understand what visitors are looking for under various keywords (their own website traffic statistics help). Find out which keyword gives the best ROI (rate of return on investment: not necessarily the most click-throughs). Experiment further to see how ranking affects ROI (traffic may be four times higher at the #1 ranking than at the #5 listing, but the bid price may be *more* than four times higher). Compare bid prices across search engines with services like [CompareYourClicks](#).
2. Organization of keywords by the buying cycle: research words (e.g. widget review) are usually less expensive than sale closers.
3. Add filters to keywords (e.g. bulk supplies) to eliminate unwanted traffic.
4. Get sufficient results to test their campaign by bidding high for the first few days, lowering the bid later in line with their marketing budget.
5. Use 3-4 different keywords (changing title and description accordingly) and monitor results. Keep experimenting.
6. Vary the ad copy to distinguish their product, make it memorable, and filter out more unwanted visitors.
7. Create special pages (landing pages) for visitors that meet their expectations and drive them to the sale. Keep

experimenting with landing pages, adding a client-side tracking program/service to monitor results.

Pay-per-click services have these advantages: they:

1. Bring visitors to their site almost immediately, and
2. Can test the market for the product or service prior to actually developing them.

The disadvantages are:

1. Mistakes can be very expensive,
2. Money is often lost while experience is gained, and
3. Companies are in direct competition with experienced professionals who have fine-tuned their copy and products for years. Some also have trust factors built in, which puts the newcomer at a further disadvantage.

There are two main services (Google and Yahoo/Bing), a few second-tier ppc search engines, and a host of smaller fry. Google is by far the largest and most effective, but its details take some mastering. To stand any chance with ppc search engines, companies must know the following:

1. What conversion rates they can expect (and so the customer acquisition cost).
2. What keywords will help and what will not.
3. How to target the ads.
4. How to write ad copy.
5. How to bid.
6. Where to rank.
7. What keywords are overpriced for their purposes.

To get that information, companies have to research the market, investigate competitors, and keep testing and refining their strategy. A few hundred dollars on a 'quick look see' will be a few hundred dollars thrown away.

### **Typical Conversion Rates**

Conversion rates affect not only the customer acquisition cost, but the price companies pay for their ads (click cost), as the conversion rate commonly enters into the 'effective bid price' (more below). The conversion rate achieved on their website

will normally (i.e. without using the ppc engines) be a guide to what to expect, as may be experience with similar products. Failing these, if companies are starting cold, then lead generation sites commonly report conversion rates around 10-12%, but can go as high as 30%. Sites selling products commonly report conversion rates in the 0.3 to 5% range, the higher range being more usual for one-off, low-price items.

### **Testing the Market**

It takes considerable time and effort to get decent ranking on the natural (i.e. free) search engines nowadays, and that is opportunity time lost. Prospective customers have sharply focused but changing requirements, moreover, which a site promoted by the free search engines will not easily cater for. Even if a company uses natural search engines, it may pay them to tweak pages for keywords located with the pay-per-click services. In short, these services allow a company to: prototype their selling idea quickly, often with only a couple of web pages, to:

1. Get feedback on market conditions, and
2. Solicit feedback and split-test to refine their ad or product further.

All they need to provide is a white paper on their product or service. If there's no appreciable interest, then it's not worth developing, or not for the present. If companies do get a reasonable click-through rate (say at least 1%) then they can solicit suggestions from would-be customers, enabling development for a better-defined market.

### **Which PPC Service?**

It's generally thought wise to start advertising with one of the big three because:

1. They'll quickly give sufficient data for proper testing.
2. Visitors are more likely to be serious purchasers.
3. They offer online, easy-to-see tracking and targeting services.
4. Some of the smaller services don't have real traffic:

companies waste their time with unreliable data that can't be scaled up properly.

The customer's desire to purchase is enhanced by having the ad take them directly to a special landing page that builds on their expectations. If a company is advertising an automatic garden sprinkler system, for example, the ad is repeated with copy and pictures. 'Eliminate the evening chore with our Acme Sprinkler System. Low cost. Quick to install. Easy to maintain.' Then come the features with detailed photos and testimonials. If companies are split-testing, the landing page will be one of a series of adverts testing such things as layout, length of copy, key selling points, etc. Generally, ads are kept direct and simple, as people are fazed by details. 'Cheapest and most reliable on the market' will probably be more effective than a point by point comparison with competing systems. The focus is on the key selling points, and pages pointing elsewhere are removed.

#### Google AdWords

Google AdWords are more complicated and feature-rich than other ppc systems as Google has striven to be the number one Internet advertising platform, buying up complementary businesses in the process. Its direct competitor was Yahoo Search Marketing, now part of Microsoft.

Google scores in these ways:

1. Signup is only \$5, and that sum is converted into bid credits.
2. Ads appear quickly across the whole spread of Google's network.
3. Set up is relatively quick and simple.
4. Google AdWords syndication allows companies to reach AOL and other systems.
5. Geotargeting lets companies target country, state, metro area, zip code, or geographic radius of their choice.
6. Local ads can be previewed with a local ad preview tool.
7. Multiple ads can be run for the same words and tested

against each other, or sent to different pages for split testing of ad copy.

8. A free multivariate testing software program called Google Website Optimizer is available to check landing page conversions.

### **Bid and Click Cost**

You pick a maximum bid price, which your click cost will never exceed. Like its competitors, the Google system has a built-in bid discounter, so that your average bid cost will be less than your bid prices.

By factoring in click-through rates into effective bid price, the Google system is not transparent to competitors, but you do need to target AdWords effectively so that good click through rates bring down the effective bid rate.

### **Effective Bid Rate**

Effective bid rate for Google AdWords is a function of click cost times the click-through rate (and, in some cases, other variables). Google appears to use the average click-through rate from the 1,000 most recent ads in this calculation, though for some markets with low search volumes they may use other quality indicators. Increase your click-through rates by making your more ads relevant and you can end up paying less than competitors. The table below indicates what may happen.

Ad Number	Max Bid	CTR	Effective Bid	Ad Position	Actual Click Cost
1	0.40	5%	\$2.00	4	\$0.40
2	0.30	10%	\$3.00	3	\$0.30
3	1.00	2.53%	\$2.53	2	\$0.81
4	1.50	2%	\$3.00	1	\$1.31

Not all is transparent, as Google may also include landing-page quality and trustworthiness of advertisers in their relevancy score. If the relevancy falls too low (generally if click through rates consistently fall below 0.5%) your ad may become inactive, or even disappear altogether.

Google tends to suggest a somewhat high bid price, which you may want to cut by 20-50% when starting, though you'll

need to overbid in the first few days as you'll be in competition with more experienced traders.

## Broad Match, Phrase Match, and Exact Match

Examples	Match Type	Will Show Results For:	Will Not Show Results For:
[golf clubs]	Exact	golf clubs	any other search
"golf clubs"	Phrase	best golf clubs	golfing clubs golf etc. clubs
golf clubs	Broad	golf clubs golfing clubs golf etc. clubs	-

Google AdWords (and YSM) have different levels of word matching:

Using [keyword1 keyword2] will only return searches ads for the query keyword1 keyword2, which is called exact match. Yahoo's exact match is a bit fuzzy, matching plurals and some common misspellings. Google's exact match is more precise, only matching the exact search.

Using the keyword "keyword1 keyword2" will show your ads for any search that has 'keyword1 keyword2' in the query (in the same order), which is called phrase match.

Using the keyword1 keyword2 (no quotations or brackets) will show your ads on any search that has 'keyword1' and 'keyword2' in it. This broad matching may also allow synonyms of your keywords term may also display your ad, which you inspect to ensure that they are necessary and not misleading.

Google offers all three levels of ad control. Yahoo! offers exact match, and groups phrase match and broad match in a category called advanced match. Automatic matching was introduced in May 2008, which makes your ads show for additional relevant search queries based on the keywords, ad text, and landing pages in your ad groups. You'll need to track conversions to see if automatic matching helps you: in many cases you'll want to turn it off to have better control on your ad spend.

## Reviewing your Adwords

1. If something is not clear you can ask at an SEO forum or ask your ad representative. Google AdWords has a blog (which does not seek direct AdWords feedback), an online support center, or you can contact Google advertising by phone.
2. If the automated review rejects your ad copy for trademark reasons, you can ask for a human review.
3. Google usually runs ads before the editorial review, but they are reviewed before appearing on partner sites, a process that can take several days.
4. Ads on Google have two states: active or inactive. If an ad is inactive you can make it active by bidding higher. Google also has an ad diagnostic tool which states what needs to be done to make each word active.

### **Google Keyword Suggestion Tool**

The Google Keyword Tool estimates search volume, trends, and advertising competition. You can enter keywords to analyze or they can extract relevant keywords from a given web page.

The Google Traffic Estimator Tool roughly estimates the price required to rank #1 on AdWords 85% of the time and the traffic you could expect to get from Google AdWords for a given bid.

The Google Suggest tool auto-completes partial search queries. It does not show search volumes, but search volume plays a heavy role in its output order. The tool is currently only available in some languages. Many Google Toolbars have this feature enabled.

There is a negative keyword option in both Yahoo! and Google AdWords. Any word that you do not want your ad to appear for can simply be blocked by placing “-badword” beneath your keywords. Words like crack, free, wallpapers, pic, and mp3 often figure in searches from visitors not intending to spend money, and should be added to your negative keyword list.

## Improving Performance

Google is geared towards the serious advertiser, and provides most of the tools needed to assess and improve performance. For that reason, so that you can benefit from feedback, you will need to spend at a decent rate, which means planning carefully. Google JumpStart will set up an account for you, perhaps not the best, but getting you started. The \$299 fee is not lost but converted to bid clicks, which you spend in modified strategies later on.

The Google Advertising Professional program is a program which allows marketers to be certified as a Google AdWords expert. The requirements are that you spend at least \$1,000 in a 90 day period after signing up, comply with their rules, and pass an online test. After the 90 day period, you can place a logo on your site which suggests Google endorses your services. The same program also allows you to link together up to 500 AdWords accounts so that you can access and manage them from a single login. Google also offers many free online tutorials which can help prepare you for the test and help you learn more about AdWords, even if you do not want to take the test. To these, Google also offers a free web based conversion tracking tool, making the AdWords system a direct marketer's dream. Everything is targetable, tangible, and measurable right down to the cent.

The top ad position is sometimes wildly overpriced, and the serious shopper is often one prepared to work down the list carefully. To find out what the top position costs on Google AdWords you can use their Traffic Estimator tool without entering a bid price. This price will roughly equate to the bid necessary to rank #1 for 85% of search queries. Bear in mind that above average CTRs will reduce the click cost.

Experiment is needed, and if you find, for example, that positions 4 to 7 work well, then you can bid to rank better but use Google's bid position feature to limit your exposure.

Markets may shift quickly. If you notice certain other company ads appearing again and again over time, they are probably

generating profits. Use the Google Keyword Tool to see the bid structure of a market, and follow this up by keeping a record of the top ten ads over or month or two — supposing they are not from a large corporation to whom effectiveness is not a key consideration.

Remember that while the lower ad positions may be more effective they may also lack the traffic to give significant profits. Google AdWords may only list the top 1 to 3 ads above the regular search results (versus off to the right side like most other AdWords ads), and this position is only awarded after a human inspection that takes into account the CTR. If you modify such an ad, therefore, it may take a few days to return to a top position.

You can research the products of your main competitors, visiting their websites and going through the motions of buying something to note their copy and selling strategies. You can see if they are using broad match by typing keyword1 xyz keyword2, when their ad will still show up. If they are using phrase then xyz keyword1 keyword2 will still show up. If neither is the case they'll be using exact match, which is often more effective.

### **Where Ads are Shown**

You can chose to deliver content ads in conjunction with search ads by setting up separate content bids, or deliver some ads just to the content network.

Syndication: ads are shown on:

1. Google.com
2. Google.com + AOL + earthlink, etc.
3. Content contextual AdSense partner sites
4. Site-targeted branded content.

If you set up ad syndication you can bid separately on content ads. Bid whatever you think is a fair market value for the Google AdWords distribution and then bid a separate lower value for content ads.

You may want to use different campaigns or ad groups for content and search ads to make ROI tracking easier. Some terms convert far better on search than content, and if these stats are blended it may be harder to notice the trends at a quick glance.

On some occasions it may make sense to make content only ads if you are trying to increase branding without spending a significant amount of money. Content ads are generally clicked on at a much lower rate than search ads.

In some rare cases content ads are worth more than search ads, but there is less buying demand implied when a person simply reads an article about a subject.

With your content ads you may also want to try using image ads to lock out competition from being able to advertise against you. Some ads disabled from search distribution due to low click price and low relevancy may still appear in the content network, however.

In November 2006 Google started allowing advertisers to bid not only on specific sites, but also on specific AdSense channels. If publishers are using different channels for different parts of a page, you may want to bid on the ad unit which most closely fits your goals.

Syndicated ads do not appear on partner sites until they are approved by an editor, but normal ads may. Also taken into account in matching ads to pages are:

1. The entire keyword list associated with an ad group,
2. How the keywords of your ad fit into the general theme,
3. Textual Adgroup creatives (to help understand what ads to display),
4. Maximum bid price and CTRs, and
5. Negative keywords

Strategies for Google

1. AdSense ads often have a low CTR, and to make them more appealing to large traditional media buyers, Google also sells AdSense ads on a CPM basis.
2. Advertisers can buy ads on off-topic sites for branding, but these have a 25 cent CPM minimum, and compete with the revenue earned by other advertisements, which could drive the price higher as publishers bid up ads appearing on the more significant AdSense partners. Publishers who do not want to compete with Google selling direct ads can optionally turn off the CPM feature.
3. CPM ads can also be targeted to a specific page or section if an advertiser does not want to buy ads across an entire site.
4. You can get your ads syndicated to content sites without paying CPM rates by:
  - a. bidding on common page text or names of sites you want to be on, and
  - b. enabling only that ad to be displayed across the content network.
5. Contextual ads are also a cheap way of increasing brand awareness if you watch the bid price carefully.
6. Google also allows you to target AdSense site targeted ads via demographics data. Add `&gl=country code` to the search string (CA for Canada, US for United States, UK for United Kingdom, etc.). Geotargeting may allow you to afford words broader in scope than your globally effective keywords, since geotargeting only delivers ads to locations you are interested in.
7. You can also filter out sites that you do not want to advertise on. Sites that send significant traffic that does not convert can be blocked with this tool: also those which you suspect of click fraud. You may want to extend this to regions with notoriously high click fraud ( India and much of Asia).
8. If you have a group of similar keywords that could still use the same body text you can enable this feature by writing out

your normal body text, and placing {Keyword: default keyword} in the title of the ad.

9. Google will not now let you to post a display URL in your Google ad that is not your own website's real domain name.

10. When the keyword matching the search is longer than 25 characters, the default ad title will show. Otherwise the ad will show the search term as the ad title.

11. Google now also allows you to pass the referring keyword trigger as a variable in the actual destination URL. To pass the trigger keyword as a variable use &kw= {keyword}. You can also track whether the clicks came from Google content ads or Google search ads by adding the following to your URL `referrer= {ifsearch:GoogleAdWordsSearch} {ifcontentGoogleAdWordsContent}`. Remember that URL is an important part of the ad, and be prepared to buy new URLs as the need arises.

12. Unlike Yahoo!, Google allows US and Canadian advertisers to bid on trademark names of their competitors. The competitors trademark names may not appear in the ad, but they can be used as the ad trigger word. The practice may not be legal in Europe, however, and even in north America you should group the trademark in an ad not using dynamic keyword insertion or your ad title will put you in trademark violation. Be prepared to respond to complaints immediately and amend your ways if threatened with legal action.

13. Google also offers a free AdWords Local Ad Preview tool to show what ads will appear on search results in different areas.

14. You'll probably want to make expensive keywords, or those drawing high traffic, into specific ad campaigns. Similarly, if a particular word is causing problems in an ad group, then consider setting it out on its own.

15. Google only allows one affiliate or merchant ad per keyword per URL, ensuring the affiliate with the highest effective price (CTR times max bid) gets their ad displayed.

Affiliates can still have their ads show up if they create white label affiliate sites with information about the products.

16. Also consider:

- a. Experimenting with usual keywords.
- b. Redirecting ads to intermediate pages that give further information before the landing page proper: these can be split tested.
- c. Cloaking pages the ad editors see (be careful here).
- d. Go more for profitable traffic than is given by the budget function.
- e. Place ads on Friday evening, as they won't be reviewed until Monday or Tuesday (although there may be fewer B2B buyers over the weekend), and generate leads more than direct sales for higher ticket items.

### **Competitor Analysis Software**

To supplement the sparse information Google supplies, consider additional software that pings Google and determines the ad display rate and average ad position for your ads and competing ads. AdGooroo allows you to see which competitors are the most sophisticated, and what positions have the most competition and perhaps profits.

Remember that SpyFu and KeyCompete both allow you to glimpse a list of keywords some competitors bid on.

### **Ad Groups**

You may want to create an adgroup not only for your most expensive and best selling ads, but for these as well:

1. Misspelled terms
2. Mistyped domain names
3. A grouping about a personality type
4. Seasonal products or special promotions.

### **Pay Per Call**

Google is testing pay per call, which will change the high end of local businesses (legal, loans, real estate, etc.)

### **Google Checkout**

Google is becoming a leading payment processor, helping to make their ad market more efficient, gain more market research data, and create another revenue source.

AdWords advertisers who accept payment via Google Checkout have their AdWords ads highlighted, which may earn them a higher CTR and so better ROI.

### Other PPC Engines

An enormous number of pay-for click search engines exist, but Google Adwords, Yahoo and Microsoft AdCenter are the most popular, followed by Looksmart, Ask and Excite.

### Getting Sales

There are three phases in any successful ppc campaign:

1. Finding out what purchasers are looking for, and what search phrases (keywords) they employ,
2. Creating an attractive ad that will generate a click from a potential customer, and
3. Writing copy on the landing page that will take customers to the checkout page on your website.

### Keyword Research

Keyword research is important. The ppc engines naturally want you to spend money by bidding on a wide range of keywords in the hope that a few will prove profitable, and that 'try and see' approach is often the only way forward. You may have some prior experience in a particular market sector, and analyzing copy of apparently successful competitors will provide some guide, but ultimately you will have to experiment yourself, monitoring results and refining the copy accordingly. Some ppc services allow you to write several ads, which are then rotated across the advertising network, but make sure that you can monitor each variant, if necessary sending visitors to separate landing pages. Google AdWords allow dynamic keyword insertion, which allows greater flexibility. Below is a table taken (with the words slightly modified) from a

reported AdWords account. Note how the cost per conversion drops off when modifiers are added to the root term.

Keyword Phrase	Cost Per Click	Click Through Rate	Conversion Rate	Cost Per Conversion
abc tires	\$0.77	7.8%	1.86%	\$41.37
ABC car tires	\$0.64	10.9%	1.92%	\$32.96
[ABC tires]	\$0.75	10.18%	2.32%	\$32.01
ABC sports tires	\$0.74	12.4%	2.91%	\$25.29
ABC tire co	\$0.59	15.1%	2.70%	\$21.73
[ABC tire company]	\$0.56	38.2%	11.11%	\$5.03
ABC tire products	\$0.74	17.3%	22.22%	\$3.03
misspellings	\$0.21	3.6%	1.82%	\$11.37

## Keyword Research

You can go some way with free services, but most companies use commercial keyword search software.

## Writing the Ad

Ad copy writing is a skilled trade, and companies often employ professionals.

## Monitoring Results

Small differences in copy or page layout can make large differences to sales. You'll need to follow the advertising industry and continually experiment, monitoring the results carefully. Needless to say, your site should work flawlessly, with all questions and customer options anticipated and funnelled towards the checkout page. The shorter the selling route, the better is the conversion rate generally.

You'll want to experiment with ad copy in two places:

1. Search engine ad, the more so as click through rates here will markedly affect what you pay for each click.
2. Landing page, which directly affects the cost of acquiring a customer.

## Click Fraud

Click fraud occurs when ads are clicked by no intention of buying anything, either competitors to drive up the merchant's costs, or friends to increase an ad publisher's revenues.

Fraud is accentuated with 'click bots' — programs that automate the clicking process from hundreds of different IP addresses. Other programs can call up competitors' pages but not click on ads, causing a fall in their apparent popularity and hence ad ranking.

The numbers of AdSense publishers regularly banned suggests that Google and other company fraud measures are at least partially successful, but Click Forensics put the rate of overall US click fraud rate at 22.3% in the third quarter of 2010, up from 18.6 percent in the previous quarter. Botnets, malware and collusion fraud were the main culprits. Top-tier search engines and ad networks did have defenses in place, but companies were advised to compare reports provided by search engines and other PPC advertising venues with their own logs. {9}

#### Questions

1. How does pay-per-click marketing work?
2. What are the advantages and disadvantages of pay-per-click marketing?
3. Compare search engine optimization and pay-per-click marketing. Which is appropriate in what circumstances?
4. What alternatives to Google Ads exist. When would you use them?
5. Explain why keyword research is important.
6. What is click fraud, and what defense measures can be adopted?

#### Sources and Further Reading

Keyword research is discussed on marketing strategy sites, abundantly distributed on the Internet. A few of the many:

1. *Bruce Clay*. Internet business consultants with excellent advice on optimization, marketing and Internet strategy.
2. *Winning Results with Google Adwords* by Andrew Goodman. Page Zero Media. \$24.99.
3. *Keyword Marketing Superstar*. Brief articles and useful reviews of software under nine headings, including ppc management.

4. *PayPerClickSearchEngines*. A guide to the top ten pay-per-click search engines: includes brief reviews.
5. *Search Engine Watch*. Abundant information, much free. Otherwise by membership at \$99/year.
6. *Web Search*. Very full articles, tips and resources on all aspects of website promotion.
7. *Marketing Sherpa*. Good range of ebooks on most aspects of ecommerce.
8. *Compare Your Clicks*. Free online program that compares keyword prices in 7 ppc search engines.
9. *Click Fraud Rate Jumps in Q3 Behind Botnets* by Brian Prince. eWeek. October 2010.

## Section Contents

## 6.12 SEARCH ENGINES OPTIMIZATION

Search engine optimization (SEO) is a complicated matter, and information has to be given in some detail to be accurate and helpful.

There are two components to the search engines. First is the crawler (also called robot or spider) which searches all the web pages it can find under a certain search term (keyword). Second is the ranking algorithm that assesses the relevance of the web pages concerned. Some obvious points:

1. Pages must be made as friendly to the crawler as possible, so beware of deep-nested sites, of too much Javascript on the page, and frames.
2. Ranking doesn't necessarily mean traffic. A number five ranking for a search term with 5,000 searches daily will obviously bring more traffic than the top ranking for a key word attracting only two searches a day.
3. The ranking algorithms are secret, probably ever-changing, and far too complicated to be reverse-engineered. Some are rumoured to evaluate hundreds of factors, which means the software claiming to optimize your page for the search engines (often by looking at competitors' pages) may be of limited value.
4. Every site is different, and there is no one correct way to optimize your site. It all depends on the site itself, what you hope to achieve, and what your competitors are doing.
5. Some years ago, pages could be crafted with only the search engines in mind, but that is not now the way to go. SEO is a part of marketing, and naturally of public relations, so you need to keep the customer foremost in your mind. The big SEO companies plan a campaign by first figuring out what's special about your site, its products and services. Next they analyze the market, identifying groups of customers and their spending power. Then they think about how and why

those groups would want to buy from you. Intensive competitor research, therefore, and assessing market trends.

6. SEO optimization takes a great deal of time and effort, which costs good money if experienced companies are to be hired (and experience does count). It also takes time for the results to show through, usually months, sometimes a year or so (much depending on the competition). SEO companies like to stay with their clients, watching and helping rankings and traffic improve. Again that means more outlay, as the good SEO companies don't come cheap.

7. What others think of your site is critically important, but the common strategy of getting backlinks for Google rankings is probably an overworked approach. Particularly is this the case with reciprocal links that all too clearly have only one aim in mind.

8. The advantage lies with the big companies, who can afford to employ specialists engaged full time on improving traffic and search engine rankings. SMEs cannot compete head on with that strength, but must find their own niches not worth the management time of the big boys. Again, analyze the market, and research potential competitors.

### Recent Developments

In many market areas your chance of creating a viable online business requires deep pockets. If what you offer is not substantially better than that of your competitors (or even if it is), it's simply not going to be noticed in the burgeoning plethora of kindred sites unless you throw a good deal of money at it, plus time and informed intelligence. The exceptions to this gloomy picture are sites that act as an online brochure:

a. Local supermarket or retail outlet: customers will still want to check your prices and learn of your special offers, hours of opening, etc.

b. Legal firm, where your website puts some friendly faces and their specialties on what is never seen behind the frosted

glass of the high street office.

c. Source for antedated spare parts, rare collectors' items, specialist knowledge: a useful supplement to your adverts in the trade magazine, etc.

d. Advice centre, where articles supplement the information the doctor or specialist can provide at the brief consultation.

e. New mining, agricultural or manufacturing ventures that need to keep investors abreast of developments.

f. Affiliate marketing sites, or those exploiting Google and Yahoo ads.

Marketing in these circumstances is not difficult. If you run a leisure centre called 'Time Off' at Exeter in Devon, England, all you need to ensure is that those vital pieces of information appear on your website for the search engines to find. If you're in competition with several such leisure centres in the area, then you may want to undertake some pay-per-click advertising, so that visitors searching for 'leisure centre Exeter Devon' find your site first.

#### Using Keyword Research

If, however, you were thinking of becoming an exercise centre equipment wholesaler, one supplying to gyms and keep-fit studios throughout the USA, then these questions come pressing forward. What are you selling: goods, information or both? Is there sufficient demand? Can the market absorb another wholesaler? What's your unique business proposition? How do prospects stack up in the immediate and long term?

You might start with searches for 'fitness center equipment supplies'. Google comes up with 22.8 million competing websites, surely an indication of demand? Unfortunately not. Hardly anyone searches Google with that phrase. To build a site around that keyword phrase would bring no visitors, and result in wasted time, effort and money.

How can you tell? Because the search engines keep a monthly record of searches, making results available to third party companies — those providing information (like Wordtracker) or software (keyword research programs). Search engines find it in their interests to do this, as customer searches become more productive, with or without the pay-per-click dimension. Importantly, small changes in keywords bring enormous differences. Using the Market Samurai keyword program, for example, we find the phrase ‘fitness exercise machines’ gets over 12,000 searches per day on Google, and ‘gym equipment’ gets 18,000 per day. Astonishingly, however, the last phrase has a competition of 1,1200,000 sites (i.e. the ‘gym equipment’ appears in the title of the pages counted) and to obtain a number one ranking would require shelling out a sobering \$4.72 per click in Google Adwords. Clearly not for the faint-hearted.

What’s being said? That it’s essential to do your market research — in depth, using the sophisticated tools and services now available (we use Market Sumurai here, many such programs exist). Repeatedly. Every night sees thousands of would-be entrepreneurs casting around for Internet business opportunities, and to build a site on a few hours’ desultory use of the search engines is a madness. To make a success of a venture you need to understand your future business thoroughly, and in ecommerce you need also to understand how that operates on the Internet. Twenty years ago, in our particular example, you went round talking to gym owners and equipment suppliers, you took the trade periodicals, and you were probably a keep-fit fanatic yourself. Months went into your research, with dozens of costed scenarios and funding interviews, and the conclusion was often that it couldn’t be done, at least not by you. Today is no different. Internet research may be quicker, and entry costs lower, but you certainly do need to figure out all the angles before planning a website.

Estimating and Analyzing Traffic

Continuing with our fitness center equipment supplies example, we find 'exercise equipment' has 40,110 searches/day, and pay-per-click charges to secure a number one ranking on Google are estimated at \$3.37. But this keyword phrase probably includes home exercise machines. You'd do better with 'gym equipment', the second keyword phrase, which has 18,082 searches/day and a cost per click of a \$4.72. The AWT heading (a Market Samuri term) shows the number of daily clicks a number one ranked Google Ad might be expected to receive: here 206. So your daily ad spend would be \$972.32 (206 x \$4.72). If your conversion rate was 2%, you would make 4.12 sales/day for a customer acquisition cost of \$236.

That acquisition cost rules out selling the home exercise bicycle, but if you're looking to supply a whole gym's worth of equipment at a time, then that \$236/day could be money very well spent. But you clearly do need a very slick selling operation: superb website, squeeze page to collect email addresses, an excellent sales force, telephone follow-up for site visits by technical staff, etc. Already, as you can see, the marketing spend of \$85,000/year is guiding you to the sort of service you'll be offering: one of all-in gym construction and equipment supply. Would that be profitable in an economic downturn, where you'd be in competition with established operations? The bank manager would need some convincing, but Market Samuri does allow you to check out the competition.

What do we find? Your competition for 'gym equipment' in fact sells individual machines, which couldn't possibly bear a \$236 customer acquisition cost. They sell through the natural engines, which you might also do if you aimed to build the business slowly, keeping the marketing costs to a minimum until you acquired the requisite experience and a decent client base. But look at the competition in the top table (SEOC: number of competing global web pages, or SEOTC: number of competing global web pages that mention the keywords in the title). Since Market Samuri suggests that only an SEOTC

of 100,000 or less gives you a sporting chance (and that is optimistic), the only candidate is 'fitness exercise machines'. Even then you're going to find it difficult. Used Gym Equipment offers a free fitness room designer, for example.

The competition is reduced if you add a location, though not necessarily by very much. 'Gym equipment Albuquerque' has 29,000 competing sites on Google, but the figure for 'gym equipment New York' is still 357,000. What more can you do with keyword research? You can dig a little deeper into keywords. Starting now with 'gym equipment', you run the keyword research module again, this time ticking the Google Search Keywords box.

After setting searches/day to a minimum of 100, and ranking the results by increasing SEOTC, you note several keyword phrases that might make attractive targets — workout equipment, home gym fitness equipment, used exercise equipment, best exercise equipment, commercial gym equipment, used gym equipment, and several more outside this screen snapshot. To continue with your original plan, you'd have a look at the competition for 'commercial gym equipment'.

The SEOT for commercial gym equipment is 249, showing that the top ranked site would get this number of visitors a day. A site ranked at number five would only get a fraction of this traffic — say 10% — but that might be good enough if you were looking to sell one integrated service a week. More importantly, the keyword search is beginning to show what people are actually looking for. In place of your integrated service, you might consider setting up in the used equipment market, for example, or abdominal exercise equipment, where help sheets in choosing equipment and getting the best from it would be an obvious way of expanding the authority of the site and getting backlinks.

Adword ppc prices will give you an idea of the popularity of certain keywords: merchants will not be paying good money to Google unless they were making a profit on these keywords.

## **Tools**

What about free Internet tools? Spacky is a monthly keyword search volume tool. SEMRush is an advanced keywords and competitors' research tool. These will help to some extent, but to do much of this work, and in depth, we suggest you check out professional products. A good list of keyword tools can be found on Mr. Ploppy (which will lead you to other lists).

### Building Links

Backlinks are links that start on a page of another site and point to a page on your site. There is general agreement that the more backlinks your pages obtain, the better ranked those pages will be. However, as noted previously, many other factors are probably involved, and certainly the links have to be relevant, and, if possible, supported by common keywords.

### **Link Strategies**

If your content is outstanding you will acquire backlinks naturally, without any promotion on your part: probably the best way, as the search engines are more than able to spot reciprocal links and draw the obvious conclusions. What you should avoid is:

1. Purchasing links.
2. Linking to link farms.
3. Linking to other sites you own (won't be counted as a true backlink).
4. Backlinks from black-listed sites (illegal or adult content will probably harm your rankings).

Sites you should try to get links from are: sites with a common interest, directories, posting in forums, blogs and article directories.

### **Link Promotion**

Most sites will have to actively seek backlinks. Common strategies:

1. Get listed in the search directories like DMOZ and Yahoo.

2. Search for quality sites that are relevant (i.e. complementary but not competitive). You'll find the free backlink builder helpful, or you may wish to use/purchase special software to dig a little deeper. Then visit the sites, and email the editor or webmaster with a link request, explaining briefly why your site will help their visitors. Avoid reciprocal links if you can, though most sites will demand one.
3. Contribute forum postings, remembering not to over-promote your site, and abide by the forum regulations (some do not allow links, and some forums are not indexed by the search engines).
4. Add a link to well-researched articles you write: obviously requires more effort: see below for article directories. Software exists to speed up submission.
5. Maintain blogs with RSS feeds: trackbacks will promote your site: make sure you talk about other, related sites, not just your take on the situation.
6. Add comments to blog pages. Comment Kahuna will help you find relevant blogs.
7. Press release: expensive and only useful if you have genuine news to impart.
8. Use pay-for-click search engines to speed up the process of getting known.
9. Place an advert on Craigslist.
10. Use a commercial service: e.g. BuildWebPages, Alliance Link and SEO Book.
11. Offer free services or giveaway programs.
12. Review products on Amazon.
13. Advertise your site on specialist magazines, local Chamber of Commerce, state government listings and libraries.
14. Use social bookmarking sites like Delicious and Digg.
15. Answer queries on Yahoo Answers or Google Groups.

16. Write a Wikipedia entry (if you're particularly knowledgeable) or get listed on an existing entry.

17. Consider alternative traffic sources: Amish Shah has a list.

## **Automating the Task: Software**

You can't fully automate the task of building backlinks, but there are programs that help enormously. Many come with tried-and-tested strategies, training videos, member forums and communities. Search the Internet with 'link building software', etc.

### Page Optimization

Pages need to be optimized to rank well in the search engines. Common strategies:

#### **Domain Name**

Since Google in particular favours sites that have been around a while, you may want to purchase an aged (i.e. secondhand) domain. Try [godaddy.com](http://godaddy.com), [pool.com](http://pool.com), [afternic.com](http://afternic.com), [flippa.com](http://flippa.com), [bido.com](http://bido.com), [dnreserve.com](http://dnreserve.com), [ebay.com](http://ebay.com), or do an Internet search. The more popular domains will cost you, but may be cheaper way of increasing traffic than employing an outside SEO company. Alternatively, you can buy direct as domains expire: Market Samuri describes a strategy employing backordering services.

Key points in buying an aged domain:

1. Ensure the domain name matches the keywords you are targeting, at least in some way.
2. Age. Use the lookup tool on [domainTools.com](http://domainTools.com) to check the creation date of the domain.
3. History. Check that the domain hasn't been associated with illegal or adult sites. Use the WayBackMachine tool on [archive.org](http://archive.org).
4. Popularity. Use [alexa.com](http://alexa.com) and [compete.com](http://compete.com) to get a rough idea of traffic.
5. PageRank. Either install the Google toolbar on your

browser, or do an Internet search for alternative page rank programs. To ensure the page rank hasn't been 'forwarded' (i.e. inflated), type `info:www.domainname.com` into Google.

6. Backlinks. Type `link:www.domainname.com` into Google or Yahoo. Investigated the links shown: you want links from respected and popular sites (particular TV and newspapers).

7. Indexed Pages. Type `site:www.domainname.com` into Google and Yahoo.

8. DMOZ / Yahoo! Directory Listings. A big plus: Google respects sites listed here and will boost your ranking.

9. Trademark Terms. You probably won't be able to use a domain name that copies or incorporates a trademark. Check in trade directories, national and local, and keep checking (as new companies appear overnight). For the US use `uspto.gov`.

### **Page Title**

Include your specific keyword(s) in a brief title to each page.

### **Page Description**

Work hard on these, and on page titles, as pulling power on search engine listings greatly affects your traffic.

### **Headings**

Show your keyword(s) in a H1 or H2 heading. You can craft these often ugly displays with CSS.

### **Keyword Density**

Choose your keywords carefully: specific software will soon pay for itself. Be sensible in optimizing pages for the search engines, however. You can't work your keyword(s) too many times into pages of decent English, and many doubt if keyword density is really that important.

### **Metatags**

Not used by Google (except on Facebook), but include them as other search engines do employ them.

### **Open Directory Project / DMOZ**

Important if you want your site to carry authority with other search engines. Submit after careful consideration, or become an editor.

### **Cloaking**

Constructing pages optimized for particular search engines,

script directing the search engine to the page in question. Be very careful, as search engines do not like the practice, and script mistakes will get you dropped or banned.

### **Cascading Style Sheets**

Cascading style sheets are recognized by the search engines, but can display in strange ways. Avoid the CSS tricks listed here.

### **Doorway Pages**

These are not hidden pages visible only to each particular search engine, but multiple visible pages where each has been optimized for a popular search engine. Initially tolerated, but now disliked or banned, particularly when generated in their hundreds by special software. You can use a robots.txt file to direct the search engines, but it's probably better to avoid them altogether.

### **Site Hosting**

Don't use free hosting servers, and don't host with companies that allow adult or illegal content. Check their terms and conditions. It may also pay *not* to use the most popular, cheap hosting services (which, unfortunately, are now promoted by the 'independent' hosting directories). Consult professional seo forums.

### Keeping Up to Date

Market trends are always shifting, and the search engines periodically change their algorithms, either to reflect those changes, or improve their search effectiveness. That means, unfortunately, that seo is a never-ending business, and one that prevents resting on your laurels for too long. How often should you update and improve your website pages?

Be sensible. If yours is a simple mum and pop site selling the one product, you can probably leave the site unchanged for months or years, only tweaking pages when search engine positions and sales begin to fall off. If, at the other extreme, you're the major player in a competitive market, with new pages continually being added to the thousands already existing, your webmaster (or probably masters) will be

continually monitoring performance, making adjustments, and testing the changes. Most sites lie somewhere between the two.

### **SEO Sites and Blogs**

Not all the information is reliable on these sites, but posts and articles will alert you to new trends worth following up.

1. *Search engine optimization*. Free Google guide.
2. *Top 25 SEO Blogs*. Handy listing: blogs and subscription sites.
3. *TopRank BIGLIST of Online Marketing Blogs*. Extensive list: includes social media marketing.
4. *SeoBook*. \$300/month for training and resources, but 7-day newsletter is free.

### **Free Tools**

Busy webmasters will use specialized software (described below) but you'll find these free sites well worth starting with:

1. *Market Leap*. Three free tools: link popularity, search engine saturation, and keyword verification for up to 5 sites concurrently.
2. *SpyderMate*. Crawls complete website and reports: average page depth, google page rank, Alexa rank, targeted keywords, backlinks, government/educational backlinks, competing sites, domain age and expiry date. Can be run on two sites for comparison purposes.
3. *Easy SEO Scripts*. Searches one or more sites for Alexa and Google page rankings, search engine rankings, etc., and includes free tools like HTML encryption.
4. *Spacky*. Monthly keyword search volume tool.
5. *Webmaster Toolkit*. Very full listing of tools for page, domain and continuity checking.
6. *SEMRush*. Advanced keywords and competitors research tool.
7. *Free Keyword Tools*. SEO Book's useful listing.
8. *Wolf Howl*. *Michael Gray Graywolf's SEO Blog*: includes free tool recommendations.

## Professional Software

If you're doing a lot of this work, and want everything under one roof, then professional software is the way to go. Many of these programs have free trials and/or how-to videos.

1. *Website Auditor*. Compares your pages against the competition's:
2. *All in One Submission*. Analyzes website pages and automates submission.
3. *SEO Suite*. Many programs. Standard edition analyzes website pages and automates submission.
4. *Web2Mayhem*. Multistep program and necessary tools.
5. *IBP Search Engine Submission & Optimization Software*: Usual optimization tools plus submission worldwide.
6. *Webposition Gold*. Was the market leader but fell afoul of Google terms of use in 2009.
7. *Market Samuri*. Was excellent, with free how-to videos and continual upgrades. Use the free trial before buying.
8. *Scribe Tool*. Tweaks your copy for seo advantage.

## Questions

1. Why do web pages need to be optimized for search engines? When would search engine optimization not be useful or practicable?
2. Explain how keyword research software could be useful.
3. What are the key points in purchasing an aged domain?
4. What are the ten areas in which web pages can be optimized for the search engines?
5. How much time and money would you put into seo? Give a costed example.

## Sources and Further Reading

1. *Bruce Clay*. Internet business consultants with excellent advice on optimization, marketing and Internet strategy.
2. *High Rankings Advisor*. Many useful articles on search engine optimization and submission.
3. *Search Engine Positioning*. Simple guide emphasizing the key

points.

4. *Market Position*. Promotes Webposition Gold software but also provides articles on advanced topics and popular newsletter.
5. *SearchEngine Journal*. Much useful information on search engines and their ranking systems.
6. *Search Engine Ratings and Reviews*. Listing of the latest search engine rating studies.
7. *Traffick*. Guide to search engines, portals and browsers: extensive listings.
8. *Web Search*. Very full articles, tips and resources on all aspects of website promotion.
9. *Search Engine Optimization Tools*. List 136 seo tools, many free.
10. *SearchEngine Colossus*. Not a guide, but an extensive listing of search engines in 156 countries: for search and site submission.
11. *SearchEngine Showdown*. Guide to searching with (not submitting to) search engines and directories (to ensure you understand your visitors' search policies).

## Section Contents

## 6.13 EBUSINESS IMPROVEMENT

Whatever the planning, or the experience it was built on, the sad fact is that few sites perform quite as expected.

Nonetheless, while before you had just theory and other sites to go on, now you have your own site with your own visitors to turn into ever-increasing customers. Not only is traffic generally low in the opening months, but so, very often, are conversion rates. These are the things (in no particular order) you'll probably find yourself doing:

1. Improving landing pages. You'll get an idea of customer's interests as the popularity of certain pages emerges. Make sure you pick up on that interest, adjusting the site structure if necessary.
2. Building non-reciprocal links.
3. Checking your email capture system is working properly. No point in inviting newsletter subscriptions if you can't a. collect all email addresses and b. learn something from their responses.
4. Reviewing site security.
5. Testing sales and other copy. You don't have to wait until traffic builds to assess results with split-testing software.
6. Checking the site navigation. Is it *absolutely* impossible for the visitor to get lost, however dim-witted?
7. Double-checking the ordering process with third-party guinea-pigs. 30% of sales are commonly lost here.
8. Finding affiliates to market your products.
9. Understanding your customers: who they are and what they are really looking for.
10. Join a business affiliation scheme to give credibility to your site.
11. Improving site design to attract preferred customers and improve conversion rates.
12. Creating trust through newsletters or ebooks.
13. Extending advertising on pay-per-click search engines, comparison search engines and eBay sales.

## Landing Pages

Landing pages are where potential customers enter your site, and these are the points to check:

1. Pages immediately give visitors what they're looking for: catalogue, special offer or information.
2. Identify what you expect customers to do, and design the page around that, removing obstacles and distractions.
3. Highlight benefits with graphics and case-histories.
4. Emphasize the special offer.
5. Increase confidence with guarantees and transaction security features.
6. Provide location and contact information: a real business with premises and people.
7. Feature phone support or live chat.
8. State the returns policy clearly.
9. Add testimonials.
10. Use customer tracking to monitor behavior.
11. Experiment, checking with split-testing.
12. Streamline the check-out route, the shorter the better.

## Industry Benchmarks

With figures to hand you can now compare your performance to those in a similar situation: company size, market sector, industry, etc. You'll discover the performance areas not up to scratch, and understand what your company could be if it were among the market leaders. Many benchmark studies are available on the Internet, some free. {2} {3}

## Expanding the Business

Suppose all is well, and results are comfortably within expectations. You'll be wanting to build on your investment, expanding the website as sales suggest. The usual advice is not to be over-optimistic in your original plans, or pay for what

you may not need. Nonetheless, the site should have some provision for the development envisaged by your business plan. If it's simply a matter of increasing the product line, then you can add more website pages or upgrade the storefront program. But if you're moving into another dimension with database storage of product information, or branching into new product lines altogether, then a proper plan is needed. Requirements vary, but the general advice in these circumstances is:

1. Develop a new site separately, under a different domain name if necessary, so as not to interrupt the smooth operation of your present site. Test extensively before directing visitors to the new site, or replacing the old site with the new.
2. Consider employing a professional web design company. You'll have a clearer idea of what's wanted by now, and much of the time-consuming and expensive consultation can be side-stepped — in logo design, overall look and functionality. Aim for continuity: some aspects should stay in the new design to extend the trust you've built with your present customers: i.e. go for a makeover but not a total change.
3. Employ a full-time webmaster if you don't already have one.

## **Webmaster**

Webmasters are responsible for the overall look and content of the website, close to the editor's role in a newspaper or magazine. The analogy implies responsibility and experience, and good webmasters can indeed turn their hand to graphics, copy writing and programming. More importantly, webmasters are the creatures who draw all aspects of the business together, and turn your ideas into web reality.

Good webmasters are therefore unusual creatures, and perhaps only the best really shape up. Any IT Recruitment Company can find you candidates with the usual skills in HTML, Javascript, VBScript, in Photoshop and in site build programs like Homesite or Dreamweaver. The stronger candidates will also have some programming or scripting

experience — Perl, ColdFusion, ASP, and VB — and be familiar with Oracle, SQL Server and/or MySQL databases. But your needs will go further than technical expertise. You'll want the outstanding individual who can play a key role in liaising between different departments and objectives.

It's a two way street. The successful candidate should be able to look at your site and suggest immediate improvements, estimating time and cost involved. And you should be able to spell out exactly what your future plans entail, with some idea of budget available. Supply exceeds demand, but webmasters are still ambitious and creative people who want to be associated with the best going.

In summary, a good webmaster should be able to:

1. Iron out any wrinkles in the site left by the designers.
2. Work with you in continuously improving content and layout.
3. Promote the site through the search engines and/or work with an outside optimization company.
4. Monitor viewer behavior and sales, translating the ideas of the Sales and Marketing departments into effective web design.
5. Supervise any IT contractors upgrading site appearance or functionality.
6. Continually check and improve site security.
7. Keep you apprised of Internet developments important to the business.
8. Translate the traffic statistics into meaningful measures for management.

### **Maintenance by the Web Design Company**

Nonetheless, you may decide that budget and current needs do not justify a full-time webmaster. Most web design companies will offer to maintain the site for you, offering very reasonable terms. You should accept, but get details clearly spelt out in the first contract. Web design companies make their money in building sites, not in maintaining them. They are often reluctant than do more than add the odd page and

keep the site running. And this is understandable. The \$200/month or whatever maintenance fee only buys a few hours of work, and a major change — adding a database or entirely reorganizing the page layout — is clearly a new contract.

### Understanding the Customer

You've planned and built the site about some marketing model, and visitors are buying. It's a success. Why bother with customer research when you're more than busy fulfilling orders?

Because it's the first law of marketing. Understand your customers — what they are looking for, why and with what degree of success. Recent surveys have found that e-merchants can now generally quote their conversion rates, but many still don't know their shopping cart abandonment rates. Still less do they know these essential matters:

1. Conversion rates applying to: customers from natural search engines as opposed to pay-per-click search engines.
2. Customers from individual search engines, which vary considerably.
3. Customers grouped by occupation, age, country, or disposable income.
4. Customers drawn by affiliates, banner ads, press releases, site awards.
5. Visitor behavior at each stage of selling process, i.e. page to page through the site.
6. Profits and ROI on advertising spend grouped by: particular keywords and ad copy on pay-per-click search engines and sponsored listings.
7. Influence of site design, page copy and ease of navigation on sales.

You're flying blind without this vital information, and even small changes can have dramatic effects. A study by [Marketing Experiments](#) analyzed two marketing services and found that, while one was very profitable, a second with over 2,500

customers was in dire trouble, losing 40% of its subscribers monthly. Yet the reasons were very simple. The second company had neglected to:

1. Identify their proper customer base.
2. Use descriptions and metatags to filter out unwanted customers.
3. Screen the market with prices used as both an attractor and barrier.
4. Make their copy sufficiently specific.
5. Design their home/landing page to appeal to their desired customer.

### **Examine the Site Traffic Statistics**

Your first task is to look at the traffic statistic, preferably weekly, but at least monthly, to answer these questions:

1. Time spent on site (wrong visitors if too short: adjust copy and keywords).
2. Ratio of pages viewed to visitors (visitors confused or not interested if low).
3. Ratio of visitors to unique visitors (encourage repeat visitors: they buy).
4. Visitor country of origin (improve marketing spend in some of these).
5. Search words and phrases used to find the site (should coincide with the planned keywords).
6. Importance of (i.e. referrals by): search engines and directories (tweak the pages to improve ranking as necessary).
7. Affiliates (are they really working for you: can you help them?)
8. Pay-to-click search engines (acceptable conversion rates?)
9. Reciprocal links (which sites are helping you?)
10. Points of entry (the pages that greet your visitor: are they doing their job?)
11. Points of exit (pages where visitors give up: why?)
12. Typical visitor routes through the site (is this the pattern

you want?)

13. Percentages proceeding to sales pages (improve site navigation if necessary).

14. Percentage actually purchasing (calculate the various conversion rates: acceptable?)

## **Customer Tracking**

The next stage involves customer tracking software or services to model visitor behaviour, most particularly with funnel analysis, applied to traffic from:

1. Natural search engines.
2. Pay-per-click search engines.
3. Individual search engine referrals (days, hours and countries).
4. Affiliates, banner ads, press releases, etc.

## **Surveys**

You may wish to run a survey: many companies will set up one for you, and provide helpful advice.

## **Blogs and Newsletters**

Ideally, you want to make friends of your customers since it's usually by repeat orders that a business thrives. Hence the importance of blogs and newsletters, which create a community where the customer's voice can be heard and the company get its message across.

## **Bulletin Boards**

A further step towards creating a community are bulletin boards, interactive chat boards or even a classified ads service for subscribers/ customers. All require moderating, and take valuable time to supervise, but are worth considering in these circumstances:

1. You sell high-value software.
2. A user's forum can create a sense of confidence in your products and drastically reduce the time technical support spends on answering 'dumb questions'.
3. Your service is community-based: hobbyist sites, trade associations, specialist bookstores.

## Customer Emails

Some customers are never satisfied, but the complaint email or telephone call can be turned to your advantage. In their unthinking ways, visitors may really have stumbled over some design shortcoming, and it's often possible to convert an irate purchaser into a faithful customer. 'Dear Mr Stevens, We're truly sorry you've had this experience, and of course are making an immediate and full refund. In this connection, you may like to know. . .' Keeping emails, and going through them when time allows, may indeed be your best way of sensing what your customers are really looking for. Some will suggest new opportunities, or at least give you that treasured testimonial. Complaints are less a nuisance than a selling tool.

## Affiliates

Most companies manage their affiliates through third party providers like Clickbank and Commission Junction, but studies by Market Experiments.Com suggest that homegrown partnerships can deliver better results. Very large numbers of companies commonly sign up as affiliates — thousands or tens of thousands — but only half of these make a sale, and only the tiniest fraction contribute significantly to your bottom line.

## Improving Site Design

Marketing Experiments have found, for example that common problems causing a serious drop in revenue were:

1. Site was not focused around one clear objective.
2. No clear customer problem and its solution were communicated.
3. Homepage did not 'hook' attention in the first five seconds.
4. Sufficient incentive was not given for every action requested.
5. Prospect was not successive involved in the purchase process.
6. Credibility indicators were not subtly placed throughout the

site.

7. The sales copy did not convey integrity and accuracy.

## **Sales Copy**

How long should sales copy be? The results of MEC's tests were:

1. Both long and short copy have their strengths, but expensive products do better with long copy.
2. Sales copy and product specifics are separate matters. For decent conversion rates, customers need to be given appropriate sales copy, sent through a page providing specific information and then transferred to the shopping cart. Shortening the process by removing the specifics page drastically reduces sales.
3. Good copy outperforms poor copy every time.

## **Awards and Credibility**

Dozens of organizations provide awards, but are they worth anything? Is the time spent polishing and submitting the site properly rewarded in better sales? MEC's findings were:

1. Over 600 agencies give awards, several of which can be won if the site is properly designed.
2. The agencies themselves send negligible traffic, but
3. Awards combined with strategic press releases do enhance confidence and therefore sales.

## **Order Form**

The most telling fault of ecommerce is shopping cart abandonment, still running at 25% to 32% and costing \$6.5 billion/year in lost sales. Research by BizRate and The NPD Group found that, of the 'almost customers', 39% did not purchase the item at all, 26% purchased the product from a competitor, 17% made their purchase off-line, and 18% returned to the site to make the purchase at a later date.

Much more under the control of the merchant was design of the shopping cart/order form. Even a simple shortening of the order form increased sales by 18%, and MEC went on to list 29 ways of improving sales in the 18-45% range.

## Ezine/Ebook Experiment

In their ezine/ebook experiment, MEC built an ecommerce store (\$7,500), created an associated free ezine (\$3,500), and reformatted the ezine material as an ebook (additional cost of \$1,500). They wanted to know how the offer of an ezine and ebook would affect traffic and sales at the commerce site. The results, very briefly, were these:

1. The ezine increased traffic considerably, from 12,000 page views/month to 70,000 page views/month over a 6 month period. It also increased retail sales six-fold over the same period.
2. In fact, two ezines were produced, one appearing weekly and the second fortnightly. The second ezine was more successful in increasing page views at the ecommerce site, but both were effective on the day following launch of the ezine.
3. The second ezine was used in an attempt to convert free subscribers to paid subscribers. 17% of viewers clicked through the offer page and 3% of these went on to convert to paid subscription. This 0.5% overall conversion rate was for one ezine issue only, but was worth \$289 annually. If the ezine could win 50,000 free subscribers, and could entice 60% of readers to find the offer page, then the annual value of paid subscriptions would amount to \$268,000.
4. The second ezine experiment was repeated, this time offering an ebook in place of the ezine. Conversion rates were then 8% rather than the original 3%, a 267% increase over the ezine and worth \$771 annually. Over a ten year period, the annual subscription to the ezine was worth 4 times more than the one-off ebook subscription, of course, but MEC recommended offering both as a relatively cheap and effective way of increasing sales.

MEC were not wholly clear whether the ezine was part of the site, i.e. a true ezine, or was mailed out, when newsletter might be better term. The math was also somewhat simplified, and many assumptions made. Nonetheless, the potential of

ezines/newsletters was clear. A newsletter could be made to pay for itself if only modest conversion rates to paid subscription were achieved. The way was then open to reward subscribers with sweepstakes, cash prizes for 'letter of the month', listings of reader's 'offers and wants', etc.

## **Directories**

MEC submitted to 36 directories, newsgroups and review sites and found, over 30 days, that:

1. Many directories were a waste of time: over-hyped and poorly maintained.
2. Newsgroups generally had membership too small to be worth bothering with.
3. Review sites gave good returns when the submitted ezine was actually featured.
4. 120 new subscribers were gained for an expenditure of \$600.
5. A few directories were well worth the effort, and should be used.

## Using Advertising Spend More Effectively

A common measure for advertising campaigns is the ROI, the return on investment: how many dollars you get in profit for each dollar invested. The last is not merely ad spend, of course: there are salaries and overheads involved in research, planning the campaign, monitoring and writing up results. But, to simplify matters, consider a real test case reported by MEC. They spent over \$24,000 on click fees in three campaigns, and found that by far the best result (in ROI and marketing cost) was achieved with the low bid price of \$0.08. Nonetheless, the best profit was achieved with a click-through costing \$0.50. ROI and profit are different entities.

## **Using Cheaper Keywords**

Some keywords on Google and Microsoft are becoming prohibitively expensive. MEC looked at the case of an Internet supplier of telephone parts whose preferred keywords cost \$1.49 to \$1.52, when conversion ratios allowed no more than

an average \$0.25. MEC's solution was to use 170 low-cost keywords, these each exploiting small market niches.

### **Using the Smaller PPCs**

MEC found that the smaller ppc search engines can bring excellent returns on small investments, even though the conversion rates are much lower and — not taken into consideration here, but obviously important — the profits may be small for the management effort involved.

### **Selling on eBay**

Sales via eBay are more difficult to model because eBay charges an insertion fee whether the item sells or not (\$0.30 to \$4.80), plus a commission on the final selling price (5.25% of the first \$25 plus 2.75% of the remainder, up to \$1000). In general, eBay is an attractive alternative to the ppc and price comparison search engines only if you can:

1. Price competitively, *and* maintain a good profit margin.
2. Offer superlative service: customer feedback is shown.
3. Devote considerable time to the project, or hire an expert to do so.

### **Price Comparison Search Engines**

Internet shoppers are canny creatures, and increasingly make use of the price comparison engines: DealTime, AOL, My Simon, NexTag, BizRate, PriceScan, PriceWatch, Price.Com, CNet and PriceGrabber. Should you advertise with them?

In comparison with Google Adwords and (the then) Overture, MEC found that price comparison engines:

1. Require more competitive pricing.
2. Take longer to register with.
3. Can send larger volumes of traffic.
4. Have lower costs per click.
5. Higher conversion rates.

From varied material provided by MEC, these rough comparisons can be made:

	Oct 2002 traffic	Feb-Apr 2002 traffic	conversion rate
Yahoo Shopping	65,461	-	-
MSN Shopping	23,732	-	-
AOL Shopping	6,449	-	-
PriceWatch	-	102,503	4.42%
CNet	-	39,906	5.91%
NexTag	3,910	34,115	3.43%
PriceGrabber	3,217	33,864	6.28%
DealTime	11,983	18,460	2.85%
BizRate	7,128	10,918	3.44%
PriceScan	-	8,543	3.87%
StreetPrices	-	6,524	4.69%
AOL Shopping	-	5,014	2.07%
My Simon	2685	1,491	2.53%
Price.com	-	1,321	5.68%
iBuyer	-	1,251	2.72%

Price comparison engines are clearly worth sustained attention.

## Pricing

What's the best price? As always, the problem is to find a price high enough to get good margins and low enough to achieve wide sales.

MEC demonstrated a practical approach. The product in question was an ebook on coping with depression, and MEC's first step was to identify the competition.

1. They found three books being marketed through mainstream online booksellers, i.e. 'lost in a sea of digital generalization'. They therefore focused on child psychology, and found a site offering books, articles and videos. The site was being marketed through the ppc search engines, paying \$0.17 per click for "bipolar" and \$0.05 per click for "bipolar children".
2. Encouraged by that finding, their next step was to locate other such sites and study the keywords being used in the metatags. Depression, mental health, psychology, child depression, and therapy were the most popular, but these keywords had high bid prices on the leading ppc search engines, even for a third place ranking.
3. That being the case, MEC identified keywords with more

acceptable costs per click: bipolar disorder, bi polar, child psychology, bipolar and schizophrenia.

4. MEC then checked to see that a significant demand existed for the ebook in question. Sending traffic to a test page with the cheap keywords, MEC achieved 648 click-throughs for an average cost-per-click of \$0.1. Of those 648 click-throughs, 84 clicked a dummy order link. Some would no doubt have abandoned the purchase process, but the initial 13.0% conversion ratio was sufficiently positive to proceed to pricing experiments.

5. Five keywords were used in the same ppc search engine over three days. The \$9.50 ebook attracted fewer orders than the \$14.95 ebook: customers obviously felt that something as cheap as \$9.50 wasn't worth the money. Secondly, though the \$24.95 price attracted fewest orders, it gave the highest revenues.

Pricing therefore begins with an educated guess, is followed by testing, and then moves to the highest price the marketer can get away with.

### Shipping Charges

MEC also looked briefly at shipping charges. Though customers are attracted first by price, they also take into account the shipping charge. Indeed, studies by Jupiter Research showed that 51% of customers shopping off-line did so to escape the shipping charges. Should you offer low cost or free shipping, therefore? And, if so, how do you make it pay for itself? MEC's conclusions were:

1. High shipping price is a tactic that works on eBay, particularly for one-off items.
2. You can also get away with higher shipping charges on estores if you are not aiming for repeat business.
3. In all other cases you'd be well advised to:
  - a. keep your combined charges competitive, perhaps adding a 'priority service', or
  - b. offer free shipping for orders a reasonable amount over

the average — one which seems good value, differentiates you from competitors, and where the ‘free’ is offset by increased sales, perhaps from discounted items. You can find this point by modeling possible scenarios in the light of your own experience, and

c. monitor pricing experiments carefully.

### Questions

1. What often has to be improved in the first few weeks of an ecommerce site going live?
2. How can you better understand your customers?
3. Why would you employ a webmaster, and how interview?
4. List the points to check on landing pages.
5. Describe MEC’s Ezine/Ebook study. How could the results be useful?
6. Why is it worth experimenting with price comparison search engines?
7. Suggest some ways of using the marketing spend more effectively.
8. How would you find the optimal price for an ebook?
9. When should you make money on shipping charges?

### Sources and Further Reading

1. *Marketing Experiments*. Extensive studies in page optimization.
2. *Business statistics*. Bizstats. Basic but free.
3. *Small business benchmarks*. Australia Taxation Office. Used to detect tax avoidance.

## Section Contents

## 7. TECHNICAL ASPECTS

### :Fundamental

Anatomy of Internet  
Telecommunications  
Wireless systems  
Client Computers  
Mobile Devices  
Operating Systems  
Computer Programs  
Security

### :Applications

Browsers  
Business Intelligence Systems  
Cloud Computing  
Databases  
DTP Programs  
eBook Readers  
eMail Services  
Expert Systems  
Graphics Programs  
Internet TV  
Music & Video  
Really Simple Syndication  
Rich Media  
Search Engines  
Spreadsheets  
Video Conferencing  
Word Processing

### :Corporate Matters

Cluster Analysis  
Neural Networks  
Pricing Models  
Realtime Systems  
Regression Analysis

Some technical understanding is needed to be at home on the Internet. The subjects are interesting in themselves, and it's

hardly sensible to use something every day without appreciating its background and limitations. Secondly, the Internet has also brought computing into the home and office, so that what were matters for 'geeks and boffins' are now part of everyday life. Thirdly, the applications have revolutionized business: emails, spreadsheets, word processing, video conferencing. Fourthly, some applications have a direct bearing on ecommerce, being used to create web pages (html editors and graphics programs) or evaluate businesses (spreadsheets). Fifthly, the applications have founded business empires: Microsoft (operating systems), Adobe (graphics and illustration tools, pdf creation program), Macromedia (html and Flash editors: now acquired by Adobe ) and Lotus (personal information manager). Finally, no one can safely invest in Internet opportunities without some grasp of the technologies involved.

The fundamentals sections covers the nuts and bolts of the Internet. Applications deals with programs familiar to PC users.

## Book Contents

## 7.1 ANATOMY OF THE INTERNET

The Internet is a vast collection of computers linked by cable and satellites, not controlled by any one authority, but all operating under common network protocols. The term 'Internet' includes both the hardware (satellites, cable, routing devices and computers) and the software (programs and network protocols) that enable computers to communicate with each other.

When information is sent across the Internet, the Transmission Control Protocol (TCP: the networking-language computers use when communicating over the Internet) first breaks the information up into packets of data. The client computer sends those packets to the local network, Internet service provider (ISP), or online service. From here, the packets travel through many levels of networks, computers, and communication lines until they reach their final destinations. Many types of hardware help the packets on their way. These are:

**Hubs:** link groups of computers together and let them intercommunicate through multiple ports.

**Bridges:** link local area networks (LANs) with each another.

**Gateways:** act like bridges, but also convey data between dissimilar networks.

**Repeaters:** amplify the data at intervals so that the signal doesn't weaken.

**Routers:** ensure packets of data arrive at their proper destination across different technologies, media, and frame formats.

**Servers:** deliver web pages and other services as requested.

**Client computers:** make the initial request for Internet services, and run applications to handle those services.

**Cables and/or satellite communications:** make the hardware connections.

All hardware units need common operating methods, basic instructions called protocols that specify to all parties how the data will be handled.

## Internet Connections

Physical Internet connections are effected with:

1. Twisted wire: two insulated copper wires twisted into pairs for ordinary telephone communications, and 4 pairs of copper cabling for Internet networks. Transmission speeds range from 2 Mbps to 100 Mbps. (Transmission speed or bandwidth is measured in bits per second, where K a thousand, M a million, and G is a thousand million.)
2. Coaxial cables: copper or aluminum wire wrapped with an insulating and flexible material: widely used for cable television systems, office buildings, and for local area networks generally. Transmission speeds range from 200 Gbps to over 500 Gbps.
3. Optical fiber cable: one or more filaments of glass fiber wrapped in protective layers: not affected by electromagnetic radiation. Transmission speeds may exceed 1000 Gbps.

Satellite or Wireless connections are made with:

1. Terrestrial microwave transmitters and receivers placed on 'line of sight' locations on tops of buildings and elevated ground, usually assisted by relay stations spaced approximately 30 miles apart.
2. Communications satellites using microwave radio as their telecommunications medium, which is not deflected by the Earth's atmosphere. Such earth-orbiting systems can receive and relay voice, data, and TV signals.
3. Cellular and PCS systems using radio communications technologies, which are often specific to individual countries. Each area or cell employs a low-power transmitter or radio relay antenna device to relay calls from one cell to the next.
4. Wireless LANs using both high- and low-frequency technologies to enable communication between several

devices in a limited area (e.g. Wi-Fi, BlueTooth, WiMax, UWB and ZigBee).

Networks are commonly designated as LAN ( local area network) WAN (wide area network), MAN (metropolitan area network), PAN (personal area network), VPN ( virtual private network), CAN (campus area network) and SAN (storage area network).

Wireless communication spans the electromagnetic spectrum from 9 kHz to 300 GHz. Satellite signals travel at the speed of light, but the distances involved create a time-delay called 'latency'. A 71,000 km separation of transmitter and receiver, for example, will induce a latency of 473 ms, often noticeable on international calls.

It is often convenient to recognize four levels of Internet connection:

1. The 'backbones' are the main "trunk" connections of the Internet, carrying data at high speeds by fiber-optic cables and satellite links across the countries, continents and oceans of the world. Bandwidth is a measure of data that can be transferred per unit time, and in the US these backbones have bandwidths of 155 Mbps to 2.5 Gbps. Backbones are owned and operated by Network Service Providers, major companies like AT&T, Verizon, and AOL. Built into this network is redundancy, transmission surplus to demand but kept in reserve should there be traffic peaks, or breaks in the network.
2. Backbones 'step down' to regional and local networks at hubs, once called Network Access Points or Metropolitan Area Exchanges but now Internet Exchange Points (IXPs), which are again under the ownership and control of NSPs (Network Service Providers).
3. High-speed switching computers make the connection to the local networks, here leased by NSPs to government departments, campus area networks, large companies and ISPs (Internet Service Providers).

4. ISPs, the most familiar to the public, are retail providers, covering the 'last mile' to offer Internet access to client computers, i.e. those in homes and small businesses. ISPs include telecoms giants but are generally national or local companies.

## Routers

Routers ensure that all data gets sent to its intended destination by the most efficient route. They open the IP packets of data to read the destination address, calculate the best route, either to its final destination, or to another router closer to that destination, repeating this until the destination is reached. To find the optimal route, routers employ an internal database called a routing table. There are two types. A static table specifies unchanging paths for packets to use. A dynamic table allows a packet to have multiple routes. Sometimes the packets are sent to a router's input port faster than the port can process them, when they pile up in an input queue. If packets overflow that queue, then the TCP protocol has the packets sent again. Routers are a key element of the Internet, and today's models provide great flexibility, security and control over company networks. The one network can link all company employees, even those on out-of-office hotel and conference rooms. Many built-in technologies such as voice, wireless, and advanced security systems can be optimized by the IT management team, and proper measures taken against security lapses and malicious code attacks.

## Servers

Equally important is the server, a powerful computer (or often groups of computers) that handle requests for web pages, email data, and an increasing variety of services. The computers will use the Unix, Windows, Linux, or Macintosh operating systems, which have the TCP/IP protocols built in, but run different types of software, depending on the service offered: http servers, network servers, ftp servers or database servers. Simplest are the http (Hypertext Transfer Protocol)

servers, which comply with requests from website visitors, sending the data back to the client computer for the browser software to assemble as familiar web pages. Servers will also generally employ scripts (Perl, Common Gateway Interface scripts, .NET and others) to engage with external mini-programs like database lookup or interactive forms processing. A Yahoo search for information on telecommunications, for example, will appear like <http://search.yahoo.com/bin/search?p=telecommunications>, where the 'bin' indicates where the scripts are located and the 'search?p=telecommunication' instructs the script to search the associated databases for the term 'telecommunications'.

### Repeaters

Repeaters maintain the signal strength and use technologies appropriate to the transmission medium. Even backbone fiber-optical cables may carry optical amplifier repeaters in the form of erbium-doped amplifiers spaced several tens of kilometers apart.

### Hubs

Transmission stepdowns at Internet Exchange Points are achieved by the use of hubs, an electronic device with multiple ports. Transmission rates vary considerably across these hubs: as this [Wikipedia listing](#) indicates.

### Gateways

Technically, a gateway is a network node designed to interface with another network that uses a different protocol. Not only must the gateway contain protocols translators, but also impedance matching devices, rate converters, fault isolators, and/or signal translators. Mutually acceptable administrative procedures have also to be agreed between the two networks.

### Bridges

A bridge connects numerous local area networks for the purpose of collaboration and/or exchange of information. All networks have to be using the same network protocols.

### Client Computers

Client computers are those used by the general public, on which they run applications, or make requests for Internet services.

### How Everything Fits Together

Level	Term	Devices	Activity	Bandwidths	Owner
1	Backbone	Cables Satellite	Data transmission	155 Mbps to 2.5 Gbps	Network Service Providers
1-2	Network Access Points	Hubs	Bandwidth step-down	-	Network Service Providers
2	T1-T3 Regional Networks	Cables Satellites Routers Repeaters	Data transmission	1.5 Mbps (T1) 45 Mbps (T3) 768Kbps- 5 Mbps (satellites)	Local Bell Operating Companies (RBOCs) Local Telecommunication Companies
2-3	Internet Exchange Points	Hubs	Bandwidth step-down	-	Local Bell Operating Companies (RBOCs) Local Telecommunication Companies
3	Local Area Networks	Cables Routers Repeaters Mobile Transmission Towers	Data transmission	up to 45 Mbps but generally less	Government Institutions Larger Companies Internet Service Providers Third Party Hosting Companies
	Local Area Networks	Bridges	Link LANs	-	ditto
	Local Area Networks	Gateways	Convey data between LANs	-	ditto
	Campus Area Networks	Cable Routers Repeaters Mobile Transmission Towers	Data Transmission	10-100 Mbps	Third Party Providers to Universities
3-4	Internet Exchange Points	Hubs	Bandwidth step-down	-	Internet Service Providers
4	'Last Mile' Retail	Cable Telephone system Routers Repeaters Mobile Transmission Towers	Data Transmission	30 Kbps to 2 Mbps	Leased by smaller companies and individual subscribers

Internet Service Providers provide a range of services, from simple telephone dial-up to T3 high speed transmission

connections that media companies require. The terminology is much more complex than shown here, and varies somewhat with country concerned. Narrowband generally refers to the connection through the traditional (landline) telephone system, however, and broadband refers to cable connection at speeds suitable for audio and video streaming. Transmission speeds downstream (to the customer) may be markedly different from those upstream (from the customer), depending on the technology. Speeds given refer to the maximum. A Broadband Index by country intention is provided by the gBBI.

Dial-up Modems: a modem device (modulator-demodulator) converts Internet data to telephone signals. A transmission speed of 56 Kbps is theoretically possible, but noise generally imposes packet resending and reduces speeds to 30 Kbps or less.

Digital Subscriber Line (DSL) uses a telephone technology with transmission speeds of 256 Kbps to 20 Mbps.

Subscribers must live within 2 miles of the local telephone switching exchange.

Cable modem is a technology that uses an existing cable TV service to provide transmission speeds of 1 Mbps to 15 Mbps.

T1 and T3 are international standards for digital communication, which guarantee transmission rates of 1.54 Mbps and 45 Mbps respectively.

Satellite access is offered in rural areas where other ISP services are unavailable. Transmission speeds can reach broadband levels, but a small satellite dish has to be installed and there are often penalty payments for excessive bandwidth use.

ISP charges have been declining, and a rough comparison is as follows:

Access	Typical Charge/Month	Transmission Speed to Desktop
Dial-up Modem	\$10 - \$25	30 - 56 Kbps
Digital Subscriber Line	\$15 - \$50	256 Kbps - 20 Mbps
Cable Modem	\$20 - \$50	1 Mbps - 20 Mbps
Satellite	\$20 - \$50	768 Kbps - 5 Mbps
T1	\$300 - \$1,200	1.5 Mbps
T3	\$2,500 - \$10,000	45 Mbps

## Questions

1. What is the Internet exactly? Explain how it differs from the World Wide Web.
2. List and briefly explain the functions of the hardware involved.
3. What is the server-client model, and why is it important?
4. Draw a rough map of the Internet, from backbone to last mile facilities.
5. Where may technological advances be expected?

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12. *Broadband via Satellite*. Canada Connects.

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## Section Contents

## 7.2 TELECOMMUNICATIONS

Telecommunications is an important, expanding and highly technical field, {11} {12} {17} {18} but a grasp of the basics will help make sense of other pages in this section.

### Analog and Digital

Any telecommunication system has three units:

1. A transmitter that takes information and converts it to a signal.
2. A physical channel (cable) or transmission medium (wireless/satellite) that carries the signal.
3. A receiver that takes the signal and converts it back into usable information.

The signal itself can be of two types:

1. Analog, where information is provided by a continuously varied signal (e.g. a waveform representing the strength and pitch of a human voice).
2. Digital, where information is encoded as a set of discrete values (e.g. a series of ones and zeros).

Digital systems are generally preferred, because there is:

1. Less noise: the signal is not so degraded by transmission imperfections.
2. More reliability: signals can be encoded with checksums to ensure parts are not lost.
3. Greater efficiency: digital systems can be compressed.
4. Increased security: digital signals can be encrypted.
5. Better use of resources: packet switching allows data to be sent by optimal routes.

### Packet Switching

A text message

Hi, Liz . . . .

is first converted to digital form:

011100110111001010101001011111000101. . .

and then broken into packets.

011100110101    00001001101    00111010101

To each packet is then added a directional header:

01011010101    011100110101

and an error control.

01011010101    011100110101    01011010101

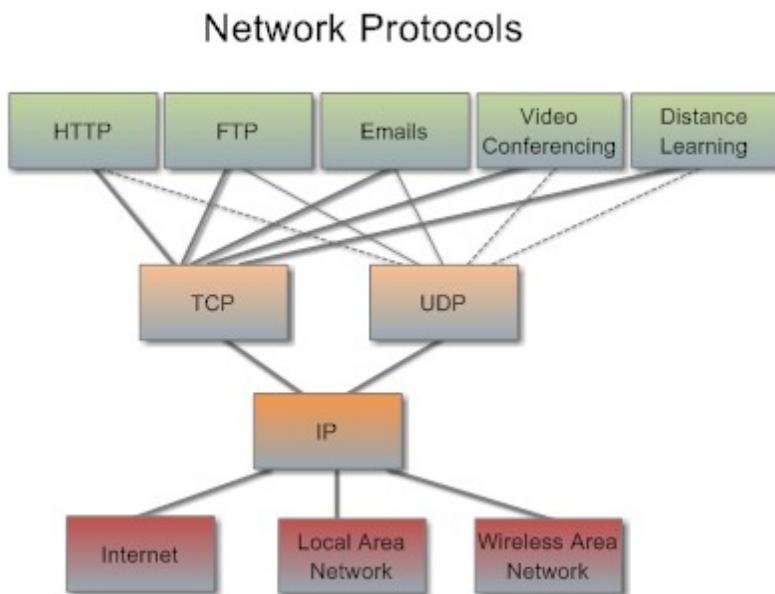
Packet switching is used many Internet applications, including the World Wide Web, email, File Transfer Protocol, Secure Shell, peer-to-peer file sharing, and some streaming media applications (of which more later). Protocols are sets of rules that govern data communication on networks, i.e. fundamental, device-independent software instructions that enable signals to flow and interact in an orderly fashion.

Two such protocols, IP and TCP, make the Internet possible. The Internet Protocol (IP) slices the digital signal into packets, and then adds a header identifying destination of the packet (and, optionally, the routers to be used) plus an error control. There are several IP versions, and the more flexible version 6 (IPv6) is only slowly replacing version four (IPv4).

### Network Protocols

Network congestion, traffic load balancing, or other unpredictable network behaviors can cause IP packets to be lost, duplicated, or delivered out of order. A further protocol is therefore added: TCP. Transmission Control Protocol detects these problems, requests retransmission of lost data, rearranges out-of-order data, and even helps minimize

network congestion to reduce the occurrence of the other problems. Once the TCP receiver has reassembled the digital packets as originally intended, it passes them to the application program.



TCP needs a fixed connection. If one application wants to communicate with another via TCP, it sends a communication request to an exact address. After a 'handshake' between the two applications, TCP will set up a two way communication between applications, continuing until this is closed by one of the applications. In contrast, IP does not need a fixed connection, but takes advantage of whatever network routes are open at the time.

Because optimal routes are continually changing, a signal of any length will be sent as several packets on different routes, the packets being guided by their headers and routers to their intended destination, where they are reassembled by TCP. Because they operate largely independently of each other, protocols are often viewed as distinct layers. At base, as in the diagram above, there lies the network of computers and connections that physically makes up the Internet. Then come two layers of protocols, IP and TCP (sometimes with the faster but less accurate UDP: User Datagram Protocol) which together work on any physical system and link up with all applications. In the top layer appear the applications themselves, which are specific to the operating systems run by the user's computer: Mackintosh, Windows or Linux.

Computers link to the Internet through software that understands and interprets the TCP/IP protocols. The software is known as a socket or a TCP/IP stack, and is built into the computer's operating system. For PCs, the software is called Winsock. For Macintoshes, the software is called MacTCP. If the link to the Internet is through a LAN (local area network), cable modem, or DSL line, a computer needs a network card or equivalent, with the software to run it. If the link is through a modem, the computer must use one of two software protocols, either Serial Line Internet Protocol (SLIP) or Point-to-Point Protocol (PPP), both of which hook up with the Internet's TCP/IP protocols.

The Internet operates on the client/server model of information delivery. The client is typically the local personal computer or its associated software. The server (also known as the host) is generally a more powerful computer that houses the data and/or server software. The client computer connects to a server computer, requests information, which the server looks for, assembles and sends to the client computer. Often the information is web pages, but may also be database information, email and indeed a host of other service information. Hosts and clients can be of many makes and manufacturers, and run a wide variety of operating systems: the Internet protocols ensure data is transferred seamlessly.

Essential to the Internet is the Domain Name System (DNS), which provides client computers and servers with an address, called the uniform resource locator, or URL for short. The DNS translates the plain English address, [www.mysite.com](http://www.mysite.com), into a series of numbers called an IP (Internet Protocol) address. An IP address, such as 123.23.45.121, marks the location of a computer on the Internet, and the [mysite.com](http://mysite.com) address is known as a domain. Common domain addresses include .com (commercial), .edu (education), .gov (government), .mil (military), .net (Internet service providers and networks) and .org (organization). Powerful computers called name servers are responsible for keeping track of domains and translating

them to the IP addresses the Internet understands. Large companies generally have a static address, but client computers using an Internet Service Provider (ISP) are usually provided with a temporary or dynamic IP address, chosen from the limited number allocated to the ISP.

#### More on Channels

The account above is much simplified. In fact, to overcome the tendency of big companies like IBM and Novell to define their own protocols, the International Standards Organization developed a standard called OSI (Open System Interconnection), which defined seven different layers of protocols. Each layer was responsible for a different function, and was independent of the layers above and below. The seven layers, along with an added security layer, are:

1. Physical Layer, which covered the actual transmission medium (e.g. radio waves) and governed the type of modulation used (amplitude, frequency, or phase) and the design of interface plugs.
2. Data Link Layer, which covered the type of LAN architecture (usually Ethernet) and the TDMA or CDMA multiplexing schemes of standards such as GSM and cdmaOne in a wireless network.
3. Network Layer, which was responsible for actually transferring data between different machines (commonly IP but included IBM's NetBui and Novell's Internet Packet Exchange).
4. a. Transport Layer, which covered error control and prioritizing traffic (TCP or UDP on the Internet, and Wireless Datagram Protocol on mobile phone transmission), and b. Security Layer, which includes various encryption systems (Secure Socket Layer on the Internet and Wireless Transport Layer security mobile phone transmission).
5. Session Layer controlling who can send or receive information (in fact occupied by SSL on the Internet, and split into an upper Wireless Session Protocol and a lower Wireless Transaction Protocol for Wireless Application Protocols, i.e.

mobile phone transmission).

6. Presentation Layer which controlled how data was presented to applications, but is rarely used.

7. Application Layer, which covered the protocols familiar to the public (HTTP and FTP on the Internet, and Wireless Application Environment with its various applications on WAP).

Layer	Computer	Action	Server
	Client	Client decides to visit company web page	Company
Application Layer	www.client.com	> Find company IP address and then receive < DNS information	Domain Name Server
Transport Layer	www.client.com	> Send HTTP request in packets >	www.company.com
Network Layer	www.client.com	> Send HTTP request in packets (IP or other) >	www.company.com
Datalink Layer	www.client.com	> Send message divided into frames with error correction packets >	www.company.com
Physical Layer	Client computer	> modem > router > cable > coaxial cable >	Company server

A web page request thus proceeds as follows:

### Error Tracing

Engineers commonly check an Internet line by using such tools/commands as Ping, NSlookup, Tracert, etc. that test whether devices like routers, servers or switches are contactable. Ping {14} checks that a server, etc. is functioning, and measures the time taken by the transmission round-trip. NSlookup {15} finds name server information for domains by querying its DNS. Traceroute {16} shows the path (via routers) of a packet of information from your computer to one you specify.

### Useful Links

[Telecommunications data](#)

[Verizon's Global Network](#)

[Internet Traffic Report](#)

[Internet Statistics](#)

[Internet World Users by Language](#)

[Webopedia](#)

[Foldoc.](#)

[The Free Dictionary.](#)

[Protocols](#)

## Questions

1. Explain the difference between analog and digital signals: why is digital preferred?
2. Explain the principles of packet switching.
3. What are network protocols?. Give some protocols important to the Internet, and explain what they do.
4. Outline the channels of the Open System Interconnection standard.
5. Explain how Ping and Tracert are used, and why.

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Telecommunications is a difficult subject, and many aspects will benefit from reading more technical literature than is listed here.

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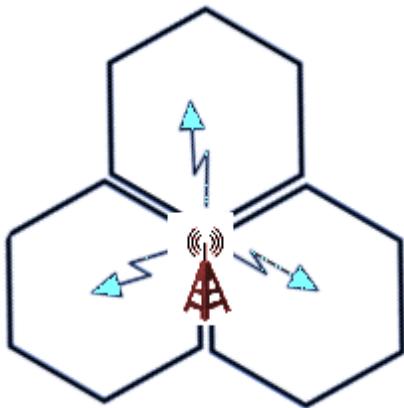
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## Section Contents

### 7.3 WIRELESS SYSTEMS

Satellites provide an important link in the Internet, and wireless transmission enables phones and similar mobile devices to operate.

Transmission Protocols

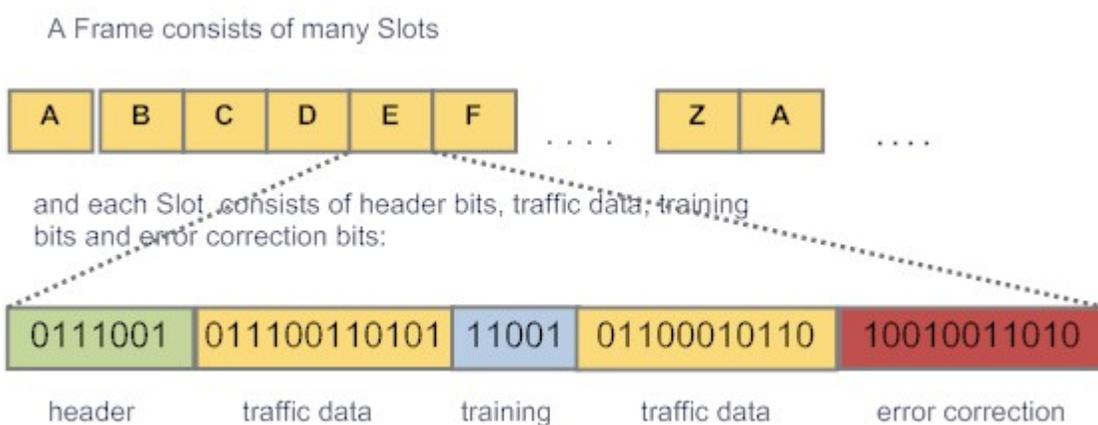


Mobile phones are full-duplex, i.e. users can talk and listen at the same time because two transmission channels are employed. Each transmission is over a few miles only, but contact is maintained by a regular deployment of transmission towers that divide the intervening area into hexagonal cells measuring some 10 square miles each (in densely inhabited areas: size depends on the number of mobile phones and signal frequencies: low frequencies travel further). Each cell site has a base station with a computerized 800 or 1900 megahertz transceiver and an antenna. Once switched on, the mobile estimates the signal strength to find which cell should carry the call, and then assigns a vacant radio channel within that cell to take the conversation. Hand-offs ( moving from cell to cell) are managed in the same way, the mobile automatically switching when the signal drops below a threshold level.

American cell phone frequencies make use of several thousand channels in a 50 MHz chunk of the 824 MHz - 894 MHz frequency interval, (the remainder being taken up by Airphone, Nextel, SMR, and public safety services). Cell

phones and base stations communicate with each other through two duplex channels. The first constitutes the control channel and sets up the communication. Once the mobile telephone switch (MTSO) assigns a voice channel to the mobile, that mobile uses its second duplex channel to carry the traffic.

Digital phones convert the voice into binary information (a sequence of 1s and 0s), and then compress that information, indeed so effectively that 3 to 10 digital cell-phone calls occupy no more space than would a single analog call. As on the Internet, information is sent in packages, but these are here called *time slots*. Several slots make up a *frame*. The frame, and often the slot itself, carries three types of information. The first is *control information*, which specifies the frame's length, destination, and origin. The second is the actual *traffic* or data (speech, images, Internet information). The third is an *error checking routine*, often known as 'error detection and correction bits.'



Though transmission is by radio signal, mobiles also require their network protocols, though these differ from those of the Internet (and indeed from country to country, unfortunately, making many American mobile phones nonfunctional in Europe). Second generation phones (2G) employ one of three protocols. Frequency division multiple access (FDMA) puts each call on a separate frequency. Time division multiple access (TDMA) assigns each call a certain portion of time on a designated frequency. Code division multiple access (CDMA) gives a unique code to each call and spreads it over the available frequencies. To overcome some of these

incompatibilities, phones are generally offered with multiple bands (switch between frequencies), multiple modes (switch between protocols) or both facilities.

Third generation (3G) employ increased bandwidth and transfer rates to accommodate Web-based applications and phone-based audio and video files. Different protocols apply: CDMA2000 ( based on 2G Code Division Multiple Access), WCDMA (Wideband Code Division Multiple Access) and TD-SCDMA (Time-division Synchronous Code-division Multiple).

### Technology

The Mobile Web introduces new components into the web ecosystem, including:

1. Markup languages (see below) and styles optimized for mobile devices.
2. MIME types (see web pages) that differentiate mobile markup from desktop HTML.
3. Browser clients (i.e. mobile devices) with a wide variety of capabilities.
4. Network proxies (radio transmissions) that further adapt content to potential clients.

Some popular mobile groups {3}

Mobile	% Market and Date	Note
Internet Explorer Mobile	considerable	launched 1996: default mobile browser on all Windows Mobile, Windows CE, and many Palm devices.
Openwave	29% in 2008	launched 1997 with WAP, but now supports modern markup languages.
Nokia	34% in 2008	launched 1999 with WAP, but now supports XHTML.
Opera Mobile and Opera Mini	-	launched 2000: operating system independent.
Blazer	-	launched 200 with WAP, HTML and iMode for Palm OS Palm and Treo machines.
Blackberry Internet Browser	considerable	originally supported only WAP, but HTML capability was added with the launch of Symbian 4.0 in 2005.
Mobile Safari	considerable	primary browser that runs the Apple operating system on the iPhone.
Mobile Chrome	growing	primary browser for phones running Android operating system developed by Google.
SkyFire	still in beta	true Web browser running QuickTime, SilverLight and Flash.

Mobile platforms also vary in the markup languages

employed:

Device	Screen Size	Usable Display Area	Operating System	Markup Languages Supported	Multimedia Supported
Apple iPhone	320 x 480 px	320 x 480 px	Proprietary iOS	XHTML-MP, CSS2 and most of HTML5 & CSS3	GIF87, GIF89a, JPEG, PNG, MIDI, MP3, 3GPP, & MP4
Google Android	480 x 854 px (rotates auto.)	320 x 240 px	Google Android	XHTML-MP, CSS2, and most of HTML5 and CSS3	GIF87, GIF89a, JPEG, PNG, MIDI, MP3, 3GPP, & MP4
RIM Blackberry (87 models) Model Bold 9700	480 x 360 px (rotates auto.)	460 x 348 px	Proprietary OS RIM	XHTML-MP & CSS2	GIF87, GIF89a, JPEG, PNG, MIDI, MP3, 3GPP & MP4
Palm (many models) Model Palm Pre	320 x 480 px	316 x 480 px	Palm OS	XHTML, XHTML-MP, and CSS2, limited for HTML5 & CSS3	GIF87, JPEG, PNG, MP3, 3GPP & MP4
Windows Mobile	320 x 480 px	320 x 480 px	Windows	XHTML-MP, CSS2, JS & Microsoft programs	GIF87, JPEG, PNG, MP3, 3GPP & MP4
Motorola (533 models) Model RZR V3m	167 x 220 px	-	OS Symbian	XHTML, XHTML-MP	Midi, MP3, MP4, 3GPP

The wireless Internet access systems vary considerably in transmission speeds and ranges:

Technology	Transmission Speed	Range	Leading Companies
Bluetooth	1-3 Mbps	1-30 meters	Apple, Ericsson, HP, Nokia and device manufacturers
Ultra Wideband	10 Mbps	10 meters	Intel, Freescale, etc.
Wi-Fi	11-70 Mbps	100 meters	Cisco, Linksys and other manufacturers
WiMax	50-70 Mbps	50 km	Alcatel, Clearwire, Intel, Fujitsu, Sprint, etc.
Zigbee	250 Kbps	10 meters	Chipcon, Freescale, Mitsubishi, Motorola, etc.

Second-generation iPhones are equipped with GPS features, which advertising companies track with commercial services like Admob, Bango and Mobilytics.

### Applications

There are literally thousands of applications for the Palm, iPhone, iPad, and the more popular mobile phones, all of which have to be approved by (and sold through) the mobile device manufacturer. Some applications are free, being used in viral advertising, but most are charged at \$1 to \$15.

A more interesting approach is that of SPRXmobile. Available in Amsterdam, the service employs the smartphone camera and embedded GPS to automatically provide the mobile user with information on surrounding shops, restaurants, theatres, etc. as the smartphone is pointed. Maps can also be displayed, and the businesses pay a fee to SPRXmobile to be so listed. Wikitude is similar, but provides tourist information on scenes, buildings and other places of interest. Slifter is a location-based best-price-finder that can be used on the Web, or downloaded to the Blackberry or iPhone. Very similar are NearbyNow, Krillion, ShopSavy and Quattro Wireless. Revenues from such location-based services are growing rapidly, and could total more than \$12.7 billion by 2014.

#### Trends

1. Mobiles are becoming increasingly popular: over 35% of Americans don't now use a landline phone.
2. Mobiles are part of a worldwide trend towards portable and easy-to-use devices, leaving conventional computers to undertake more specialized and demanding tasks.

#### Useful Links

Computer User

Webopedia

Foldoc.

The Free Dictionary.

Protocols.

#### Questions

1. Describe the transmission protocols operating in US wireless systems.
2. Describe the frames that make up a wireless transmission.
3. What new components have been added to the web ecosystem by mobile phones, and illustrate them by reference to some popular mobile phone groups.
4. Compare six wireless Internet access systems, their transmission speeds, ranges and implementations.

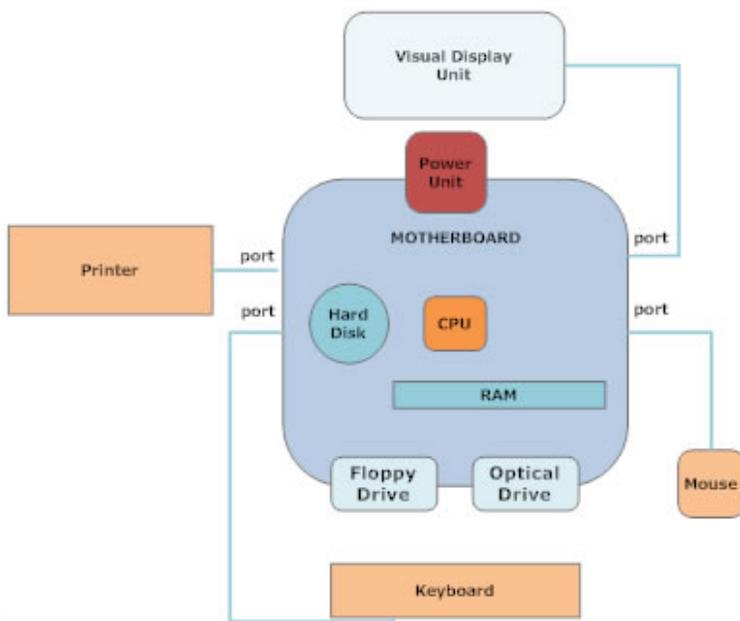
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## Section Contents

## 7.4 CLIENT COMPUTERS C

Client computers are simply those operated by the 'end-user' of the client-server system of the Internet, i.e. employed by individuals browsing the Internet, sending email messages, etc.



**COMPUTER ANATOMY**

entral processing unit

(*CPU*) mounted on a *motherboard*, which contains slots for memory modules (*RAM*: random access memory) and various expansion cards. Also integral is a *hard disk* (a series of revolving fragile magnetic platters that store tiny bits of magnetic metal in patterns that can be read later), an *optical drive* that reads and writes to a CD, a *floppy drive*, *ports* from which cables attach to *peripherals* and *USB* socket(s) for a pendrive (*flash memory*) and other devices. The whole is powered by a *power unit*, which transforms the mains high voltage alternating current to low voltage direct current.

*Peripherals* include a *video display unit* (VDU: formerly a cathode ray tube but generally now a flat, liquid crystal display screen), a *mouse* or *tablet*, and *keyboard*. The operating system (basic software) allows peripherals to operate with each other, and client applications to be run. The usual operating systems are Windows, Mac, Unix and Linux.

## Maintenance

Computers in larger companies are usually networked and managed by the IT Division, which is responsible for maintaining the trouble-free running of the system and its security. A firewall protects the system from unshielded Internet access, and there may also be anti-virus and anti-spyware programs periodically run to remove unwanted snippets of code that can compromise security. The IT Department is also responsible for granting access privileges, making continual backups of information, and imposing strict rules as to what employees can and cannot do on the client computers. Client computers are commonly simple terminals with limited individual processing power, a trend increased with cloud computing services.

Computers are simple machines, but need to be kept clean, serviced periodically, clutter removed from hard disks, software updated, passwords stored safely and data backed up regularly. The most important of these are data backup and password safety.

Smaller companies are often given this advice:

All that's needed by the average small company is a little forethought, some inexpensive software, mandatory routines and a plan to meet eventualities. Suppose a spyware program steals your passwords, or customer are bombarded with third-party credit card details? Perhaps the office burns down, or your hosting company suddenly goes out of business? However rarely, all these things do happen. Draw up a contingency plan, circulate it, make sure it really works and that staff know what to do.

## Office Security Routines

The following are obvious but can be overlooked:

1. Use hard-to-guess passwords, restrict access to them, and don't leave them in desk drawers or on PCs.
2. Ensure backups are made regularly, in sequence, and are intelligently labeled.

3. Check backups regularly, i.e. ensure that restores from backups are sound.
4. Keep paper copies, and in a safe place.
5. Store copies of all essential information, preferable encrypted and off-site: in CDs, removable hard-disks, pendrives, and/or with professional data storage companies.

#### Protection from Viruses

Do the following:

1. Consider using alternative browser(s).
2. Get the appropriate virus protection software, and keep it up to date.
3. Install a firewall.
4. Set passwords properly on networks ( IT manager's job).

#### Protection from Spyware

Many computers are infected by spyware of some sort. Most are 'harmless', but an increasing number pass into viruses that will steal and transmit confidential information, even memorizing the keystrokes of passwords. You need to:

1. Avoid keeping confidential information on any machine connected to the Internet.
2. Run spyware removal software.
3. Encrypt confidential information.
4. Consider purchasing a special guide to spyware.
5. Visit security sites for information on the latest threats.

#### Protection from Hackers

Hackers break into computer systems, sometimes to prove themselves, sometimes with malicious intent. You need to:

1. Install a firewall.
2. Ensure sensitive information is encrypted.
3. Maintain proper security (restrict access with passwords) in the office.

## Questions

1. Describe the main components of a Personal Computer and explain how they operate.
2. What backup routines would you impose, and why?
3. How do viruses differ from spyware, and how can you minimize the risk they represent?

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## Section Contents

## 7.5 MOBILE DEVICES

Mobile devices are increasingly being used in the workplace: in colleges, factories, hospitals and hotels where staff are kept on the move. Mobile platforms are important because three times as many people worldwide possess a mobile phone than own or use a PC (approx. 3 billion to 1 billion). In many parts of the developing world, mobile devices indeed provide the only means for ecommerce to operate.

### Models

Mobile devices differ from computers in that they:

1. Are lightweight portable instruments with more limited but easy-to-use functions.
2. Possess flash memories.
3. Employ different and still-evolving markup languages.

Mobile devices provide increasingly useful services:

1. Chat, advise, research, educate and sell products & services.
2. Send and receive email.
3. Obtain information from the Internet.
4. Play games.
5. Watch TV.
6. Send text messages and photo images.
7. Make 'to do lists'.
8. Keep track of appointments.
9. Use a built-in calculator.
10. Operate a host of other functions through third-party applications.
11. Integrate PDAs, MP3 plays and GPS receivers.

Mobile devices come in thousands of different models, as a search of DeviceAtlas will show, but they are commonly grouped as follows:

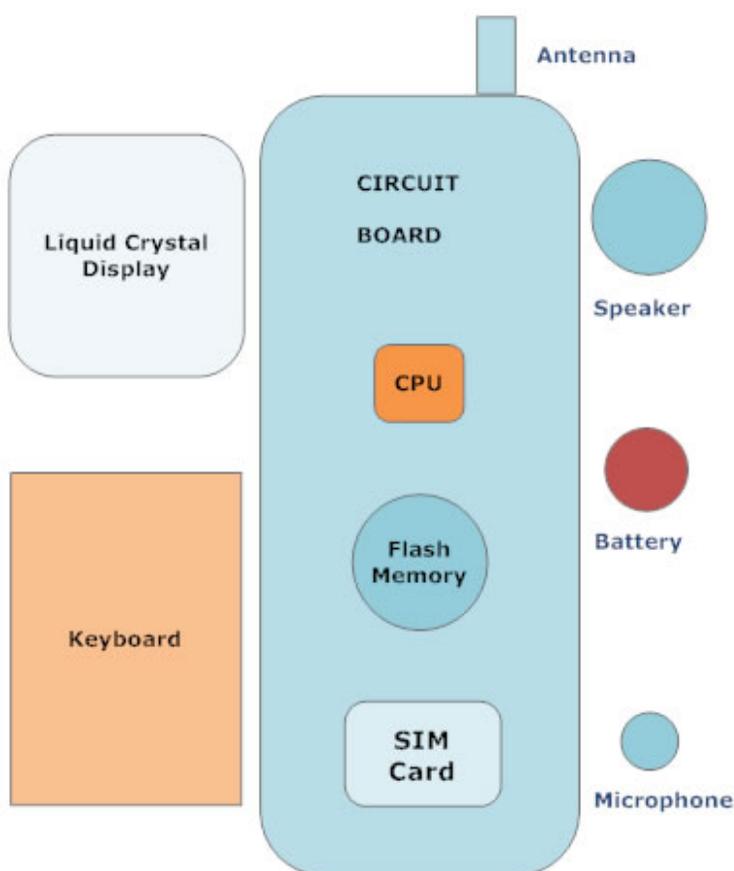
1. Regular phones: lightweight, dedicated devices for making and receiving phone calls and text messages: can sometimes

access the Internet via mobile browsers.

2. Smartphones: fully-featured, multipurpose, high-bandwidth, networked, multimodal, interactive and accessing the Internet.

3. Wireless-enabled devices: not strictly phones, but employing wireless connectivity: e.g. Apple iPod touch, Sony PlayStation 2, Amazon Kindle, various netbook and tablet computers.

4. Netbook and tablet computers: closer to laptops, but tablets themselves are often equipped with multi-touch screens and pen writing recognition abilities, and can display ebooks, video, and live TV.



**MOBILE PHONE ANATOMY**

Mobile phones contain 1. a circuit board with flash memory and processing chips, 2. an antenna, 3. a liquid crystal display, 4. keyboard, 5 a microphone, 6. a speaker and 7. battery. They may also employ one or more SIMs (Subscriber Identity Module), a tiny smart card that stores each customer's identity and other information, in some cases allowing the customer to switch between business and personal lines to a more complicated one offering mobile banking. Many mobiles include a digital camera.

The larger screen of groups 3 and 4 make web pages easier to read than is the case with smart phones. A brief comparison of some popular iPad look-alikes:

Model	Operating System	Screen Size	Storage	Weight
Apple iPad	iPhone OS 3.2	9.7 x 4.3"	16-64 Gb	1.5 lb
HP Slate	Windows 7	10"	32-64 Gb	-
JooJoo	JooJoo OS	12"	4 Gb	2.4 lb
Notion Ink Adam	Android	10"	16-32 Gb	1.7 lb
Toshiba iPad	Android	10"	-	-
Lenovo U1	Skylight Unix	11.6"	16 Gb	1.6 lb
Archos 9	Windows 7	7"	64 Gb	1.7
Dell Android	Android	10"	-	-

### Questions

1. How do mobile phones differ from personal computers?
2. What functions do smart phones increasingly perform?
3. Describe the components of a mobile phone, and the functions they perform.
4. Describe some popular smart phone models and the operating systems they employ.

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## Section Contents

## 7.6 OPERATING SYSTEMS

Operating systems are the most fundamental of programs, allowing the computer to run programs and communicate with its peripheral devices. Most users have heard of Windows, Unix and the Mac systems, but a full list, with their various versions, runs to several hundred. A few comparisons:

System	Release date	Minimum processor speed	Minimum RAM	Minimum Hard Disk Space
Windows XP	2005	300 MHz	128 MB	1.5 GB
Windows Vista	2006	1 GHz	1 GB	15 GB
Windows 7	2009	1 GHz	1-2 GB	16-20 GB
Mac OS 10.6	2009	as supplied	1 GB	5 GB
DOS	1979-1991	90 MHz	256 K	360 K
Unix	1969	200 MHz	32 MB	1.44 MB
Linux	1991	200 MHz	64 MB	1.44 MB
Red Hat	1993	200 MHz	64 MB	1.44 MB

Operating systems have grown more sophisticated, requiring in turn computers with higher processor speeds, more RAM and hard disk space.

Most operating systems have these capabilities:

1. GUI (Graphical User Interface): navigation with a display and mouse.
2. Multi-user: several users can operate the computer at the same time.
3. Multiprocessing: several computer processors can run on the operating system at the same time.
4. Multitasking: several software programs can run on the operating system at the same time.
5. Multithreading : several parts of the same software program can run on the operating system at the same time.

### Windows

The Windows operating system was developed by Microsoft, and went through various incarnations: Windows 3x, 95, 98,

CE, ME, NT, XP, Vista, and 7. As the name suggests, this most popular of systems operates through a fairly intuitive series of frames and visual devices. Because small differences in versions intended for different areas of the world can cause problems in third-party applications, it is wise to check trial software on all operating systems likely to be used.

## Mac OS

Still the favourite of graphic designers, the Mac system provides a screen display similar to that of Windows but one easier to operate in its earlier incarnations than were the contemporary Windows programs. The peripherals were 'plug and play', i.e. did not need small programs called 'drivers' to be first installed.

## DOS

The Disk Operating System was the underlying platform for earlier Windows operating systems. Like the Unix systems, its operation was through commands typed onto the screen: a powerful system but not intuitive or forgiving: the commands had to be learned and couldn't be undone. Unix commands are even less intuitive: for the DOS command 'edit', for example, the Unix command is 'vi'.

## Unix

Unix was developed by members of the Multics team at the Bell labs from the late 1960s, supplemented by work from many other organizations, institutes and individuals.

Linux is a Unix variant developed by Linus Torvalds and others, and released under General Public License (GPL), meaning it can be distributed, used and expanded free of charge.

Linux Red Hat was a commercial Linux system packaged with an easy-to-use interface and technical support. Copyright and patent problems prevented all Linux features being included,

but the company has gone on to be a major supplier of open source software and cloud computing.

### Questions

1. What is an operating system, and what are its common functions?
2. Describe four popular operating systems.
3. What are the advantages and disadvantages of open source operating systems?

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4. *Performance showdown: Windows 7 vs. Snow Leopard* by Dong Ngo. CNet. October 2009.
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### Section Contents

## 7.7 COMPUTER PROGRAMS

Computer programs solve problems, and therefore need a clear formulation of the problem. There are two steps:

1. Defining the problem.
2. Writing step-by-step instructions to solve the problem.

From Machine Code to High Level Languages

### Machine Code

At its most basic level, in machine code language, the central processing unit simply consists of millions of tiny switches turned on (1) or off (0). This sequence of ones and zeros forms a binary arithmetic, and a lot of ones and zeros are needed to make what humans recognize as a normal number. The binary number 1011 0000 01 10 0001 represents the hexadecimal number B061, for example. Programming at this level, the native language of the CPU, means simply changing the pattern of binary numbers, turning some 0s on and turning some 1s off. It's a perfectly feasible task, but rarely done because so slow and error-prone.

### Assembly Languages

Assembly languages are, basically, a shortcut, allowing one command to stand for a dozen commands in machine code. It's the CPU (central processing unit) that does the work, usually retrieving data from the computer's memory (RAM or hard disk) and temporarily storing it in a special storage area called the registry. The CPU then manipulates or edits the data in some way, and sends it back for storage in the computer's RAM or hard disk.

A typical assembly language command might be:

```
mov a1, 061h
```

which tells the CPU to move the hexadecimal number 061h into the specific registry named a1.

Again, it's tedious to work at this level, and the registry architecture differs with each CPU.

## Higher Level Languages

Higher-level languages like Basic, Cobol and Fortran aggregate assembly language commands in more intuitive commands (Total = A + B, for example) and are much quicker to write and correct (debug). Unfortunately, they run more slowly on the computer. Indeed, the higher the level, the easier the programs are to write and debug, but the more slowly they run on the computer.

One language that enjoys reasonable writing and running speeds is C (in its several versions). It's reasonably intuitive, and runs at acceptable speeds. The code below:

```
#include <stdio.h>
main(void)
{
printf" Hello World! \n" );
exit( 0 );
}
```

prints 'Hello world'.

Because CPUs do not understand high-level languages, however, programs written in these languages have to be 'compiled': i.e. they are run through a software program called a compiler that translates the high-level language into equivalent commands in machine language. Compilers are readily available, and many are free. The compiled program is called an executable program, shown by the suffix .exe.

## P-Code Languages

Another approach is to write in a pseudo code or p-code language, which resembles an intuitive, higher level language but is not compiled but run through software called an *interpreter* or *virtual machine*. Java is of this nature and will run on any computer that has a copy of the Java virtual machine (VM) installed in its Windows, Mac OS X, or Linux operating system. Interpreted languages run comparatively

slowly, however, and, by calling on the interpreter, can breach a computer's security.

## Programming

Code can be written with a simple text editor like the Windows 'Notepad', but professions prefer editors that allow built-in commands to be selected rather than laboriously keyed in letter by letter. Also important in editors is the 'debugger', an error-checker that identifies faulty terminology or where the code goes off the rails. Debugging can take longer than writing the actual code, for all that programmers generally prefer to modify a preexisting, working program than start from scratch.

Code needs to be:

1. Written efficiently, using a minimum of commands so that computer resources are not wasted.
2. Laid out neatly in blocks or modules, where each module has a specific job, and can be used repeatedly to do that job.
3. Presented in a way intelligible to other programmers, with notes throughout to explain what is being done, where and why.

Modular programs commonly consist of:

1. Sequences (a list of commands, each following the previous).
2. Branches (two or more sequences the program may follow, depending on some condition. E.g. if password is correct, then do . . ).
3. Loops (commands that are continuously repeated until some condition is satisfied: repeat until counter=100, i.e. do one hundred times).

Many editors now make use of a graphical user interface, which provides pull-down menus, windows, buttons, and check boxes. The programmer simply clicks on the graphic, makes a few choices, and the code is automatically delivered. Also useful is the 'event-handler'. If the program user makes a choice between three options, the program has to handle

each possibility. The editor automatically prompts the programmer to select the appropriate code for these possibilities.

## **Client-Server Programming**

Web pages are built in simple scripts: HTML and/or CSS. Dynamic web pages often use Javascript. Online forms call on small programs written in Perl and stored on the server. Web pages accessing databases are often written in PHP. All languages are far too detailed and technical to be summarized here, but online tutorials are listed below in the Sources section.

### **Javascript**

Javascript is a scripting language, and is either embedded in the HTML of the webpage itself, or exists as a separate Javascript program called by the webpage:

```
<html>
<script language=javascript src="programname.js"></script>
<body>
</body>
</html>
```

Javascript has its own syntax, which is fairly intuitive. An if-else branch statement:

```
if (expression = value1) {
Command;
}
else if (expression = value2) {
Command;
} else {
Command;
}
```

### **Java Server Pages (JSP)**

A coding standard that allows JSP scripts and Java to run small programs on HTML pages.

### **Perl**

Perl stands for Practical Extraction and Reporting Language. Perl is a general-purpose, high level, interpreted and dynamic computer programming language invented in 1987 but vastly developed to become one of the most popular languages for web applications. Perl is best for small programs that can be entered and run on a single command line. Perl runs well on both UNIX and Windows systems.

The 'Hello world' program is written as:

```
#!/usr/bin/perl  
print "Hello World!\n";
```

where `usr/bin/perl` indicates the program is stored in the file `/usr/bin/perl`.

## **PHP**

The PHP or Hypertext Processor is a powerful HTML-embedded scripting language with much of its syntax is borrowed from C, Java and Perl. PHP pages are given the suffix `.php` (e.g. `index.php`) and have two important features:

1. Whole web pages can be created in php.
2. Onscreen data can be readily extracted from and inserted into server databases.

## **Active Server Pages (ASP)**

Microsoft's answer to PHP. Will only run on web pages served by Microsoft's IIS webserver.

## **ActiveX and VBScript**

Microsoft's equivalent to Java and Javascript respectively. Well developed languages, but not much used as they display only with the Internet Explorer browser.

## **ColdFusion**

ColdFusion is an integrated server-side platform for writing interactive pages. The software (now marketed by Adobe) comes with design, programming and debugging tools, but the pages need a ColdFusion server.

## **Ruby**

Ruby is an interpreted, object-oriented language used for creating interactive web pages. Although Ruby is similar to Perl and Python, Ruby abandons the C syntax of Perl and more closely resembles the syntax of programming languages like Smalltalk or Ada. A programming framework, dubbed Ruby on Rails, makes it easy to manipulate databases through web pages, and has helped to make the program popular.

Again the syntax is reasonably intuitive to programmers:

```
# This is a comment
print( ' What is your name? ' )
myname = gets() # This is also a comment
puts( "Welcome to Ruby, #{ myname} " )
```

#### Questions

1. What are computer programs, and how are they written?
2. Explain the differences between machine code, assembly language, p-code and higher-level languages. What are the pros and cons of each?
3. Why is client-server programming necessary, and what languages are commonly employed?
4. Compare and contrast the use of PHP and Javascript in web pages.
5. Why is Ruby often employed to write content management systems, distance learning languages and the like? What other languages are also employed for these tasks?
6. Write the code to display an empty HTML page in PHP, Cold Fusion and Active Server Pages.

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## Section Contents

## 7.8 SECURITY

Security is crucial to business, and the technology has three components:

1. Privacy of data,
2. Secure channels of communication, and
3. Protection of the system by firewalls and anti-virus software.

### Privacy

While most ecommerce merchants leave the mechanics to their hosting company or IT staff, it helps to understand the basic principles. Any security system has to meet four requirements:

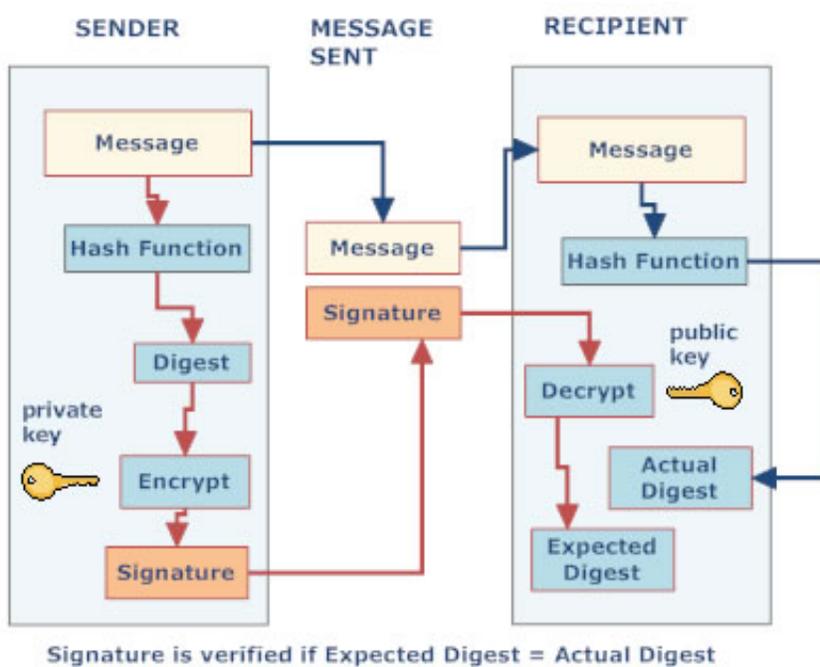
1. Privacy: information must be kept from unauthorized parties.
2. Integrity: message must not be altered or tampered with.
3. Authentication: sender and recipient must prove their identities to each other.
4. Non-repudiation: proof is needed that the message was indeed received.

### Encryption

Privacy is handled by encryption. In PKI (public key infrastructure) a message is encrypted by a public key, and decrypted by a private key. The public key is widely distributed, but only the recipient has the private key. For authentication (proving the identity of the sender, since only the sender has the particular key) the encrypted message is encrypted again, but this time with a private key. Such procedures form the basis of RSA (used by banks and governments) and PGP (Pretty Good Privacy, used to encrypt emails).

Unfortunately, PKI is not an efficient way of sending large amounts of information, and is often used only as a first step — to allow two parties to agree upon a key for symmetric

secret key encryption. Here sender and recipient use keys that are generated for the particular message by a third body: a key distribution center. The keys are not identical, but each is shared with the key distribution center, which allows the message to be read. Then the symmetric keys are encrypted in the RSA manner, and rules set under various protocols. Naturally, the private keys have to be kept secret, and most security lapses indeed arise here.



## Digital Signatures and Certificates

Digital signatures meet the need for authentication and integrity. To vastly simplify matters (as throughout this page), a plain text message is run through a hash function and so given a value: the message digest. This digest, the hash function, and the plain text encrypted with the recipient's public key is sent to the recipient. The recipient decodes the message with their private key, and runs the message through the supplied hash function to check that the message digest value remains unchanged (message has not been tampered with). Very often, the message is also timestamped by a third party agency, which provides non-repudiation.

What about authentication? How does a customer know that the website receiving sensitive information is not set up by some other party posing as the merchant? They check the digital certificate. This is a digital document issued by the CA

(certification authority: Verisign, Thawte, etc.) that uniquely identifies the merchant.

Digital certificates are sold for emails, e-merchants and web-servers.

Secure Channel Communication

### **Secure Socket Layers**

Information sent over the Internet commonly uses the set of rules called TCP/IP (Transmission Control Protocol / Internet Protocol). The information is broken into packets, numbered sequentially, and an error control attached. Individual packets are sent by different routes. TCP/IP reassembles them in order and resubmits any packet showing errors. SSL uses PKI and digital certificates to ensure privacy and authentication.

The procedure goes something like this: the client sends a message to the server, which replies with a digital certificate. Using PKI, server and client negotiate to create session keys, which are symmetrical secret keys specially created for that particular transmission. Once the session keys are agreed, communication continues with these session keys and the digital certificates.

### **PCI, SET and Kerberos**

Credit card details can be safely sent with SSL, but once stored on the server they are vulnerable to outsiders hacking into the server and accompanying network. A PCI (peripheral component interconnect: hardware) card is often added for protection, therefore, or another approach altogether is adopted: SET (Secure Electronic Transaction). Developed by Visa and Mastercard, SET uses PKI for privacy, and digital certificates to authenticate the three parties: merchant, customer and bank. More importantly, sensitive information is not seen by the merchant, and is not kept on the merchant's server.

Network Protection

## **Firewalls**

Firewalls (software and/or hardware) protect a server, a network and an individual PC from attack by viruses and hackers. The system (which may be a separate, networked computer but is commonly just a program running on the client network or computer) filters communication packages according to some prearranged set of rules. The rules are generally set by default modified by some question and answer routine, and cover such matters as source IP address, destination port or address, and type of service requested. Filtering is then automatic, with anything outside the rules being flagged for an individual decision. The types of firewalls exist:

1. Packet filters, that examine the origin and destination of packets: fast but vulnerable to snooping.
2. Application gateways, that examine the application being requested: more secure but slow the system down.

Equally important is protection from malice or carelessness within the system, and many companies use the Kerberos protocol, which uses symmetric secret key cryptography to restrict access to authorized employees.

## **Proxy Servers**

Proxy servers operate between the Internet and the client system, and perform these functions:

1. Validate the request, acting somewhat as a firewall.
2. Restrict access (e.g. preventing employees from visiting stock-trading and pornography sites in company hours).
3. Hide the company's IP address from would-be hackers.

## **Anti-Virus Software**

Anti-virus software is cheap and widely available. The software needs to be run regularly and updated continually, often several times a day as new viruses are being devised and released all the time. Anti-virus programs will generally catch and identify viruses, worms and trojans, but separate

programs (again cheap) are often needed to eliminate spyware.

Because these programs can interfere with the smooth running of systems, some IT managers rely entirely on finely-tuned firewalls for network protection.

#### Transactions

Sensitive information has to be protected through at least three transactions:

1. Credit card details supplied by the customer, either to the merchant or payment gateway. Handled by the server's SSL and the merchant/server's digital certificates.
2. Credit card details passed to the bank for processing. Handled by the complex security measures of the payment gateway.
3. Order and customer details supplied to the merchant, either directly or from the payment gateway/credit card processing company. Handled by SSL, server security, digital certificates (and payment gateway sometimes).

#### Questions

1. What are the four requirements of any security system?
2. Explain how PKI encryption works.
3. What protocols are available for secure channel communication? Explain briefly how they work.
4. How are networks kept secure? Name some popular services and/or software available.
5. What security measures surround the online handling of credit card information?

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5. *Cryptography FAQ*. Extensive list of questions and answers.
6. *Computer Security Resource Center*. Government papers on firewalls and other security matters.
7. *Gild*. Overview and listing of firewall products.
8. *Kerberos: Network Authentication Protocol*. Extensive articles on theory and implementation.
9. *Kerberos FAQ*. Very full answers to usual questions.

## Section Contents

## 7.9 BROWSERS

Web browsers made the Internet ‘happen’, as none of the attractive features of web pages are possible without this software. A web browser displays information on the client computer by interpreting the hypertext markup language (HTML) sent to it by the web server. HTML pages can also accommodate graphics, sound, and multimedia files, links to other pages, and files that can be downloaded. With plug-ins added, browsers today are suites of programs that can handle practically everything from live weather reports through translation to video conferencing.

### Basics

The browser interprets the HTML files to display the text and links correctly as a web page. Associated graphics, sound, and multimedia files are not embedded in web page, but retrieved by web page references to files saved on the server. Some programs (e.g. Flash) require a helper application or plug-in to play. These are either downloaded from the site that supplies them (usually for free) and installed as any other piece of software, or they automatically self-install when downloaded from the supplying site.

### Client Server Model

Browsers are one half of the client-server model. When the client computer requests a page — say, <http://www.company.com/catalogue.php> — the web browser breaks the URL down into three parts. The first is the protocol that the web server should communicate with. The ‘http’ tells the web browser that the client computer wishes to communicate with a web server on port 80, which is the port reserved for web page communications. The second part of the URL is the server address ‘company.com’. Since the Internet operates with IP addresses, not letters, the client browser has then to communicate with a domain name server

(DNS) to find out the IP Address for the website. An IP address is a 32-bit numeric address written as four numbers separated by periods. Each of the four numbers can be from 0 to 255. Each computer on the Internet is assigned a unique IP address. In our case, 'company.com' may be something like 72.34.59.195, where each of the four units is indeed a number between 0 and 255. The third part of the URL is the resource requested, in this case a page written in php script with links to one or more databases: 'catalogue.php'. The resource may equally be a simple html page (catalogue.html), an acrobat document (catalogue.pdf), or a multimedia file.

Several protocols operate on the Internet, and each communicates with a different port. HTTP communicates on port 80, but FTP (file transfer protocol) communicates on port 21. An email request, through an email client or as code embedded in a web page ([mailto: sales@xyzco.com](mailto:sales@xyzco.com)) uses the TCP/IP protocol to communicate with the email server.

## Browser Wars

There are over forty browsers in use today, though Internet Explorer, Firefox, Chrome, Safari, Opera and Netscape Navigator (in order of decreasing popularity) account for 99% of usage. Browsers display in a similar fashion, but not identically, which causes headaches for design-conscious site builders. That was particularly the case in the 'browser wars' of the late 1990s when Netscape Navigator, arguably the better browser, displayed pages rather differently than did Microsoft's Internet Explorer. Website builders had either to produce very conservative designs, or produce two sets of web pages, the index page including a few lines of code to identify the browser being used and automatically transferring the viewer to the appropriate set of pages. There were also display differences with other browsers, and indeed between different versions of the same browser. For webpage viewing on desktop and notebook computers these problems have partially receded, only to reappear with web pages designed to be read on mobile phones.

## HTML Versions

The HTML markup language has also undergone development, until recently towards adding more features and specifying them more exactly. Web pages have ‘headers’, a line or two of code that identifies the HTML version being used, and specifies how the page is to be displayed. The page source you are reading, for example, had the header:

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0  
Strict//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd" >
```

in its early HTML incarnation, indicating that the page is in a strict XHTML format that conforms to standards laid down by the World Wide Web Consortium.

The XML language is extraordinary versatile, allowing users to largely define their own markup tags, but it is also very unforgiving. Simple HTML will generally display properly even if an extra space is left before a closing tag, for example, or if the closing tag is left off altogether, but XML (and some extent XHTML) may not: the page commonly shows an unwanted layout distortion or may sometimes not display at all.

Webpage designers are divided over the future. Some favour developing further the extra precision of XHTML and XML, while others are turning towards HTML5, a newer version that is simpler to write, has some new tags and is more tolerant of errors.

## CSS

Cascading Style Sheets have greatly extended web page layout possibilities.

CSS are small text files, either embedded in web pages, or more usually linked to web pages, that specify how text will appear and allow complex pages to be arranged without using tables.

In the CSS first used to lay out this page, for example (in HTML, then converted to Word and finally to PDF), #main { width:980px; margin:0 auto; text-align:left; margin-right:5px;}

specifies that the 'main' page is to be 980 pixels wide with no margin, and that text will be aligned left with a right hand margin of 5 pixels.

The main titles (h1) were specified as `h1{ font-size:1.667em; font-weight:normal; color:#4e4e4e; padding:15px 0 16px 0; word-spacing:-3px;}`, where the font size is 1.667 em, normal, of dark grey colour (hex value 4e4e4e), with padding as indicated in pixels and compressed (kerned) by 3 pixels.

Unfortunately, this control comes at a cost:

1. Various browsers interpret these instructions slightly different (and sometimes not at all). Pages have to be extensively tested.
2. Sophisticated layouts that please the designer do not work on all browsers, and various 'hacks' or workarounds have to be added to the layout.
3. Small errors can have large consequences: too large a graphic, for example, may not simply distort the page but 'break' it all together.
4. Popular software compiling HTML pages into ebooks only partially support layout with CSS.

#### Questions

1. What is a browser, and what does it do exactly?
2. How have browser wars returned with mobile web pages?
3. List the more important differences between HTML, XHTML and XML. Suggest Internet uses for each.
4. What are the advantages and disadvantages of Cascading Style Sheets? Find examples of CSS-controlled web pages on the Internet.

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## 7.10 BUSINESS INTELLIGENCE SYSTEMS

Business intelligence systems (BIS) is an umbrella term for programs that collect, analyze and present business data. The data handled is usually that of the company using the program, but these programs can also be applied to the behaviour of competitors and market sectors if sufficient information is available. In complexity, the programs vary from simple spreadsheets to large, integrated systems, and have previously gone under various names: data mining, data warehouse, data mart, etc.

Besides spreadsheets, the programs are sold as standalone tools, as suites of tools, as components of supply chain management and as parts of industry-specific systems. A few are open source or free.

### Categories

BI systems are commonly grouped under these categories:

1. Spreadsheets.
2. Reporting and querying software.
3. Online analytical processing (OLAP).
4. Digital Dashboards.
5. Data mining.
6. Decision engineering.
7. Process mining.
8. Business performance management.
9. Local information systems.

### **Reporting and Querying Software**

These tools simply extract, sort, summarize, and present selected data.

Commercial software examples: Actuate & LogiXML

### **Online Analytical Processing**

OLAP tools are used for reports on sales, advertising campaigns, management, finance and a host of areas that call

for rapid evaluation of multiple factors or scenarios. OLAP databases work faster than spreadsheets or relational databases to deal with complex analytical and ad-hoc queries that need to be handled in a multidimensional manner.

Commercial software examples. Cognos & Infor

### **Digital Dashboards**

Digital dashboards are simply programs that lay out data or analysis in an easily-grasped manner, often like a car's dashboard (hence the name). Three types are popular today: software applications, web-browser-based applications, and desktop widgets.

### **Data Mining**

Data mining is the process of extracting patterns from large data sets by combining methods derived from statistics and artificial intelligence. Business currently uses these approaches in marketing, surveillance and fraud detection, but the growing belief in their value is creating novel data mining technologies. Data dredging, data fishing and data snooping refer to the use of data mining methods to sample parts of a larger population. The samples may be too small for reliable statistical inferences to be drawn about the validity of any patterns discovered, but those patterns can be tested against larger data populations with special database management tools.

Commercial software examples. SAS & Statistica

### **Decision Engineering**

Decision engineering applies engineering approaches to the process of reaching a decision. Business data are becoming increasingly complex, and approaches like requirements analysis, specification, scenario planning, quality assurance and security become more necessary. Decision engineering enables management to come to more reliable decisions more quickly, appreciate the risks inherent in any decision, to respond effectively to changes, and identify the resources needed to meet those changes.

Commercial services examples: Crafitti Consulting & Quantellia

## **Process Mining**

Process mining is a management technique that analyzes business processes based on event logs (e.g. webserver records). Commonly it is used when other approaches are not possible. Knowledge is extracted from event logs by programs which aim to identify the processes happening and relate them to matters of control, organization and social structures. There are three types of process mining. The first, called 'discovery', aims to construct a model from the data available. The second, called 'conformance', compares the data available to some preexisting model and notes the matches and discrepancies. The third, called 'extension', does not aim to check conformance but enrich the model. Process mining is essential in computer-controlled manufacturing, but also has applications in website traffic analysis and marketing campaigns.

External services: Process Mining & Fluxicon

## **Business Performance Management**

Business performance management is a set of tools that help management to achieve one or more preselected goals. Synonyms include 'business performance management', 'corporate performance management' and 'enterprise performance management'. Business performance management has three main aims: 1. to select appropriate goals, 2. report on progress towards those goals, and 3. measure the effect of management intervention.

## **Local Information Systems**

LIS are business intelligence tools used to collect, store, analyze and present statistical data that have a strong geographic reference. It is used by managers, officials, policy makers, front-line staff and citizens to build a picture of local neighbourhoods for their particular area of interest, commonly subsidiaries' performance, government services or health matters.

## Commercial services examples: Instant Atlas & Data4NR

### Questions

1. What is meant by business intelligence systems?
2. What the nine types under which business intelligence systems are commonly grouped?
3. Distinguish between business intelligence systems, databases and content management systems.
4. Choose three business intelligence system types and explain their use in detail.
5. Your company wants the latest in business intelligence systems. How would you a. conduct an Internet search and b. evaluate the software available?

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6. *Process mining*. Business Process Management. Papers and sample book chapters.
7. *Business performance management*. BPM. White papers and software demos.
8. *Local Information Systems: A review of their role, characteristics and benefits*. UK Government. March 2007. Extensive articles / white papers.
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## 7.11 CLOUD COMPUTING

Cloud computing is a service by which companies and individuals rent software, storage power and programs as needed over the Internet rather than purchase the hardware and software themselves. A rapidly-growing sector of the market, cloud computing is a natural extension of the client-server business model, and revenues of AWS (Amazon Web Services) alone are expected to reach \$2.5 billion in 2014. {1}

### An Idea Comes of Age

The growth of interest reflects several trends in computing. One is the high cost of software licenses in big companies, and their only intermittent use by employees. Another is the growing resistance to purchase of yet faster and more powerful computers: sales have not grown as expected. A third is the confidence in social media sites like Facebook to keep information confidential, in an easy-to-use format, moreover, and for free. Fourth is the popularity of Google Applications, where storage and a suite of programs are provided at fees that range from nothing for limited use to modest for extended use: some two million companies now take advantage of the service.

The most compelling reason, however, is the growth in technology. {2} Multiple cloud providers can respond to changing needs, standardized APIs prevent data lock-ins, encryption and firewalls ensure data security, faster back-up technologies avoid data transfer bottlenecks, flash memories cope with performance unpredictabilities, and advanced debuggers operate in large systems. The need for scalable storage has been met by automatic scaling technologies, and a licensing model developed for pay-by-use and bulk sales. All costs have come down, and large datacentres can purchase hardware, bandwidth and power at heavy discounts, sometimes as high as 80%.

Services can be found by Internet searching with 'cloud computing service providers'.

## Players

Given these trends, computer manufacturers like IBM, Dell and HP have been building large, scalable cloud computing centres that offer computing power, data storage and high-speed Internet access. In turn, software companies like Google, VMWare, Rackspace, Salesforce and Microsoft have developed Internet-based modifications of their more popular products. Microsoft, for example, is moving from boxed software, or time-expiring software bundled with computers, to more 'pay-as-you-go' or 'pay-as-you-grow' models in product lines as Windows Live and Online Technology. Services vary considerably, however, from the Amazon model that provides nearly unlimited usage but poor scalability, to Google AppEngine and Salesforce, which are very scalable but restricted to predefined uses.

A major player is Amazon, which has built its Web Services arm on the IT technology developed as a major retailer of books, consumer electronics, etc. No longer needed are powerful computing resources in-house, and all services can be accessed as needed through cheap notebook devices or even mobile phones. Companies can also reduce the cost of hiring and keeping highly-trained IT staff, knowing that security is maintained by state-of-the-art procedures: necessarily, as the viability of any cloud computing service depends on its performance and reputation. The downside is the growing dependence of companies on such services, which can suffer natural disasters like everything else, and which may hand over data under court and government directives more promptly than a company would wish to.

## Problems

Banks have been attracted to the cost-savings implicit in cloud computing, but recognize that all security systems can be

breached. Salesforce suffered a phishing attack in 2007, for example, and Google's European Gmail service briefly collapsed in 2009. Cloud computing companies work with third-parties, moreover, and clients often need to investigate the security reputations of those parties, particularly in the matter of passwords allocation and access. New technologies are being introduced, and these may have as-yet-undisclosed security bugs, either because they are not fully tested, or because they are being tweaked in novel ways. A more disturbing question is jurisdiction. Data secure in one country may not be so in another, and cloud computing clients often do not know where their data is actually stored. While the EU strictly protects privacy, America laws such as the US Patriot Act invest government and other agencies with virtually limitless powers of information access, with little protection with or redress from the court.

Companies are generally recommended to:

1. Ask about exception monitoring systems.
2. Be vigilant about updates and any sudden change in access privileges.
3. Enquire where data are kept and jurisdictions applying.
4. Seek an independent security audit of the host.
5. Enquire about third parties and their access to data.
6. Develop strict policies for password creation, protection and change.
7. Investigate availability guarantees and penalties.
8. Check that cloud provider will accommodate their own security policies.
9. Factor in costs of migration to (and from) cloud computing.
10. Investigate backup facilities and (often extra) charges.
11. Investigate the varying toll charges that can apply.

Questions

1. Why is cloud computing being so promoted?
2. What are its advantages to a. a small company just starting out, and b. a global company with semi-independent subsidiaries?

3. Describe the problems that could arise with cloud computing services.
4. In making their choice of cloud computing services partner, what should companies investigate?

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4. *Top 10 Cloud Computing Service Providers of 2009* by Basant Narayan Singh. December 2009. Cloud Computing. Brief statistics and links.
5. *10 Hidden Costs in the Public Cloud Share* by Mark Tonsetic. CIO Insight. June 2011. Experience of companies with cloud computing.

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## 7.12 DATABASES

Companies are required by law to keep proper records: transactions, employees, customers, expenditures, sales and financial information. Increasingly the records are kept in databases, which are software programs that store and manage data. A database management system (DBMS) or relational database management system (RDBMS) is the software application used to create, maintain, access and manipulate data. The most common of database management systems are D2 from IBM and some variety of the industry-standard SQL in Sybase, Oracle, Access, and other proprietary databases. Databases operating under the client-server model are called database servers, popular examples being SQL Server, MySQL and PostgreSQL.

### Relational Databases

Modern databases are relational databases where data is stored in two-dimension tables arranged in rows and headings, known technically as records and fields.

### **Field Properties**

Information is not simply entered into fields, but those fields are first specified by data type and properties. Some examples:

Property	Apply to Data Type	Specifies
field size	alphanumeric	maximum number of characters
format	most types	appearance of data
input mask	phone nos. zip codes, social security no., etc.	entry in predefined and validated format
decimal places	numeric & currency	number of decimal places
default	most types	value filled in automatically if not otherwise specified
null	most types	undefined value to which special rules apply
required	most types	cannot be left empty
primary key	alphanumeric	one or more fields as unique: every table must have at least one, which allows for database normalization.
memory size	OLE objects (Access)	maximum size of graphic, video or sound files

## SQL

SQL or Structured Query Language is a database computer declarative language designed to manage data in relational database management systems (RDBMS), and was originally based upon relational algebra and tuple relational calculus. It allows for data insertion, query, update and deletion, for schema creation and modification, and for data access control.

### **Some Basic SQL commands:**

An example:

```
SELECT Sales,
COUNT(*) AS Customer
FROM Sales
JOIN Customer
ON Customer.ID = Sales.Customer.ID
GROUP BY Customer;
```

Returns a list of customers and the number of purchases made by each, grouped by customer.

Command	Operation
SELECT	retrieves data from one or more tables
FROM	indicates table(s) from which data is to be retrieved
WHERE	some condition holds
GROUP BY	group rows having common values into a smaller set of rows
HAVING	filters by common property
ORDER BY	specifies which field is used to order records (and whether ascending or descending)
INSERT INTO	add records to table
DELETE	deletes records from table.
JOIN	operate across two or more tables joined by the field specified
MERGE	combines tables
UPDATE	modifies data of several tables
COMMIT	makes data change permanent
ROLLBACK	returns table to state of last commit command
CREATE TABLE	creates table to the specifications included in the command
ALTER TABLE	modifies table in the way specified
DROP TABLE	delete the table
GRANT	authorizes one or more users to perform an operation or a set of operations.
REVOKE	eliminates a grant

## Normalization

### Database Normalization

Customer	Address	Order	Product No.
Rick Evans	32 West Pier Road	5487653	VG56774
William Lu	12A Spruce Gardens	5487654	P7GSN8
Sue Dole	54c Ocean Building	5487655	700TRN4

Customer	Address
Rick Evans	32 West Pier Road
William Lu	12A Spruce Gardens
Sue Dole	54c Ocean Building

Split large table into three small tables linked by common fields



Customer	Order
Rick Evans	5487653
William Lu	5487654
Sue Dole	5487655



Order	Product No.
5487653	VG56774
5487654	P7GSN8
5487655	700TRN4

Normalization is the process of efficiently organizing data in a database. It has two goals: to eliminate redundant data (e.g. storing the same data in more than one table) and to store only related data in a same table. Both goals reduce the amount of space a database consumes, ensure data is logically stored, and maximize operational efficiency.

Normalization proceeds by a series of rules or recommendations:

## **First Normal Form**

First normal form (1NF) sets the very basic rules for an organized database:

1. Eliminate duplicated columns from the same table.
2. Create separate tables for each group of related data, and identify each row with a unique column or set of columns (the primary key).

## **Second Normal Form**

Second normal form (2NF) takes the removal of duplicated data further:

1. Meet all the requirements of the first normal form.
2. Remove subsets of data that apply to multiple rows of a table and place them in separate tables.
3. Create relationships between these new tables and their predecessors through the use of foreign keys.

## **Third Normal Form**

The third normal form (3NF) goes one large step further:

1. Meet all the requirements of the second normal form.
2. Remove columns that are not dependent upon the primary key.

## **Fourth Normal Form**

The fourth normal form (4NF) has one additional requirement:

1. Meet all the requirements of the third normal form.
2. Remove any multi-valued dependencies.

Though usually recommended, normalization can be restricted in these cases:

1. Where creation of vast numbers of separate tables actually slows down the operation of the database.
2. Very complicated databases where full normalization is just too difficult.
3. Where a 'quick and dirty' approach is more time efficient (as in developing early prototypes).

## Data Migration

Data often has to be moved between databases of slightly different design (between different company divisions, or upgrading to more complex software.) Keying in data again is unthinkable in most cases, but small differences in the implementation of SQL between databases can cause serious problems. It's therefore wise to first check what software exists to facilitate data migration between different proprietary databases, ensuring what will be needed in the second database can indeed be stored in the first.

## ODBC Connectivity

Data can be added to and retrieved from databases by most computer programs: those commonly used in websites include Perl, PHP, and Java Server Pages. A standard database access method is via ODBC (Open Database Connectivity), a snippet of code that makes the 'handshake' between computer program and the database concerned. {12}

## Questions

1. What are relational databases, and why are they preferable to flat files for storing information?
2. Explain records, fields and data types.
3. What is Structured Query Language? Give some important commands relating to table creation, use and removal?
4. Explain what is meant by database normalization. Why is it undertaken?
5. Your company has switched from an Apache server to (Windows) SQL Server. Undertake a literature search to find the best way of migrating data from the original MySQL database.

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6. *Microsoft Access 2000 Bible* by Cary N. Prague and Michael R. Irwin. IDG Books. Similar reference books exist for most database systems.
7. *Comparison of relational database management systems*. Wikipedia. Tables comparing RDBMS by release date, operating system support and selected features.
8. *Structured Query Language (SQL)*. About.Com. Rather fragmentary but useful set of articles.
9. *SQL*. Wikipedia. Introduction to history and theory and problems, with examples and vendor comparisons.
10. *Client Server Databases*. CfConf. Powerpoint presentation of key elements of server databases.
11. *MySQL*. Mysql. Details of and tutorials on the world's most popular open-source database server.
12. *PHP Database ODBC*. W3Schools. Example of PHP connection to MS Access database (others are similar).

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## 7.13 DESKTOP PUBLISHING PROGRAMS

Companies producing white papers etc. often find word processing programs do not provide the control needed for professional layout and typesetting. Unless the task is farmed out to publishing companies (often the case), a desktop publishing program has to be used.

### DTP Versus Word Processing

Word processing is not to be despised. Today's programs are sophisticated, and capable of typesetting to a standard better than that commonly seen in novels and academic paperbacks. MS Word has an excellent indexing facility, moreover, and tables can be attractively laid out with proper borders and cell spacing. {1} Typesetting is also made quicker and more professional-looking by using stylesheets and third-party plugins. {2}

Word documents can be converted to the PDF format preferred by printers by using one of the many Word to PDF conversion programs: A small selection:

Program	Price	Retains Formatting	Retains Hyperlinks	Extra Features
Abbyy PDF Transformer	\$80	Yes	Yes	Also converts PDF to Word. Some editing functions.
Acrobat X	\$250-400	Yes	Yes	Many: the originator and still market leader.
Cute PDF	Free	Yes	Yes	No, but other programs available.
Expert PDF 7	€69	Yes	Yes	Also converts PDF to Word. Many editing functions.
Lead Tool's ePrint Professional	\$99	Yes	Yes	Also converts PDF to Word. Many editing and batch functions.

Good typesetting requires painstaking care, experience and a strong sense of graphic design, i.e. skill more than software. {3} {12 {13} Nonetheless, word processors fail in more advanced tasks: {4}

1. Where text must be flowed through separate box inserts.
2. Complex layouts with superimposed graphics and text.
3. Finer typographic control.
3. In making colour separations for CMYK printing.

### Popular DTP Programs

A general comparison of the more popular programs with the word-processor Microsoft Word.

Feature	InDesign	Quark Express	PageMaker	Framemaker	Ventura	Word
Market	design studios	design studios	business	long technical manuals	long technical manuals	home & business
Text flow	7	8	6	7	7	4
Typographic Control	9	6	4	7	6	5
Master page control	8	6	5	8	8	5
Section saving	7	7	6	7	7	1
Drag & Drop	8	3	7	2	7	5
Program to program conversion	7	5	7	7	5	3
Macros	8	7	7	3	7	8
Layout tools	8	8	6	8	8	5
Colour control	8	5	6	3	3	2
Image manipulation	9	5	7	6	6	2
PDF handling	8	8	8	7	7	2
Preflighting	7	9	5	6	6	1
Integration with Adobe programs	9	3	4	8	5	2

Ranking is from 1 (missing) to 9 (superb). Companies will need to undertake a more detailed comparison for specific tasks, but many graphic design studios have moved to Adobe's InDesign. Plugins exist for both InDesign and Xpress (indexing, tables, etc.), and for all shortcomings there are work-arounds. Backward convertibility remains an important issue (InDesign CS2 files cannot be read with InDesign 2), but InDesign is a program engineered from scratch, and seems easier to learn. Corel Ventura and Framemaker address a loyal but specialist market (long, highly structured technical manuals in XML).

### Questions

1. For what tasks would you employ a word processing package to lay out a page?
2. What DTP package would you employ for these tasks, and why: a. a mass market novel, b. a flyer for your local pizza takeaway, c. a scientific paper involving complex math formulae, d. your company parts manual with 6,000 entries, and e. a photographic journal?
3. Your fashion company's magazine is to become available on tablet computers. Investigate the format conversion software available and devise a preproduction flow path.

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## Section Contents

## 7.14 EBOOK READERS

After many false starts, ebook readers have become a popular reality, probably through Amazon's marketing of its combined hard- and software package (Kindle radio-download of ebooks).

eBooks can also be read on tablet computers (of which over one hundred models exist) and on some mobile phones, but neither of these groups is listed here.

Several million Kindle units have been sold, though many would-be customers are waiting till prices fall further, both of titles and the readers themselves.

### e-Ink Technologies

eBook readers fall into two basic categories, those which use the backlit screens (liquid crystal display) of tablet PCs, and those which use the newer technologies of e-ink. {1} The latter employ three components:

1. Millions of tiny microcapsules or cavities,
2. A dark ink or oily substance filling the microcapsules or cavities, and
3. Pigmented chips or balls with a negative charge floating inside the microcapsule.

Acting as pixels on the conventional VDU screen, these microcapsules are very small: 100,000 of them would fit into a square inch. The microcapsules are wired to microelectronics circuits embedded in a thin plastic sheet. By applying a positive or negative charge to the microcapsules, the microelectronics cause their pigmented chips to float partially up or down, creating the desired text or images.

Xerox's system is similar, but employs microscopic balls that are black on one side and white the other. The microelectronics circuit rotates the balls to the required extent.

ebook reader	diagonal screen-size (inches)	weight (oz)	storage	Ebook formats	notes
iLiad 0100	8.1	13.7	64-224 MB	PDF, XHTML, TXT, and MP3	E-ink technology
Cybook	10.1	35.2	32-256 MB	PDF, HTML, RTF and TXT	Includes word processor and spreadsheet
Sony eBook Reader PRS-700BC	6	9.0	256MB/ 300 books	BBeB (Sony format), .TXT, .PDF, .JPEG, .GIF, .PNG	E-ink technology: touch-screen: 100,000 titles
Kindle 2	6	10.2	1,500 titles	.AZW(Kindle format), .PRC, .MOBI, .MP3, .AA and .TXT	Includes text-to-speech. 285,000 titles available: wireless download (US)
Kindle Fire	7	14.6	6,000 titles	Kindle (AZW), TXT, PDF, unprotected MOBI, PRC DOC, DOCX, JPEG, GIF, PNG, BMP, non-DRM AAC, MP3, MIDI, OGG, WAV, MP4, VP8.	Wi-Fi connectivity: touch screen: 8 GB
iPad	9.7	24	16-64 GB	JPG, TIFF, Gif, DOC, DOCX, HTML, PDF, RTF, XLS, iTunes	Includes MP3, MP4 and MOV. Multi-language support.
Entourage Edge	9.7 e-ink + 10.1 LCD	c 3 lbs	-	PDF ePUB, Doc, XLS, TXT	200,000 titles, SD & SIM cards, USB & WiFi. Stylus for writing and drawing
Q pro-reader	10.7	17	8 GB	.PDF, Word, PP, Excel, ePub, GIF, JPEG, PNG, BMP, and TXT	Wi-Fi connectivity. 4 GB version also available
Nook	6 + 9	11.2	3-16 GB	.PDF, .MP3, .ePUB	Originally e-ink grey but now colour LCD. Wi-fi: books can be 'loaned'

## Questions

1. Give a short history of ebooks, and suggest why they have recently taken off.
2. Describe the two display systems for ebook readers. Which would you prefer, and why?
3. How would you, on a regular basis, convert content for an iPod to something that could be read on a Kindle?
4. Your masterpiece is to be published in ePub, Kindle and PDF formats. Do an Internet search to find what digital rights management software is available to discourage piracy.

## Sources and Further Reading

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## Section Contents

## 7.15 EMAIL & INSTANT MESSAGING SERVICES

Electronic mail is the most used service of the Internet. 2010 saw 107 trillion emails sent from 1.88 billion email accounts.

{1}

### Electronic Mail

Email is provided either by servers (computers) dedicated to email messaging, or as one of a suite of programs run by the server. An email service is provided through:

1. A company's own email server.
2. The web-hosting company.
3. Popular third-party suppliers like Google, Yahoo and Hotmail.
4. Companies specializing in business email services, like fastmail, usa.net, jangomail, etc.

There are four types of email service:

1. Web-based email service: operates like a webpage: useful when the local Internet Service Provider offers a limited email service
2. POP email service: stores mail on a server, which can be retrieved using any email client (program).
3. IMAP email service: emails can be organized and filtered prior to retrieval from server. (POP and IMAP are email protocols.) {2}
4. Email forwarding service: a program on the email server that automatically redirects emails to a new email address.

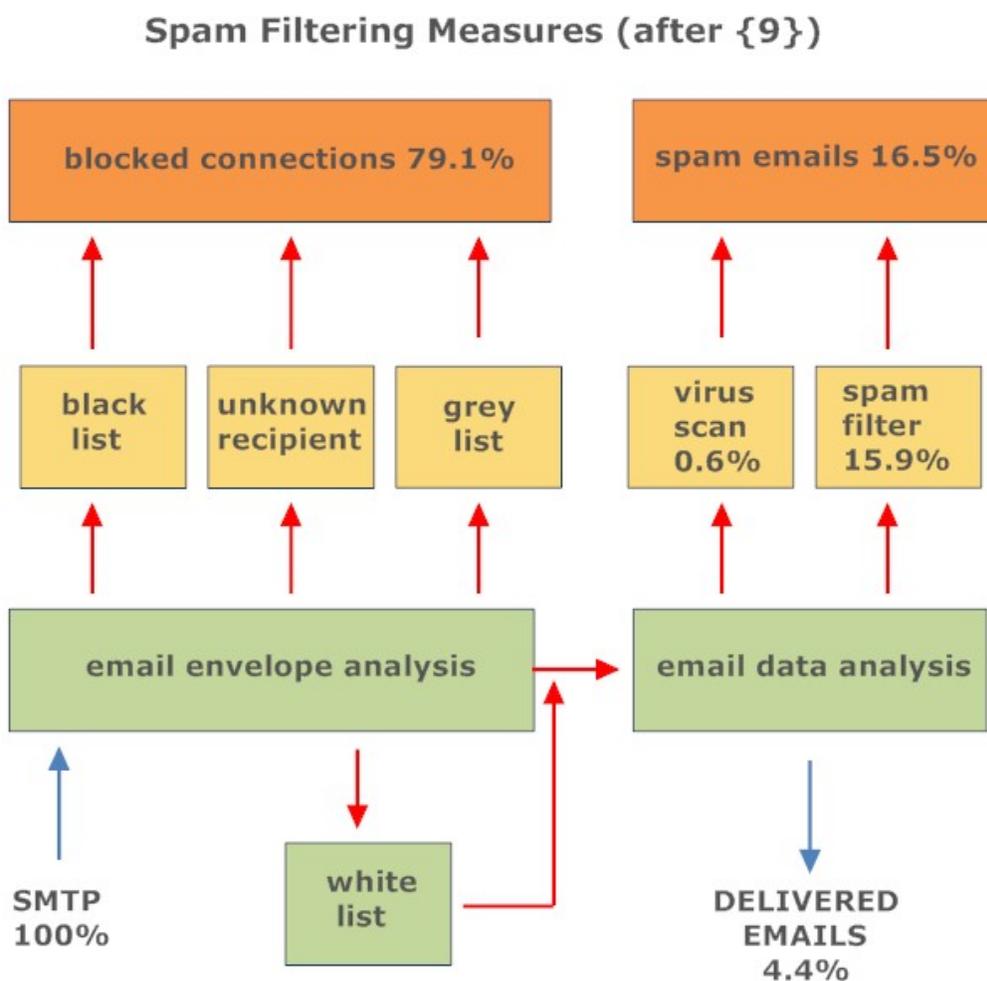
Email is commonly in text or html (webpage) form and allows attachments of text, word, graphic, sound and video files, either as a standard service or with such programs as Email Effects, Scrippy and V3Mail. The better services also provide spell-checking, virus scanning, spam protection, email formatting, and an electronic address book to store email addresses.

Mail can be powerfully encrypted with services like Hushmail and Izemail.

An email facility is easily added to web pages with a line of coding: `mailto: name@company.com`, or through forms, which call on a form-handling program written in some scripting language that is stored on the server (generally provided free by the web-hosting company).

Not to be confused with email is voicemail: a centralized system of stored telephone messages that can be retrieved later.

Spam



Spam, unsolicited email communication, not only wastes everyone's time but is a potential source of malware and other security breaches. Most countries have legislation in place, but prosecution has been difficult. {8} Large email providers spend over €1 million annually on spam filtering, and are generally successful, blocking 95% of unwanted emails sent to the servers. In decreasing order, these measures are used

against spam: blacklisting, content filtering, sender authentication, URL blacklisting, greylisting, whitelisting, reputation system, checksum analysis, slowing sender's output and analysis of connection problems. Most contact the ISP sending spam. {9} Inexpensive software can reduce the problem further. {10}

### Instant Messaging

Instant messaging programs are client software that call on software stored on the server. Instant messages are text messages sent in real time, i.e. the recipient receives the message with only a fraction of a second delay in transmission, and can type in a reply equally quickly. Popular programs are Windows Live Messenger, Google's Talk and Yahoo Messenger.

Instant Messenger systems also allow photos and audio clips to be inserted. More advanced instant messaging software also provides live voice or video calling.

Online Chat is the broader category of instant messaging, and one that allows communication between several users in an often anonymous, multi-user environment. Worldwide, several billion online chat/instant messaging accounts are in existence today. Online is used by customer and technical support to provide a quicker and more friendly service. Popular software includes Pidgin, Trillian and AIM.

### Questions

1. What is an email service, and how is it supplied?
2. Briefly describe the four types of email service. What protocols are involved.
3. How can email be made more secure? Compare three such services found by an Internet search.
4. What is instant messaging and online chat? What are their commercial applications?

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## Section Contents

## 7.16 EXPERT SYSTEMS

Expert systems are computer applications that solve complicated problems which would otherwise require extensive human expertise. They sidestep instruction manuals that need to be extensively read and understood, and either apply human knowledge in an organized fashion, or induce general rules from specific instances. There are many definitions. A few:

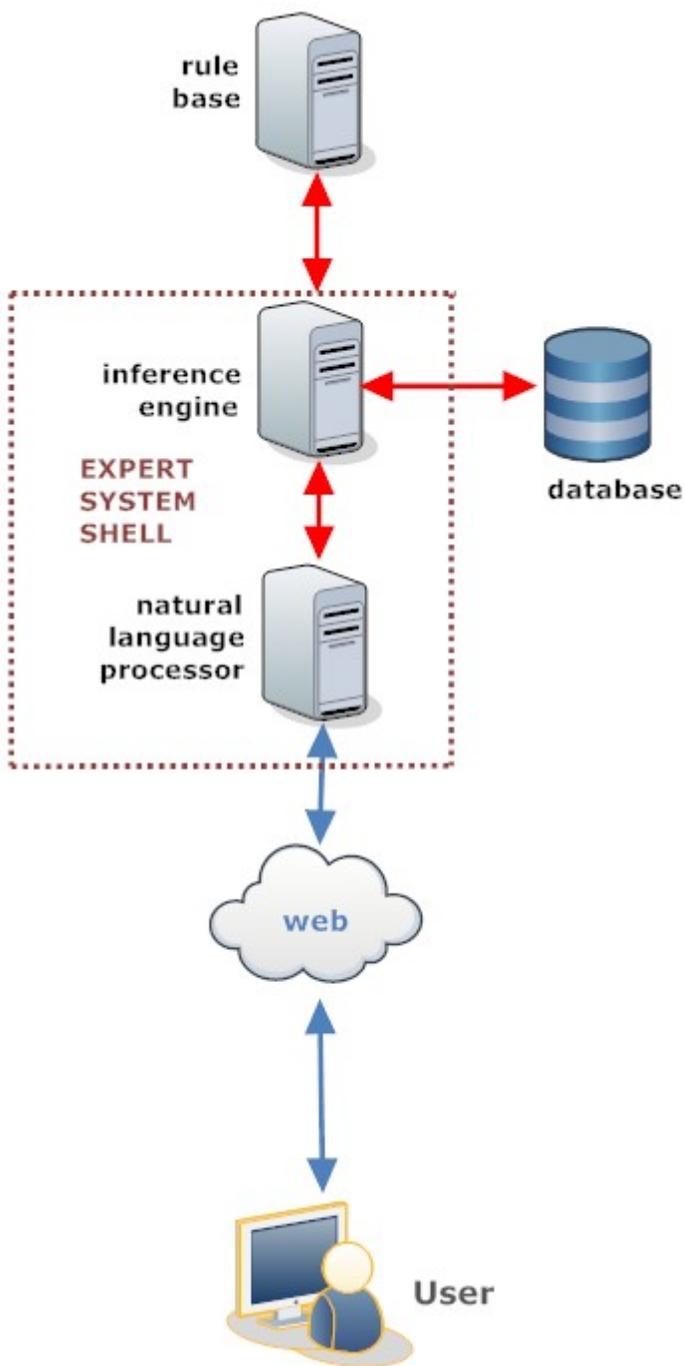
1. A system that uses human knowledge captured in a computer to solve problems that ordinarily require human expertise (Turban & Aronson, 2001).
2. A computer program designed to model the problem-solving ability of a human expert (Durkin, 1994).
3. An intelligent computer program that uses knowledge and inference procedures to solve problems that were difficult enough to require significant human expertise for their solutions (Feigenbaum, 1985).

Typically, expert systems have several components:

1. A knowledge base that contains the knowledge obtained from one or more experts, generally in the form of rules.
2. An inference engine that manipulates the knowledge found in the knowledge base to arrive at a solution.
3. A user interface that allows the user to query the system and obtain the solution.
4. An explanation facility that explains the working of the system: how the rules were derived, applied, and sometimes the confidence levels that can be attached to the results.

Expert systems are used in many industries, occupations and commercial sectors — particularly in the developing world where experts may be thin on the ground. Examples include agriculture, education, environment, law, manufacturing, medicine, power systems, tax assessments and loan applications. Today's increase in computing power and Internet technology have given expert systems a new lease of

life, and many applications can be accessed by personal computer or even smartphones. Building, maintaining and developing expert systems is often called 'knowledge engineering'.



1. Rough 'rules of thumb' followed by practitioners in some field.
2. A strict if-then sequence of rules (e.g. covering a manufacturing process).
3. Rules obtained by some statistical technique (e.g. cluster or regression analysis), fuzzy logic or neural network modelling.

Inference Engine

## **Rule-Based**

Inference engines generally work with branching sets of if-then rules. For example.

- (1) IF free assets exceed \$100,000 THEN \$5K loan application is favoured. (Confidence Factor: +40%)
- (2) IF free assets do not exceed \$10,000 THEN \$5K loan application is not favoured. (Confidence Factor: +90%)
- (3) IF (1) and credit rating is high THEN \$5K loan application is favoured. (Confidence Factor: +95%)
- (4) IF (1) and credit rating is poor THEN \$5K loan application is not favoured. (Confidence Factor: +20%)

## **Chaining**

Inference rules be may forward chaining and backward chaining. Forward chaining starts with the data available, and uses the inference rules to process more data until a desired goal is reached. Backward chaining starts with a list of goals and works backwards to see if data exist which will allow it to conclude that any of these goals is true.

## **Confidence Factors**

Some expert systems incorporate certainty factors (CF). 'Tomorrow it won't rain' might have a CF of 99.9% for the Atacama Desert, for example, but only 45% for the traditional English summer. In practice, CFs can be difficult to define objectively, are not catered for by all ES languages, and are unneeded in many applications (e.g. tax assessments).

## **Real-time Adaption**

Realtime expert systems, designed to adapt over time to changing input data, are widely used in process control, network management and other dynamic systems.

## **Learning Capabilities**

Expert systems that learn from a stored history of successful and failed solutions are more reliable, but can be challenging to program.

## User Interface

The user interface is a critical component, and needs to be intuitive and self-explanatory. Much depends on who or what the system serves. A loan application might spell out 'application rejected' to a bank official but 'suggest you improve your credit rating' to an applicant.

## Expert System Pros and Cons

ES are often:

1. More reliable than humans, incorporating expertise from many sources.
2. Able to deduce rules that are not apparent, even to experts: (though these are often called problem-solving programs rather than ES.)
3. Capable of being extended, as the system is applied and knowledge grows.
4. Built in high-level computer languages requiring few IT skills.
5. Combined with other systems or database knowledge to cover complicated situations.

Unfortunately:

1. It is often difficult to know a priori if experts who devise the rules really do know all they claim to.
2. Experts may sabotage the system with false information, or withhold information, particularly if their jobs are threatened.
3. Areas of expertise tend to be narrow and specific.
4. Rule following is not the best approach for all situations.
5. Expert systems lack commonsense, and cannot tell when they are operating beyond their remit.

## In Practice

Expert systems use many types of problem solving approaches, including neural networks and fuzzy logic, and are generally developed within a 'shell', a computing environment that comes with ready-built expressions and debugging devices. Examples of shells include Drools, CLIPS and JESS.

## Questions

1. Define an expert system. Where are they typically used?
2. Describe the usual components.
3. What is a knowledge base, and how is it generated?
4. Describe an inference engine. What is meant by rule-based, backward chaining and confidence factors?
5. Weigh the pros and cons of expert systems.

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Section Contents

## 7.17 GRAPHICS PROGRAMS

First appearances count, and never more so than in web pages, where a competitor's site is only a click away.

Websites have to be visually appealing, and indeed are commonly constructed by first designing the complete page as a large photoshop file, removing sections by 'slicing' and then filling those emptied sections with text, javascript functions, database information etc.

There are many graphics programs on the market: the following are the four most popular.

### Photoshop

Photoshop is the professional's choice, and well-nigh indispensable for work in a busy art department or photo bureau that outputs to printing presses. The program is expensive, and plugins add further to the cost, not to mention manuals and training courses: the learning curve is steep.

Nonetheless, Photoshop is the industry standard for professional photo editing, graphic design, web design and digital imaging. In its latest incarnation, designers can:

1. Preview, organize, search, and manage image files with the Adobe Bridge File Browser.
2. Employ tools for painting, drawing, retouching, adding notes, and working with type.
3. Edit images nondestructively with layer styles, adjustment layers, masks, smart objects, smart filters, and history.
4. Automate tasks and speed up production with actions, batch processing, history tracking, and scripts.
5. Design for the web, video production, and photography.
6. Use extended version tools for film & TV, medical, science, engineering, architecture, and manufacturing fields.

Photoshop CS3 comes with an interface overhaul and new productivity enhancing features and tools. For Macintosh users, it is the first version to run natively on Intel Macs. Also

added are smart filters for nondestructive effects, a cloning palette for transforming and previewing results from clone and healing, and automatic alignment and blending tools. A new quick selection tool matches the simplicity of the magic wand tool, but with much more power, and Bridge, the file browser bundled with all Adobe Creative Suite applications, is improved.

Photoshop Elements is photo-editing software for amateur photographers, digital imaging enthusiasts, and small business users. Built around core elements of Adobe Photoshop, the program excludes some inessential items and adds its own, including a fully-featured photo editor, an integrated photo organizer, project layout templates, artwork and themes, and several sharing options.

#### Paint Shop Pro

Paintshop Pro offers most of what is needed for web design. Designers can open, edit and save multi-layer PSD files. Each layer acts rather like a sheet of acetate on which objects or brush strokes can be placed independently of the background image. Photomontages are simple as each layer can be positioned, scaled, stretched, skewed and rotated with the new deformation tool. This opens up creative options in allowing changes in a layer's opacity or the way it interacts with underlying pixels.

PSP has a good range of tools, and controls over them, that make the program easier to use than Photoshop for photo retouching. The various retouch brushes have been enhanced with pressure-sensitivity and new options such as "hue up" and "hue down" which move colors through the color wheel and "push" which picks up underlying pixels and paints with them. The smart edge option for the lasso tool allows selections to be automatically made around objects with clear contrast. The line tool can be used in bezier mode to create smooth curves and the crop tool's selection can be resized before being applied. The picture tube appeared in Version 5, and lets the user paint on the image with existing bitmap

objects, either of their creation, or in a wide choice of presupplied shapes.

Paintshop Pro is more affordable than Photoshop, and easier to learn. Older versions can be picked up very cheaply, and instruction manuals in secondhand bookshops are cheaper still. Paintshop Pro offers a wealth of features that allow photos to be retouched and/or turned into digital art.

Particularly that is the case with later versions, which mimic pencil, chalk and paintbrush. The Corel Painter program does far more of course, but is much more difficult to learn and really requires a graphics tablet to bring out its full features.

It's in commercial work that Paintshop fails. Its advanced features are slower to use, particularly the plugins. Its color handling is rudimentary. CMYK separations can be created and sent to the printer with confidence that what results is something approximating to what appears on the monitor or inkjet printer, but it won't be exactly the same, nor consistently the same. PSP lacks a dedicated CMYK working mode with access to the separate cyan, magenta, yellow and black channels directly through its Channels palette and indirectly through its various color correction dialogs.

In PSP the only way to work with the CMYK plates is to use the Split to Channels command to create separate greyscale versions of each channel and then to recombine them. PSP is in fact working in RGB mode, and won't therefore show an out of gamut warning or an ongoing CMYK preview. Indeed, it's not even possible to specify colors by their CMYK percentages.

PSP's control over levels and curves is basic, and its histogram functions only offer the two options of stretch or equalize with no interactive fine-tuning. There is no support for vector-based clipping paths, for example, or adjustment layers, editable text, automatic layer effects, spot color plates, duotones or scriptable actions.

PSP remains a favorite with many professionals for quick and easy work, especially in web graphics, though Macromedia's Fireworks has greatly superior text handling features.

### Illustrator

Whereas Photoshop and Paintshop Pro are pixel-editing programs, Illustrator is a drawing program, i.e. is vector based. In drawing a line, therefore, the program does not specify the line of individual pixels should be laid out and given various properties but simply states 'connect point (x1,y1) to point (x2,y2) by a line of certain properties'. The result is resolution independent, and therefore ideal for logos, illustrations or other designs that may need to be drastically resized.

Adobe Illustrator is the best known of several commercial drawing programs, and is commonly used in busy graphics departments alongside Photoshop, with which it shares similar palettes and toolbars. The latest version has many features of Corel Painter, including brush textures, but is less 'painterly', allowing for accurate drawing of graphs and 3D models. Being popular, the product is supported by numerous workshop and third party 'how to' Internet articles. It can import and export practically any type of graphics file, an important requirement in studio enhancement work.

### Corel Painter

Rather than enhance photographs, Corel Painter is designed to create original works of art and is therefore (with Illustrator and Photoshop) the preferred program of many illustrators. The program centres on the facilities of its brushes, which can mimic a wide range of media (through oil, watercolor, crayon, to pencil, pastel etc.). The program also includes several of Corel's KPT filters — Gel, Goo, LensFlare, Lightning, ShapeShifter, Reaction and Pyramid Paint.

A tracker palette stores the settings for the last 20 brushes used. Not only can brush behaviour be modelled but also that

of the medium on which the ‘painting’ is done: paper absorbency, canvas grain, etc. can all be adjusted. The mixer palette adapts to the real world, since it uses natural colors — Prussian Green, Burnt Sienna, Cadmium Orange, etc. — and allows the user to sample mixtures and parts of mixtures. Brushes can also be used with previous colors still adhering, i.e. not wholly fresh. The new align to path option forces brush strokes to follow the edges of any underlying shape or path. As with any graphics program, work can be undone: strokes, properties of layers, and behaviour of the ‘paint’ medium. The downside is the cost, the long learning curve, and the computer processing power required.

JASC offer plugins for their Paintshop Pro package (Photoshop-compatible too), though these are much more limited than what Painter offers, and create less natural effects.

Painter Essentials is much cheaper and easier to use. The welcome screen provides a painter image on one side and access to recent documents, templates and a selection of training videos on the other. Tools have been simplified: in place of Painter 9’s 40 categories of natural media brushes, Painter Essentials offers 18 ranging from acrylic through to tinting. Where Painter offers over 800 brush variants, Essentials pares this down to a more manageable 76. And where Painter offers comprehensive control over every possible brush parameter, Essentials cuts things down to control over size, opacity and grain.

### Graphic File Formats

Information in graphics files has to be stored electronically, in some format that records the arrangement of each speck of color in the image. How effectively that is done varies with the graphics file format, some being memory efficient, some good for poster-like spreads of color, some better for photos and some likely to lose information as the file is compressed or exported. The technicalities of file format are for geeks, but page designers do need to know the properties of the main

formats, and how to exploit them. It's something of a miracle that file formats can hold such a wealth of information at all, given that a file printing out an image measuring eight by ten inches at 300 dots per inch will need to control the position, hue, tone and transparency of each of these 7.2 million dots. The graphics file formats all use some algorithm to simplify the process, and it's these algorithms that differ between the file formats.

Files have to be read, of course, and that reading or interpretation differs slightly from browser to browser, and also between the Mac, Windows and Unix platforms. Some dozens of graphic file formats exist, but the ones most used are GIF, JPEG, PNG, RAW, EPS and TIFF, plus the proprietary formats employed by the software employed: Photoshop, Paintshop Pro, Painter Etc. All file formats have their pluses and minuses. Graphics programs will convert between different graphic file formats, but designers tend to keep everything in proprietary graphics formats until exported for use elsewhere.

### **GIF: Graphical Interchange Format**

GIF compression uses pattern recognition to compress, and is best used for flat spreads of color as it reduces everything to 256 colors. When used for photographs, however, it will reduce by four times — without losing information: GIF is a lossless format.

GIF has two other advantages: the images can be transparent, and they can support animation. For transparency, one color is designated as the 'chrome key color' and this the browser recognizes by replacing it with the background.

GIF employs two compression techniques on images: CULT (Color Look Up Table) and LZW (named after its originators Lempel, Ziv and Welch). The first indexes (creates a CLUT and references colors to it) and can reduce up to 60%. The second finds patterns in the image and indexes them, creating

a lookup table that is not stored with the file but can be recreated at will by the browser. Photoshop's ImageReady facility can compress a GIF file further by losing some of the information: an often acceptable stratagem with large files.

To overcome the 256 color limitation, GIF can dither the image, i.e. create a tiny checkerboard of websafe colors to approximate to the color desired.

### **JPEG: Joint Photographic Experts Group**

JPEG is ideally suited to photographs as it can store up to 16 million colours, (though black and white may come out better with GIF). Compression ranges from 10:1 to 100:1. At maximum compression, therefore, a 4 MB photo will reduce to a 40KB file, an obvious boon for web displays. The cost is the information lost on compression, and it's therefore usual to keep a backup copy of the original JPEG file, or to save it in a lossless format like TIFF.

JPEG files can be in RGB or CMYK, but are not transparent and do not support animation.

JPEG's compression proceeds into six stages. 1. Brightness and color are separated. 2. The color space is encoded and reduced by two. 3. The image is divided into 8 by 8 pixel blocks. 4. The components in each block are divided by an individual quantization coefficient. 5. The coefficients are encoded. 6. Compression parameters are saved with the image.

### **PNG Portable Network Graphic Format**

PNG gives the best of both worlds: lossless compression with up to 16 million colors and 256 levels of transparency. PNG also possess a Gamma correction function that ensures images will be equally bright on all platforms (Mac platforms display slighter darker than Windows).

PNG are not displayed by older browsers, however, and the files can be much larger than either GIF or JPEG. PNG does not support animation.

### **RAW**

RAW files preserve the settings on a camera for controls like sharpness, saturation or even the ISO setting. These can be read and changed by later versions of Photoshop — so that the photographer has the chance, in effect, of retaking the shot through the software alone. Unfortunately, RAW files are enormous, even larger than TIFF.

### **TIFF Tagged Image File Format**

A popular format for storing graphics in a lossless format for printing. Files are large and there are various types of compression: Hoffman, FAX CCITT 3, Packbits, LZW and uncompressed. Color information can be stored either as RGB or CMYK.

### **Encapsulated PostScript Format**

EPS is the primary graphics format for imagery rendered as a Postscript image. The files are large but can be black and white or color.

#### Questions

1. Compare the features of Photoshop, Paintshop Pro and Corel Painter.
2. What the typical areas of use for each of these programs?
3. Exactly what is a graphic file format?
4. What graphic file formats are used in a. web pages, b. photo storage, and c. photographic journals?

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## Section Contents

## 7.18 INTERNET TV & TELEPHONY

Many now watch TV on their computers, or use the Internet to watch TV and make long distance calls.

### Internet Television

Internet TV has become widely available, either as streaming services, or videocasts to be downloaded and played when convenient. Videocast downloads are straightforward, but can tie up a computer for twelve or more hours when videos are high definition, even with broadband connections. Streaming services have become more popular with such services as BBC iPlayer, 4 on Demand, ITV Player and Demand Five in the United Kingdom; Hulu and Revision3 in the United States; Nederland 24 in the Netherlands; ABC iview and Australia Live TV in Australia and Tivibu in Turkey. The services tend to be free (i.e. supported by advertising), and to use streaming technology rather than Peer to Peer networks. The services require considerable investment, both on the part of providers ( large server farms, mass storage, good sorting facilities) and customers ( broadband access, more used in Europe than the United States).

Several technologies are involved:

1. The Hybrid Broadcast Broadband TV consortium of industry companies is establishing an open European standard (HbbTV) applying to hybrid set-top boxes for the reception of broadcast and broadband digital television and multimedia applications with a single-user interface.
2. Current providers employ peer-to-peer (P2P) technologies, VoD systems, and live streaming.
3. The BBC iPlayer uses the Adobe Flash Player to provide streaming-video clips and other software provided by Adobe for its download service.

4. CNBC, Bloomberg Television and Showtime use live-streaming services from BitGravity to stream live television to paid subscribers under a standard http protocol.

5. DRM (digital rights management) software is employed to prevent copying for paid subscriptions, e.g. Microsoft's SkyPlayer, and Virgin Media's on-demand technology for BBC iPlayer and other services, including Wii and the PlayStation.

6. Internet TV is also available for mobile devices like the iPhone and iPod Touch, Nokia N96 and Sony Ericsson C905.

Higher-quality video requires bandwidths of 3.5 Kbps, standard-definition television bandwidths in the 500-1500 Kbps range (depending on screen resolution), and high-definition television transmission in excess of 5 Mbps.

#### Internet Protocol Television

Put simply, Internet Protocol Television (IPTV) employs existing protocols to send compressed packets of TV digital content over the Internet. In fact, rather more than a computer and Internet connection are required. The elements involved are:

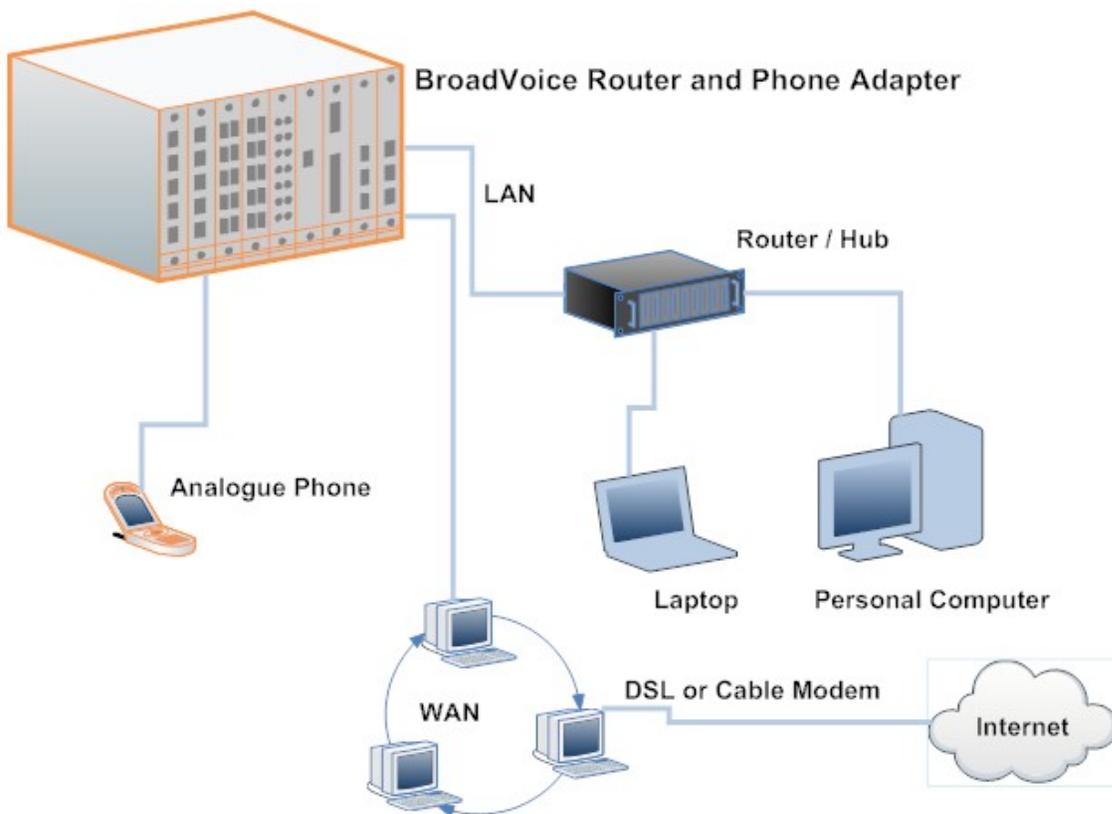
1. A TV head-end (i.e. station) where live TV channels are encoded, encrypted and delivered as IP multicast streams.
2. A VOD platform: where on-demand video assets are stored for customer access.
3. An interactive portal that allows the user to navigate within the different IPTV services.
4. A packet-switched delivery network that carries IP packets (unicast and multicast).
5. A home gateway: equipment in the user's home that links the delivery network to the user's set-up box.
6. The user's set-top box, which decodes and decrypts TV and VOD content and displays it on the TV screen.

Many services are subscription-based, but an impressive and growing number are free, once equipment has been purchased and ISP charges paid. Services have been launched in most countries, and the number of global IPTV

subscribers is expected to grow from 28 million in 2009 to 83 million in 2013. Europe and Asia are the leading territories, with China and India the fastest growing countries. World wide IPTV market revenues are forecasted to increase from US\$12 billion in 2009 to US\$38 billion in 2013.

## Telephony

Many phone services— voice, fax, SMS, and/or voice-messaging applications—now use the Internet rather than the public switched telephone network. Several steps are involved:



1. Set up of the signal and choice of media channel.
2. Digitization of the analog voice signal.
3. Encoding, packetization, and transmission as Internet Protocol (IP) packets over a packet-switched network.
4. Reception of the IP packets and their decoding.
5. Digital-to-analog conversion to reproduce the original voice stream.

Transmission in detail is highly technical, with many protocols employed, e.g.: H.323, IMP Multimedia Subsystem (AIMS), Media Gateway Control Protocol (MCP), Session Initiation

Protocol (SIP), Real-time Transport Protocol (DTP) and Session Description Protocol (ADP). A major major development was the introduction of mass-market VoIP (Voice over IP) services in 2004, which use existing broadband Internet access to enable subscribers to make telephone calls as they would over the public switched telephone network. VoIP systems offer substantial economies, but may suffer from latency at high volume use, a consequence of packet loss and resending. Reliability is sometimes an issue when VoIP is used for emergency services, and the system is vulnerable to the usual Internet security problems (insecure passwords, denial-of-service attacks, customer data collection, recording of private conversations, etc.) Governments have also become increasingly keen to monitor and regulate VoIP systems in the manner applying to public telephone networks.

#### Questions

1. Differentiate between videocasts and video streaming.
2. Explain the elements of Internet Protocol Television.
3. Describe some commercial applications of Internet television.
4. Outline the technology behind Internet telephony.

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## Section Contents

## 7.19 MUSIC AND VIDEO DOWNLOADS

The popular practice of downloading music and video files raises several technological, business and legal issues.

### Music

Music downloading and swapping is very popular on the Internet. An estimated five billion songs, amounting to 38,000 years of music, were swapped on peer-to-peer websites in 2006 (i.e. largely illegally), while 509 million were purchased online. {1}. In the UK, the number of illegal music downloads was estimated to be 1.2 billion in 2010. {2} Although a 2006 study by A. Zentner concluded that file sharing contributed to only a 7.8% drop in sales, {3} music retailers have naturally tried to suppress the activity. The seamless integration of Apple's iPod and iTunes store (hardware with easy-to-use and pay-for content) greatly contributed to the popularity of both product lines, and Apple first introduced Digital Rights Management (DRM) to control the subsequent distribution of its music. Songs could be copied no more than five times, could not be played on non-Apple machines, and could not be burned in CDs more than seven times.

Nonetheless, programs to break DRM security software appeared widely on the Internet, and Apple abandoned this approach in the face of customer opposition and the appearance in 2007 of the Amazon online music store, which offered music without these restrictions (and indeed with the blessing of the big recording companies). The impecunious, particularly students, had long objected to DRM, but the contest on an industry level was between copyright owners and companies supplying the devices, software and services to carry the music, i.e. companies like Dell, Microsoft and Time Warner Cable, where the big players ultimately won.

Music is not only sold as discrete audio files to be saved on computer hard disks or mobile phone flash memories, but as streaming media. Web video, music and other large media files

are broken into chunks by streaming software, sent as chunks over the Internet, and played as a continuous sequence of chunks at the client computer. Popular streaming software includes Microsoft's Media Player and Apple's QuickTime. Streamed files must be viewed 'live': they cannot be saved and copied or sold on.

## Videos

Though the transmission of MP3 music files does tie up Internet resources, much more demanding are videos, where a single, high-quality film may take a whole day to download, even over broadband connections. Some 160 million Americans in August 2009, for example, watched over 25 billion videos on the Internet. YouTube accounted for 40% of this viewing, but the remainder was services from sports, news and entertainment companies. {8} The resources used were phenomenal, and called on several technologies.

Two were the file download and streaming mentioned above, but a third was what is called Peer to Peer (P2P) technology. P2P transmission operates by segmenting the file and sending the segments over a large network of computers, employing the hard disks, processing power and bandwidth allowances of hundreds and sometimes thousands of participating machines. Even otherwise idle computers are pressed into service. The most commonly used P2P net employed today is that designed by BitTorrent, which indeed carries 30-50% of all US Internet traffic. Much of that traffic consists of media files used in breach of copyright, but BitTorrent Inc itself and other companies provide legal P2P facilities, as this technology provides an efficient and scalable means of handling large files. Akamai, for instance, a major P2P network distribution supplier, maintains a network of 84,000 servers in 72 countries.

## Breakdown by Company

In 2010 the largest media companies were: {10}

Company	Market Capitalization (\$billions)	2010 Revenue (\$millions)	2010 Net Income (\$millions)	Employees (thousands)
The Walt Disney Company	82.7	38.1	4.3	149
News Corporation	46.2	32.8	2.6	51
Time Warner	40.7	26.9	2.6	31
Liberty Media Corp (Ca)	6.1	0.7	0.8	19
Liberty Media Corp (St)	4.0	1.3	0.2	19
Madison Square Garden	2.1	1.0	0.3	1.3
Warner Music Group Corp.	0.9	3.0	-0.1	3.7
Bona Film Group Ltd.	0.4	0.04	0.005	0.4
CKX, Inc.	0.3	0.3	0.03	0.4
KIT Digital, Inc.	0.3	0.5	-0.02	0.3

## Questions

1. Explain the piracy problems faced by the music industry.
2. Why was Apple iPod so successful?
3. What is digital rights management. Discuss the pros and cons of its use.
4. What technologies are employed in video transmission?

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## Section Contents

## 7.20 RSS

As its name suggests, RSS (really simple syndication) is way of easily sharing information across the Internet. In the past, companies could place links to articles of interest elsewhere, or incorporate material from other sites on their pages (with the copyright holder's permission), but RSS automates the process. With a little coding, links to articles on other sites are automatically updated, and links to company pages appear on other company sites.

Put briefly, RSS is a family of web feed formats used to publish frequently updated digital content. Sites with such newsfeeds generally show an icon: 

and their prevalence shows that RSS has become a useful adjunct to email, avoiding the ever-increasing problem of spam.

### RSS Types

There are several versions of RSS, and a distinct system (Atom) that is commonly called RSS though rather different.

The three formats in common use are:

1. RSS 2.0: a stable, open-source, XML format issued under a Creative Commons license.
2. RSS 1.0: formatted as RDF/ XML (where RSS stands for "RDF Site Summary").
3. Atom 1.0: released in August 2005, under the auspices of the Internet Engineering Task Force.

### Locating RSS Feeds

RSS feed for a company site is found in these ways:

1. Search the Internet with keywords of interest plus 'RSS feed' or 'blog'.
2. Search the blog directories: most blogs have RSS feeds. Popular directories:

Blog Catalog. Several thousand listed under convenient headings.

BlogDirectory. Lists some 2 million sites.

BlogPulse. Also shows user trails, trends and use of keywords.

Weblogs Inc. Weblog directories grouped by trade, industry or profession.

Technorati. Monitors 10 million blogs and tracks 1100 million blog links.

Top 55. Robin Good's listing of blog directories and resources.

Google Blog Search. Similar to its web search engine, and very extensive.

### 3. Use RSS Feed Directories:

Syndic8. Searches RSS and Atom feeds.

### 4. Use a web browser, generally adding a small reader:

Google. Google's free RSS reader.

Newsfire. Newreader for the Mac.

RSS Feed Reader. Free add-on: supports 0.9x, 1.x, 2.x. and Atom formats.

Bloglines. Free online search.

RSS Readers and Aggregators. Yahoo's listing of newsreaders.

### 5. Use a standalone program that searches the web under various criteria: Example:

Tristana. Several commercial programs, but reader is free.

### Adding RSS Feeds to Company Blogs and Sites

1. Companies either use blog-authoring programs to automatically create RSS feeds.

2. Or employ software to turn text into RSS feed. Example:

RSS Wizard. Creates RSS 2.0 feeds from any webpage.

For RSS audio feeds, consider:

ProfCast. Various programs for enhanced podcasts (PowerPoint lectures, etc.).

Poderator. Free publishing of Podcast files.

Podcast RSS Buddy. Produces RSS feeds that are iTunes compliant.

## Getting Pages Syndicated

Company information is syndicated in two steps.

### **First:**

1. Automatically by publishing with one of the better blog-authoring tools. The following provide additional information:

Blog Software. Al MacIntyre's very extensive listing of resources.

Writers Write. Blogging software tools: some 90 programs listed.

2. Or by employing software to create RSS or XML files.

Either the programs listed above or these:

HTML to XML Conversion: Converts a HTML document to well-formed XML.

Logictran RTF Converter for Windows. Outputs word processing documents to XHTML, CSS based HTML, and Docbook XML.

FeedBurner. Makes RSS and Atom feeds available to feedreaders.

Auto HTML RSS. Reads an xml page, converts the RSS data, and imports it in to an existing web page.

### **Second:**

By registering the blog or website with blog directories (see above) and then pinging to notify them of the update. Other blogs will also note a post with a [trackback](#) or [linkback](#), or automatically if your company is listed on their [blogroll](#). Other pinging services are listed on [Elliot Back](#) and [Ensignt](#).

## Questions

1. What is really simple syndication, and how does it work?
2. What are three formats of RSS in common use, and how do they differ?

3. How would you find RSS feed for your company site? And add it?
4. How would you get your company's promotional material syndicated?

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## 7.21 RICH MEDIA

Rich media describes the multimedia (audio and video) and interactive (online forms or actions triggered by mouse movement) features that can be embedded in a web page. It is generally necessary for the viewer to install relevant programs on the client machine, or install a browser plug-in, but these are free.

Some programs pose accessibility challenges, and may appear different when viewed with different programs (e.g. captions developed with QuickTime may look fine when viewed in QuickTime but appear larger or smaller when later viewed in RealPlayer).

### Flash

Adobe Flash is a multimedia platform used to add animation, video, and interactivity to web pages. Flash manipulates vector and raster graphics to provide animation of text, drawings, and still images. It supports bi-directional streaming of audio and video, and it can capture user input via mouse, keyboard, microphone, and camera. Flash works with an object-oriented language called ActionScript, and saves files in the .swf format, which need a free browser plug-in to be viewed.

### Swish Max

Many alternatives to Flash are being marketed, though none is quite so powerful or popular. Swish Max is a cheaper alternative, creates .swf files, and is much easier to learn. It has buttons, advanced transition effects, vector drawing, and symbol editing features but lacks the full capability of Flash's ActionScript.

### Silverlight

Silverlight is a new cross-browser, cross-platform platform for rich media and interactive implementations. Browsers need a small plug-in to show Silver light creations. Marketed to compete with Flash, but implementations to date are fairly modest.

### Zingzag

ZingZag! provides simple tools to create a rich page with viral hooks and commerce opportunities. The hosting service is offered as a social site add-on or web page stand-alone.

### Applications

Multimedia is universal on the web. It's an important feature of the new generation of adverts, but also finds applications in social media and education sites.

### Ad Types

Rich media ads employ multimedia and interactivity to make online ads more effective and entertaining, but ads themselves come in many shapes and forms:

1. Sizes vary, from the 'microbar (88 x 31 pixels) to the 'skyscraper' (120 x 600 pixels).
2. Pop-up ad: appear unasked for, especially when viewer navigates away from the offer: generally detested.
3. Interstitial ad: a full page appears in moving from one page to the next.
4. Superstitial ad: as interstitial, but does not play until fully loaded into the browser's cache.
5. Linear video ad: plays at beginning, end or during some section of a video.
6. Non-linear video ad: plays during or over a video.
7. In-text video ad: plays when mouse moves over some part of the text.
8. In-banner video ad: plays when mouse moves over a banner.

Google estimate that improved Internet speeds and technology will grow rich media display advertising to a \$50 billion market by 2015. {12}

#### Questions

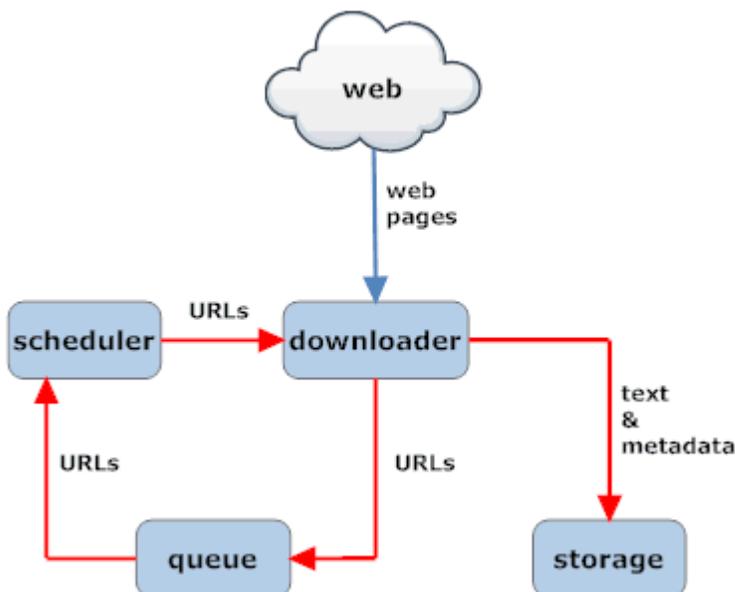
1. What is meant by 'rich media' and how does it apply to web advertising?
2. Describe four popular programs. How do they compare with respect to range of use, ease of learning and display on mobile platforms?
3. What are the main ad types? List a site employing each type.

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## 7.22 SEARCH ENGINES AND DIRECTORIES

Some 85% of accessible web pages are found through search engines and directories. Directories list hierarchically by topic, and submissions are vetted by humans. By contrast, search engines are non-personal devices using complex (secret and changing) algorithms to rank sites, displaying them according to the keywords typed in by search engine users. Search engines are also divided into 'organic' (where ranking is free) and the commercial or pay-per-click variety (where site owners pay for top rankings).



Much material is not reached by the search engines. Even by 2004, a study by NEC Research Institute suggested that total search engine coverage had fallen from 60% to 42%.<sup>{10}</sup>

Search engines perform three operations. They firstly use a 'web crawler' or 'spider' to *regularly search* the web, finding sites and following links to collect information on all or most pages. Then they *index* that information, considering text, text headings, meta tags, graphics labels and links from and to the pages concerned. Lastly, they sort and *store* that information in ways that can be readily accessed by users of the search engine. Google stores whole pages, inbound link information and action taken on any Adword links. Altavista stores every word.

When a user enters search words (also called keywords) into a search engine, the program searches its index and selects the best matches, ranking them by 1. relevance, 2. authority, 3. number and quality of incoming links (Google), 4. semantic clustering of keywords, and 5. statistical analysis of the keywords on the page (distribution, density, etc.). Some search engines (e.g. Ask) also allow searches by whole sentence queries rather than simply by key words. Search engines earn revenues from advertising and by incorporating pay-per-click services.

Web directories rely on sites being recommended to them (submissions) and do not generally search the web. They are created and maintained by humans rather than search algorithms, and list sites by category and subcategory. The best known are Yahoo! Directory and the Open Directory Project. The first has a paid submission service. The second is the most prestigious on the web, and is free. In some directories the paid-for-inclusions are ranked according to their bid amount. Directories also supply information to search engines.

Search Engine Popularity

There are many search engines, but only five are now important to western ebusinesses. {4}

	USA		UK	
	% Volume	% Visits	% Volume	% Visits
Google	65.55	63.40	90.16	83.68
Yahoo	15.46	12.21	2.94	3.46
Bing	13.97	14.47	4.19	4.94
Ask	2.74	2.15	1.36	1.89
AOL	1.58	1.29	-	0.27
Total	99.30	93.52	98.65	94.24

Search engine use varies by country.

	National Search Engine(s)	Google	Yahoo	Bing
Brazil	-	97%	1%	1%
Czech Republic	47.7%	40.8%	-	-
China	64.7%	30.9%	-	-
Denmark	15%	80%	1%	1%
France	-	89.5%	2.5%	2.8%
Germany	2%	89%	2%	-
India	c2%	94%	c2%	c2%
Italy	c3%	91%	c3%	c3%
Japan	3.8%	31.3%	56.2%	-
Mexico	-	c90%	c5%	c5%
Netherlands	1%	95%	1%	3%
Norway	-	95%	2%	2%
Portugal	10%	90%	-	-
Russia	c8%	68%	23%	1%
Slovakia	-	98%	1%	1%
South Korea	93%	4%	3%	-
Spain	4%	73.4%	17.4%	-
Sweden	-	71%	14%	c8%
UK	-	c90%	c5%	c4%
USA		c70%	14.4%	9.9%

Some search engines use or incorporate other search engine results. Examples:

**Yippy:** also searches the 'deep web', i.e. beyond the range of conventional engines.

**Dogpile:** returns results from leading search engines, including Google, Yahoo! and Bing.

Search engines specialize, or are particularly useful for some types of information. Examples:

**Webopedia:** simple Internet and computer information.

**SearchEngineGuide.** Search engines and guides listed under nearly 100 categories.

**ResourceShelf.** Results of web searches by librarians and others.

## History

The first tool created to search the Internet was the 1990 'Archie', followed a year later by the better-known 'Gopher'. In 1994 came 'WebCrawler', the first 'full text' crawler-based search engine, which was followed over the next ten years by search engines attracting considerable interest and investment: Magellan, Excite, Infoseek (now Go), Inktomi, Northern Light, AltaVista and Yahoo! It was a period of intense

competition, with search engines incorporating results from other search engines, and sometimes acquiring the search engine company itself. Overture, for example, owned AlltheWeb and AltaVista. Yahoo! acquired both Inktomi (2002) and Overture (2003). Microsoft launched MSN Search in 1998 using Inktomi search results, then displayed Looksmart listings, blended results in from Inktomi, switched to Google technology until 2004, developed its own search technology thereafter, launched Bing in 2009, and finally leased that technology to Yahoo Search. Google provided a ranking method based on number and quality of incoming links, and rose rapidly to prominence after 2000.

The search engine market is now dominated by a few big players. Netmarketshare {5} gave the market share in April 2011 as: Google 84.64%, Yahoo, 5.15%, Baidu 4.30%, Bing 3.91%, Ask, 0.53%, AOL 0.38%, Excite 0.02%, Lycos 0.01% and AltaVista 0.01%. MSN, Microsoft Live Search and All the Web were shown as 0.00% (presumably less than 0.01%). All markets were global except Baidu (China), Bing and Microsoft Live Search.

#### Questions

1. What three operations do search engines perform?
2. Provide a short history of search engine development.
3. How do search engines specialize? Give some examples.
4. How do search engines differ from search directories?
5. What are the five most popular search engines in the US? What are the more striking differences in other countries?

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## Section Contents

## 7.23 SPREADSHEET PROGRAMS

Spreadsheets are among the most popular office tools, being used to analyze and present financial data. The best known are Microsoft's Excel and Lotus's Symphony, but many cheaper alternatives exist (e.g. Softmaker, Quatro Pro, iWork, Ability) and some free programs are excellent. Spreadsheet programs are more versatile than is generally realized, but can suffer limitations in use and design.

### Features

Spreadsheets will be familiar to all in business and business studies. The application displays cells in a two-dimensional matrix of rows and columns. Each cell can contain alphanumeric text, numeric values or formulae. A formula defines how the content of that cell is to be calculated from the contents of any other cell, or combination of cells, and is updated each time any other cell is updated. Spreadsheets are invaluable for financial assessments and modelling, and commonly incorporate a third dimension by some linking of spreadsheet layers.

Spreadsheets are an example of the '80 20 rule', where some 80% of users customarily employ only 20% of the functions. Spreadsheets can in fact be made to serve as programming languages, and will generate the sophisticated graphs and visual displays of data needed in the natural and biological sciences. Many statistical packages use a spreadsheet program like Excel for data entry, and most spreadsheet packages accept comma delimited files (CSV {3}) exported from shopping cart and other programs.

### History

The concept derives from a 1961 paper "Budgeting Models and System Simulation" by Richard Mattessich, and was

implemented on several IBM mainframe computers in the years following. The program was further developed as LANPAR ( LANguage for Programming Arrays at Random), and used by Bell Canada, AT&T and the 18 operating telcoms nationwide for their budgeting purposes. There were several modifications subsequently, most notably in a program marketed by Capex that ran on General Electric's time share services, but the electronic spreadsheet attained its present form as Visicalc, a 'killer' application developed by Dan Bricklin and Bob Frankston that helped make the Apple II computer popular. Lotus 1-2-3 appeared in January 1983, and became the comparable application for the PC, soon overtaking Visicalc by virtue of its better speed, graphics, layout and and macros.

Microsoft, meanwhile, had been developing its own Excel program for the Mackintosh platform, and with the appearance of Windows 3x operating system were able to include a spreadsheet in their Office Suite and dominate the commercial electronic spreadsheet market from the mid 1990s. In the late 1980s and early 1990s appeared programs built on objects called variables, which could be displayed with branches and logical roots, a godsend for complex financial modelling but later used for more diverse purposes: college chemistry courses, economic modelling and even by the military in the early Star Wars project. Improved web technologies again changed the picture from 2005, when spreadsheet programs became available as online applications, some indeed offering multi-user collaboration features and real-time stock prices and currency exchange rates.

### Limitations

Spreadsheet modelling can be unreliable. Research estimates that roughly 94% of spreadsheets as deployed contain errors, and that 5.2% of cells in unaudited spreadsheets also contain errors. {5} The main problems are: shifts of meaning in

spreadsheets terms, auditing of complex, undocumented spreadsheets by third parties, spreadsheet redesign that severs previous links, collaborative efforts that do not limit access properly, memory limitations in software or computers that result in overflow errors, and the simple accumulation of human errors in spreadsheet systems that are not systematically checked. Some 55% of Capital market professionals profess not to know how their spreadsheets are audited, and only 6% invest in third-party solutions. {5} Errors can cost millions. {8}

### Marketing Strategies

Lotus purchased the original Visicalc program, developing it further with named cells, cell ranges and spreadsheet macros. Microsoft displaced Lotus by bundling a free trial of their Office Suite with each computer sold running the Windows operating system. That financial muscle is now being challenged by the tools that come free with Google Docs, a big-company marketing tactic that Microsoft has itself complained about.

### Free Spreadsheet Programs

Abykus

Oleo

Mariner Calc

GNumeric

KOffice

Open Office

Star Office

Google Docs

Think Free

### Questions

1. What are spreadsheet programs, and how are they employed?
2. Give a brief history of their development and marketing.

3. Explain their limitations, and give some examples of costly errors.

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## 7.24 VIDEO CONFERENCING

Web conferencing enables a company to conduct live meetings, training, or presentations via the Internet. Each participant sits at his or her own computer and is connected to other participants by one of two methods. Either they install downloaded software, or they enter a pre-distributed password to access a meeting held on 'third-party premises'.

Web conferencing is increasingly used by companies of all sizes, and offers:

1. More efficient and effective meetings.
2. Reduced or zero travel time and cost.
3. Better communication with customers, partners and vendors.
4. Reduced sales cycle time and costs.
5. Improved technical support and customer service.
6. Better follow up on staff training.

### Types

Video conferencing employs Voice over IP (VoIP) technology and is of three types:

1. Ad hoc conferencing: set up over the telephone. The person hosting the conference calls an attendee, presses the Conference button, and a one-to-one telephone call is expanded to accept other participants, who are called in turn by the meeting host. The Meet Me model is similar but uses specially designated telephone numbers. Administrators set up these numbers by configuring the local phone system to forward calls to a conference server. Once in operation, the conference server manages calls independently of the larger telephone system. All who have the designated numbers can join the conference, but are commonly asked to identify themselves.
2. Reservationless: still fairly basic and commonly set up with the telephone keypad. Here the meeting organizer specifies a

meeting name and creates a meeting identifier. The person hosting the meeting generally dials into the conferencing system and creates a meeting instance via the Interactive Voice Response (IVR) system.

3. Scheduled conferences: offers the fullest facilities and is set up in advance, at times mutually convenient to attendees and when the Internet lines are not likely to be too congested. Meetings are arranged through the Internet ( web browser), the telephone, or are integrated with email and calendaring systems like Microsoft Outlook.

### Practicalities

Video conferencing is straightforward to participants, and vendors offer an easy-to-use service that is generally categorized under three endpoint options. {10} An endpoint option is a combination of camera, codec and screen. Codecs are coding and decoding programs.

1. Desktop video conferencing: a web-based, software-client-based, a dedicated standalone video appliance or a video-enabled IP telephone designed for the single user.

2. Room-based: employing one or more large screens and designed for groups.

3. Telepresence: as 2. but including audio and visual enhancements of furniture, sound and lighting arrangements to give participants the feeling that they are sitting across the table from their colleagues. Telepresence can also be used in areas hazardous to human beings. {9}

Several components are required:

1. Cameras and video conferencing codecs to encapsulate and decapsulate video images at the endpoints,
2. Screens to display images,
3. Bridges, gateways and video conferencing multipoint control units (MCUs) for interconnecting multiple endpoints, transcoding between different codec encapsulations, interconnecting video conferencing systems with other applications, policy and security enforcement, and external

- connectivity across network boundaries,
4. Management tools to schedule of video conferencing sessions and control session quality,
  5. Data network resources to deliver video packets between endpoints and other components.

Technicalities

Video conferencing employs complex technology, the details of which are the concern of engineers who set up the systems, and the technician who operate them. In outline, however:

## **VoIP**

Voice over Internet Protocol enables calls to be made over a broadband Internet connection rather than a regular (or analog) phone line. VoIP is implemented using both proprietary and open protocols, and is a feature of various systems, particularly long distance telephone calls, video conferencing and Skype. The analog voice signal is digitized, encoded, divided into packets and sent as Internet Protocol (IP) packets over a packet-switched network. The same steps in reverse order convert the packets into audio signals at the receiving end. Video and data are handled separately, but in a similar way. Extra protocols are added for transmission in congested condition, and transmission made secure by various encryption methods (e.g. Secure IP, Secure Voice over IP and Secure Voice over Secure IP).

Audio and video information has to be compressed: there are several formats in common use. {4} {5}

Voice and video packets are sent under Realtime Transport Protocol (RTP) in which the following also play a part:

H 323 (handles call signaling and control, multimedia transport and control, and bandwidth control)

SCCP (Signalling Connection Control Protocol)

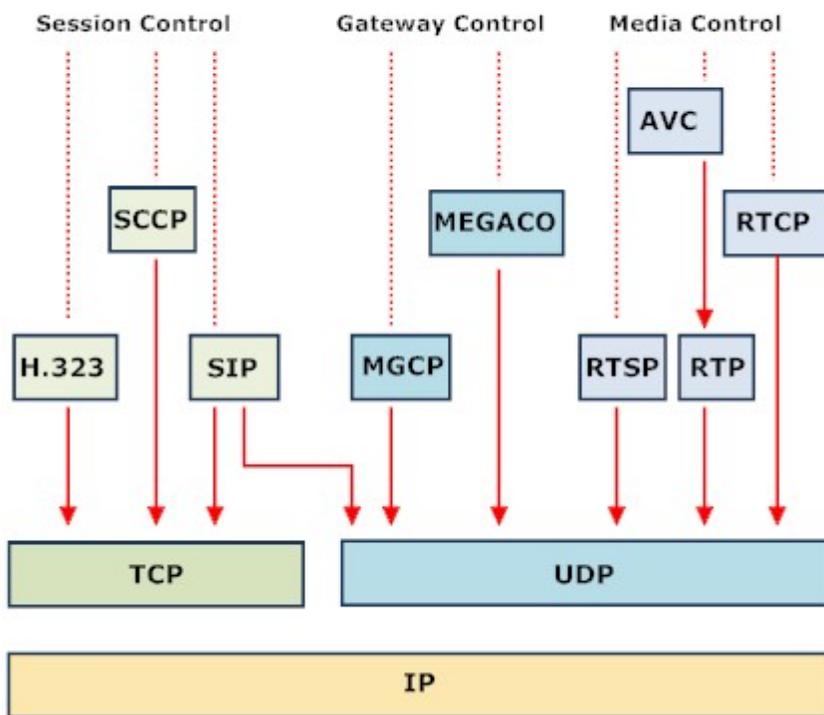
SIP (Session Initiation Protocol)

MGCP (Media Gateway Control Protocol)

MEGACO (Media Gateway Control Protocol)

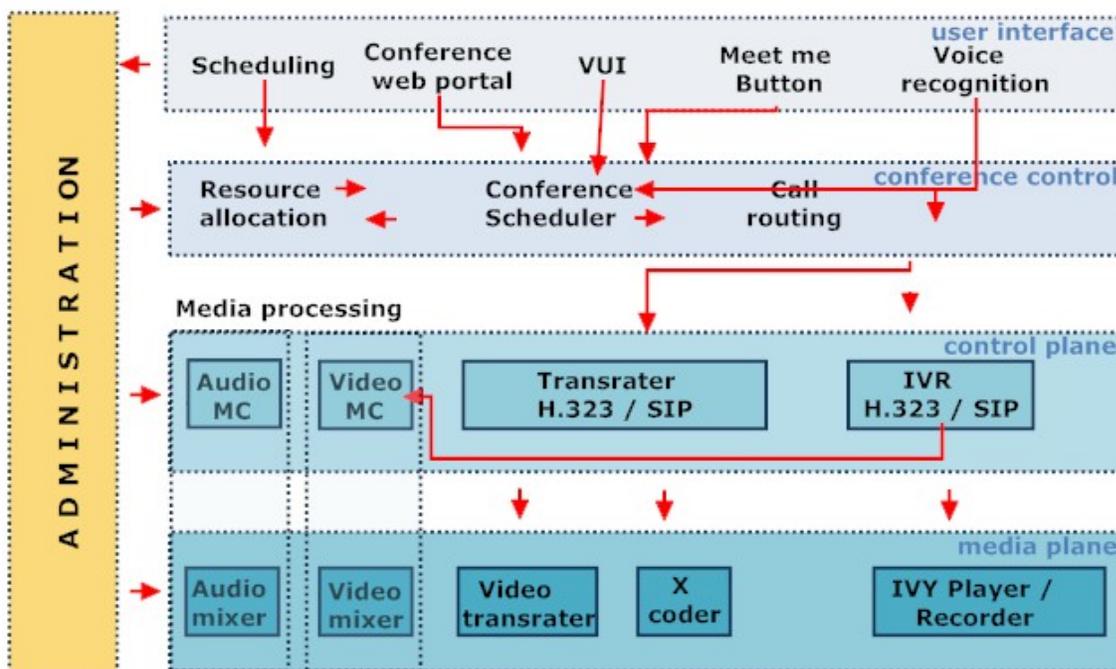
RTSP (Real Time Streaming Protocol)  
 AVC (Audio/Video Compression format)  
 RTCP (Real-Time Transport Control Protocol)

RTP in IP Collaboration Systems : after Firestone et al {1}



## Conferencing System Components

CONFERENCING SYSTEM LAYERS : after Firestone et al. {1}



Five components are needed:

1. User Interface, which itself consists of:
  - a. scheduler to arrange conferences in advance.

- b. web portal accessed through a browser on the client PC.
- c. voice user interface (VUI) to manage participants.
- d. a meet me or conference button on the telephone keypad.

- e. An interactive voice response (IVR) system to deliver voice prompts to attendees.

2. Conference Control, which interacts with the User Interface and the scheduler to create meetings, insert and remove attendees, and connects them to the IVR according to user input.

3. Control Plane, which contains the signalling stacks, controls incoming and outgoing connections, and negotiates the session parameters.

4. Media Plane, consisting of audio and video mixers, which have inputs and outputs for media streams.

5. Administrative Interface, which interacts with the four components above, and:

- a. sets resource allocation defaults.
- b. handles any overbookings.
- c. specifies the maximum meeting length.
- d. enables and defines the signal protocols.
- e. configures the system name.
- f. configures the audio preferences
- g. configures the videocapabilities and bandwidth limitations.
- h. adds and configures system users and the capabilities allowed.
- i. adds or updates recorded prompts.
- j. sets the system to an enabled or disabled state.

## Services

Some of the better-known services:

System	Platform	No. of Attendees	Secure Access	Encrypted Meetings	Pricing
Citrix GoToMeeting	Windows & Mac	<=15	yes	no	\$49/month
Cisco Meeting Center	PC, Mac, Linux, Unix, Solaris & iPhone	<=25	yes	no	\$49/month
Adobe Connect	PC, Mac, Linux, Unix, Solaris, & iPhone	<=1500	yes	no	\$45/host/month or \$0.32/user/minute
Microsoft Office Live	Windows	<=1250	yes	no	\$16/user/month (prof) or \$4.50/user/month
IBM LotusLive Meetings	Windows, Mac & Linux	<=2000	yes	yes	p.o.a.
Zoho Meeting	Windows	<=100	yes	yes	from \$12/month (5) to \$49/month (100 users)
DimDim	Windows, Mac & Linux	<=100	yes	no	\$0-33/user/month
Elluminate	Windows, Mac & Linux	50-400	no	no	\$50/month
All Conferencing	Windows, Mac & Linux	<=99	yes	yes	from \$19/month
Buddy Meeting	Windows, Mac & Linux	<=10	no	no	free
Fuze Meeting	Windows, Mac & Linux	55+	no	no	\$10-69/month
Glance	Windows, Mac & Linux	100	no	no	\$50/month
NetViewer	Windows, Mac & Linux	<=200	no	no	\$30/month
omNovia Web Conference	Windows, Mac & Linux	2-5000	yes	yes	\$40/month - \$8.10/seat
Google Open Meetings	Windows, Mac & Linux	<=25	no	no	free
Tokbox	Windows and Mac	20-25	-	-	free APIs for developers
VenueGen	Windows	<=500	no	no	\$0-790/month
WebEx	Windows, Mac & Linux	<=25	yes	yes	\$49/month
Web Huddle	Windows, Mac & Linux	small	no	no	free while beta
Yugma	Windows, Mac & Linux	<=500	no	no	\$0/10 users/month to \$160/500 users/month

## Questions

1. Why is video conferencing becoming an important aspect of business life?
2. Describe the three types of video conference, and the three ways it may be set up.
3. What components are required for video conferencing? Show how they interact.
4. Give some account of Voice over Internet Protocol, and the

other protocols involved in video conferencing.

5. Consider three popular video conferencing services and compare their features in detail.

#### Sources and Further Reading

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12. *Business videoconferencing poised for 2011 breakthrough* by Heather Clancy. SearchitChannel. January 2011.
13. *Top Five Reasons to Use Web-Based Video Conferencing*. MegaMeeting. Undated white paper.
14. *The Video Conferencing Boom — Top Trends to Watch*. OneStopClick. September 2011.

#### Section Contents

## 7.25 WORD PROCESSING PACKAGES

Word processing software, so much part of today's office, has also widened the publishing market.

### Features

Early word processors used tag-based markup for document formatting, but most modern word processors provide some form of WYSIWYG (what-you-see-is-what-you-get) editing. Today's word processors can handle photos, graphics and text (including footnotes and mathematical formulae) and automatically produce a table of contents and index for longer documents. Microsoft Word is the dominant package, with some 500 million copies in use worldwide, but open source (i.e. free) software is acceptable in many instances, at least where the file has not then to be converted to an HTML or PDF format. Web-based word processors, such as Google Docs, are becoming a popular alternative.

### Self Publishing: Empowering the Author

Word processing packages have opened the door to self publishing. While declining margins oblige traditional publishing companies to concentrate on safe market sectors (celebrities, textbooks, health, self-improvement, etc.), the combination of client programs and the Internet has allowed authors to expand into more diverse and specialized niches. Most Print on Demand companies will accept a manuscript in MS Word format, and many DIY authors go the extra mile by first using Word or a similar package for typesetting to a near-professional standard, converting the Word file to a PDF format with free or proprietary software, and then selling the eBook themselves on the Internet. The recommended steps for typesetting in Word are:

1. Compile chapters into a single document.
2. Set the page size: File>Page Setup>Paper Size.

3. Set up columns and margins: File>Page Setup>Margins.
4. Set headers and footers: Layout>Header.
5. Save the template: File>Save As>Document Template.
6. Insert page breaks at chapter ends, turning off 'Link to previous' for both headers and footers: Insert>Break.
7. Set 'Section start' to 'New page: Layout>Section Layout.
8. Insert page numbers: Insert>Page Numbers.
9. Use the 'Show next' to go to the next header: Layout>Header>Show Next.
10. Turn off automatic repagination: Insert>Page Numbers>Format.
11. Check, if you delete a page break, that headers and footers have not been disrupted.
12. Check the text spreads look good: View>Print Layout.
13. Tick 'Do full justification like WordPerfect 6x for Windows' in the Preferences menu: Tools>Options>Compatibility.
14. Choose the typeface and set the size from the dropdown list, adding a decimal point manually if desired: Format>Font.
15. Set the leading or line spacing: Format>Paragraph>Indents and Spacing: set Line spacing to Exactly, and enter value.
16. Set Page and Line Breaks: Format>Paragraph: Line spacing.
17. Create, test and modify Styles: Format>Style.

To create text of good 'colour' ( evenly spaced lines, without gaps, rivers and compressed words):

1. Control the horizontal spacing by kerning: Format>Font>Character Spacing>Spacing. Expanded or condensed by 0.1 pt is usually enough.
2. Control the hyphenation. Select the relevant word and prevent its hyphenation: Format>Paragraph>Line and Page Breaks>Don't hyphenate.
3. Prevent 'widows' and 'orphans': Format>Paragraph>Page and Line Breaks.
4. Employ a Word Macro like WordSetter {4}

Word templates are useful, allowing setups to be used for other documents.

World processing software is listed below. {3} Searches with 'Word to HTML conversion software' and 'Word to PDF software/service' will locate the other programs in the publishing chain.

## **Marketing Strategies**

Unless they are actually commissioning the work, traditional publishers expect the enquiry letter to include a researched publishing proposal that estimates demand, competition and likely sales (e.g. with TitleZ or similar services). Self-publishers will need to do the same exercise if profit is among their objectives. Sales promotion through a website usually needs to be augmented by other marketing methods: Amazon, epubli, keyword research, readings, book launches, radio talk-shows, etc.

## Free Word Processing Programs

AbiWord

Bean

Calligra Word

GNU TeXmacs

LyX

NeoOffice

Open Office

Ted

## Questions

1. How has word processing changed office life? Has all been for the good?
2. Describe five word processing procedures useful for typesetting.
3. How has word processing empowered authors?
4. Compare Microsoft Word facilities with those of two free programs. Why as an impecunious author might you still use Word?

## Sources

1. *A Brief History of Word Processing (Through 1986)* by Brian Kunde. Stanford Univ. December 1986.
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3. *List of word processors*. Wikipedia. Extensive listings grouped by open source, commercial, online and those of historical interest.
4. *Microsoft Word for Publishing Professions*. Editorium. Site also sells useful software.
5. *Perfect Pages* by Aaron Shepard. Shepard Publications. An unattractive but useful book for the DIY publisher.
6. *The Fine Print of Self Publishing*. Book Publishers Compared. Detailed analysis of 25 top self-publishing companies.
7. *Templates for Microsoft PowerPoint and Microsoft Word*. Inzones. One of many such outlets.
8. *Typography Workbook: A Real-World Guide to Using Type in Graphic Design* by Timothy Samara. Rockport Publishers. September 2004. Basics of design, without which the best software is useless.
9. *Butcher's Copy-editing: Fourth Edition*. CUP 2006. Standard work. Indian reprints are cheaper.

## Section Contents

## 7.26 CLUSTER ANALYSIS

You've been tracking your visitors carefully, trying to establish customer profiles. But it's very difficult because you sell many products and a baffling range of people buy them: different countries, different social groupings, following different promotions and webpage marketing copy. Nonetheless, you do need proper customer profiles because you're starting a major ppc campaign, which depends on careful targeting. How can you make best use of your web analytics data?

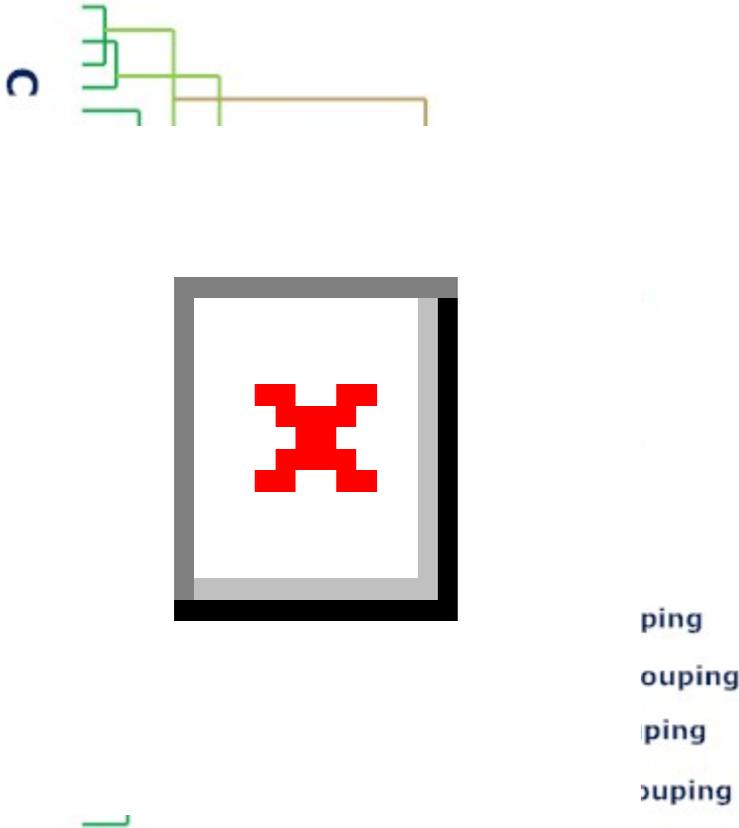
Cluster analysis finds the statistically most significant groupings in a collection of data, often presenting the groupings hierarchically as a dendrogram. More formally, cluster analysis or clustering is the objective assignment of a set of observations into subsets (called clusters) so that observations in the same cluster are similar in some sense. It is one of many ways of grouping data.

Using a Clustering Computer Program

How do you run a clustering program? You key the relevant data into the program input box, set a few details (number of clusters required, learning rate, epochs, initial weighting) and click the start button.

Criteria	Customer 1	Customer 2	Customer 3
Total Previous Sales	\$483	\$89	\$276
Value of Last Sale	\$249	\$49	\$276
Payment By	Credit Card	PayPal	Credit Card
Date of Last Sale	12/15/2012	3/27/2011	4/25/2011
Discount Applying	0%	10%	5%
Pages viewed prior to sale	2	8	4
Guarantees page visited how many times on day of sale	0	4	2
Shipping Charges page visited how many times on day of sale	1	3	3
VDU Resolution	1024 x 768	800 x 600	1280 x 1024
Country of Residence	USA	Mexico	Canada

The program will then crunch through the data to give you something like this (usually with an explanation of the groupings):



The bracketing (vertical tie-lines) indicates how the further groupings are related: the more to the right lie the vertical lines combining groups, the looser are their grouping

Sometimes the data will only give you an oblique indication on the spending power of your customer (PayPal versus credit card, VDU resolution). Or you'll have to think beyond obvious categories — not year and quarter but possible Christmas present, spring booking for summer holidays, economic outlook at the time.

Perhaps a simple classification will emerge, based entirely on product type. That will be the most important grouping, and you must run ppc programs that respect the grouping, making marketing efforts different for each product type. Or you may find the grouping is by discounts offered, when discounts will feature in your ad copy (remember that the more natural or statistically relevant the grouping, the more to the left will lie the bracketing tie lines). If customer loyalty is important, then

perhaps an email campaign would be wiser.

### Real Time Data

Your own data will only take you so far. The more go-ahead companies access the voluminous data available from eBay and social media sites. Rather than search, identify and key in the relevant data, however, they write programs to continuously (i.e. in real time) tap into data through an API that links the raw data to analysis programs running on their own computers: a quicker and less error-prone process.

### Further Work

You may also want to run clustering on visitors who didn't buy anything (though you'll have less data on them).

Above all, you need to experiment, and understand what the results mean. You'll have to quantify the relevance of factors by running clustering programs with factors present and removed. Once the major groupings are established, you'll want to find further groupings — either by setting larger numbers for the factors and/or by analyzing data in batches selected by the major groupings.

Uncertainties will doubtless remain after cluster analysis, but you can redesign your website to explore customer profiles further (funnel analysis, split testing, click density and task completion analysis). And refine the profiles of customers giving you the greater profit margin. That done and your important customer profiles established, you can think about tweaking the website and automating customer selection, sending customers to products they are most likely to buy.

### Resources

1. [Free Statistics](#). Good listing of open source and freeware statistics packages.
2. [Wil's Domain](#). Straightforward listing of statistics software, both free and commercial.

3. Statistical Analysis Software Survey. Useful tables if you're familiar with statistics packages.
4. COMPACT - Comparative Package for Clustering Assessment. Free cluster analysis package.
5. Chameleon Statistics. Uses cluster analysis. Free evaluation model.

#### Questions

1. Define cluster analysis. What is the significant word in the definition?
2. How could it be useful in webpage design, pay-per-click marketing and search engine optimization?
3. Evaluate some statistical packages available, both free and commercial.

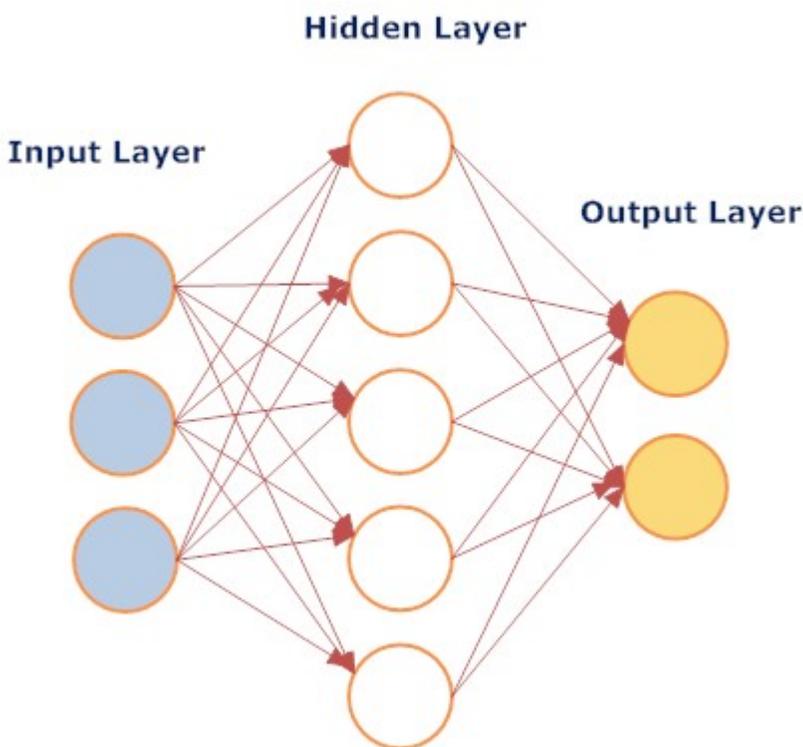
#### Sources and Further Reading

1. *Information Theory, Inference, and Learning Algorithms*. David MacKay. 2003. Inference. Includes neural networks and their theory. Hardback \$60 but free as PDF download.
2. *Programming Collective Intelligence: Building Smart Web 2.0 Applications* by Toby Segaran. O'Reilly. August 2007. Includes specimen code in Python.
3. *Cluster Analysis*. StatSoft. Straightforward but extended treatment of various approaches.

#### Section Contents

## 7.27 NEURAL NETWORKS

Neural networks are computer programs that imitate the neural networks of the brain in decision-making. At their simplest, there is an input layer, a hidden layer and an output layer. The input layer can be multiple, and many thousands of nodes can make up each layer, but typically a neural network will have a single hidden layer, and each layer will consist of no more than several hundred nodes — the larger the neural network, the longer it takes to run. This node arrangement is virtual, simply a computer program that continually changes the weightings of simulated links between nodes until the network is trained properly.



Neural networks learn from experience, being good at pattern recognition, generalization, and trend prediction. Though not fast, they are tolerant of imperfect data, and do not need you to select statistical formulae or know in advance which factors will be important. Neural networks are *trained* by repeatedly presenting examples to the network. Each example includes both inputs (information you would use to make a decision) and outputs (the resulting decision, prediction, or response).

The network tries to learn from each of the examples in turn, calculating its output based on the inputs provided. If the network output doesn't match the target output, the network corrects the network by changing its internal connections. This trial-and-error process continues until the network reaches a specified level of accuracy. Once the network is trained and tested, you can give it new input information, and it will produce a prediction.

The key to designing a successful neural network is to clearly formulate the problem, and to collect lots of relevant data.

Typically, you:

1. Divide your data into two batches, a large one for training and a smaller one for testing.
2. Input your training data, either manually or by importing a file in Lotus, Excel, dBase, text, etc.
3. Train your network, until either the entire training file has been memorized, or until the network's performance on the testing file reaches the optimum you have set.
4. Test your network, i.e. show it new data (i.e. testing data) and check the output. If the results are good, your network is ready to use. If not, you have to get more or better data, or redesign your network.

You may want a program like [NeuroXL](#) that hides most of the complexities (though it does allow you change the training parameters) or one like [BrainMaker](#) where you can see the output of each stage and tweak the parameters accordingly.

Neural network programs generally come with an extensive manual, and case studies to stimulate ideas.

### Processing Data in Real Time

Neural networks take time to produce predictions, and are not ideally suited to processing data in real time. But if you did want a site that was continually extracting data from customers, feeding it through a neural network and supplying customers with appropriate web pages, then the coding for neural networks is available in most computer language

libraries. Toby Segaran's *Programming Collective Intelligence* provides a worked example and some of the Python code.

#### Case study: Direct Mailing

Microsoft used BrainMaker neural network software to maximize returns on their direct mailing campaigns. Each year, the company sent out about 40 million pieces of direct mail to 8.5 million registered customers. Most of these direct mailings were aimed at getting people to upgrade their software or to buy other related products. The first mailing usually included everyone in the database, but the second is only sent to individuals most likely to respond.

Company spokesman Jim Minervino was asked how well BrainMaker neural network software had maximized their returns on direct mail. He said, 'Prior to using BrainMaker, an average mailing would get a response rate of 4.9%. By using BrainMaker, our response rate has increased to 8.2%. The result is a huge dollar difference that brings in the same amount of revenue for 35% less cost! To get a BrainMaker neural network to maximize returns on direct mail, several variables were fed into the network. The first objective was to see which variables were significant and to eliminate those that were not. Some of the more significant variables were:

1. Date of last purchase — the last time something was bought and registered, calculated in number of days. It is a known fact that the more recently you've bought something, the better the chance you're going to buy more.
2. Date of first purchase — the date an individual made their first purchase. This is a measure of loyalty. The longer you've been a loyal customer, the better the chance is you're going to buy again.
3. Number of products bought and registered.
4. Value of the products bought and registered (at standard reselling price).
5. Number of days between the time the product came out and when it was purchased. Research has shown that people who tend to buy things as soon as they come out are the key

individuals to be reached.

6. Additional variables include information taken from the registration card including yes/no answers to various questions — scored with either a one or zero — areas of interest like recreation, personal finances, and such personal information as age, and whether an individual is retired or has children.

Microsoft also purchased data regarding the number of employees, place of employment, as well as sales and income data about that business. The neural network was tested on data from twenty campaigns with known results not used during training.

Prior to training, the information taken from the response cards was put into a format the network could use, and yes/no responses were converted to numeric data. Minimums and maximums were also set on certain variables. Initially, the network was trained with about 25 variables. To make sure the data was varied, it was taken from seven or eight campaigns and represented all aspects of the business including the Mac and Windows sides, from high and low price point products. The model trained for about seven hours before it stopped making progress. At that point, variables that didn't have a major impact were eliminated. This process was repeated.

The currently-trained model is based on nine inputs. Jim Minervino explains some of the other training considerations: 'During training I used *modify size* and I used *prune neurons*; as training completes, I used *add neuron*, and we did an experiment with *recurrent operations* although in the net model we ended up using the default.' The output was a quantitative score from zero to one indicating whether an individual should receive or should not receive a second mailing. Minervino found that anybody scoring above .45 was more responsive to the mailing than anybody below.

Questions

1. Explain briefly how neural networks operate.
2. What sorts of problems are they used to solve?
3. Provide five examples of their successful use.
4. Describe in detail their use in Microsoft's direct mailing study.

#### Sources and Further Reading

1. *Information Theory, Inference, and Learning Algorithms*. David MacKay. 2003. Inference. Includes neural networks and their theory. Hardback \$60 but free as PDF download.
2. *Programming Collective Intelligence: Building Smart Web 2.0 Applications* by Toby Segaran. O'Reilly. August 2007. Includes specimen code in Python.
3. *An Introduction to Neural Networks* by Kevin Gurney. CRC Press. August 1997.
4. *Designing Neural Networks with BrainMaker*. BrainMaker. Introductory background for BrainMaker users.
5. *Maximize Returns on Direct Mail with BrainMaker Neural Network Software*. BrainMaker. Other case studies on site.
6. Easynn. Fully-featured neural network software system that runs under Windows.
7. BrainMaker. Professional's choice of neural network system.
8. NeuroXL. Neural network tool: runs with MS Excel.

#### Section Contents

## 7.28 PRICING MODELS

In this fictitious example, you work for a new software house with a killer application just out of beta-testing. What are you going to price it at?

Pricing generally reflects fixed and variable costs.

Fixed costs include:

1. Product development costs: these have to be gradually recouped and loans repaid.
2. Costs of maintenance, support and further development.

Variable costs include:

1. Office, salaries and website costs:
2. Marketing spend.

A demand curve is a plot of price against quantity sold, and is often found by testing: how many items are sold over comparable period. The optimal price is that achieving the most profit, where  $\text{profit} = \text{numbers sold} \times \text{profit on each item sold}$ . In a competitive market, prices tend towards the marginal price, the incremental cost of producing an additional item with fixed costs excluded, i.e. additional variable cost.

### Internet Pricing Models

Many companies in the early days of ecommerce priced below the marginal cost (occasionally for next to nothing), aiming to:

1. Build market share or dominance.
2. Create a large customer base that could then be targeted with advertising or premium services.

Such policies are not sustainable for long without understanding backers or subsidies from other parts of the business, and many Internet companies indeed burned out. Pricing is a difficult but vital matter. There are many models, the more common being:

### **Free**

Google offers free office applications that build market awareness of its other (commercial) services.

### **Freemium**

Basic service is free but extra facilities come at a cost. Many software houses market their programs this way, and online newspapers commonly provide some news free but ask a subscription for access to archives and more detailed articles. Sometimes the free service pays its way by providing valuable marketing information.

### **Versioning**

Here the same product is sold to different market sectors at different prices. The antique trade works this way: a dealer will buy a superb Chippendale at a country sale and mark it up several hundred percent for his Bond Street gallery.

Electronics companies produce models with minor variations for sale at very different prices in different countries, often through deals with large national distributors. Car makers produce many models, and prices do not reflect production costs so much as what is seen as sensible in various market sectors.

### **Bundling**

Bundling works on the principle that, while customers may disagree on the value of a single product, their views converge as more products are added to the offer. Microsoft sells Word, Powerpoint, Excel and Access as its Office bundle, customers getting 'cheap' what they may not use. Subscription libraries offer access to tens of thousands of articles knowing that only a few hundred will be read in a year.

### **Dynamic Pricing**

Dynamic pricing entails selling as the market will bear. There are two approaches: auctions and yield management. Prices are set at auction by customers bidding against each other. In yield management, however, companies sell excess capacity (flights, theatre seats, hotel rooms) into different market segments, adjusting the price until the excess is taken up.

Realtime Internet systems play a large part here, indeed have revolutionized the business.

## **Managing Channel Conflicts**

The perceived value of a product can be damaged when the same product is sold at very different prices through different channels (distributors, shops and/or websites). To avoid this, some companies (car makers) display through the web but sell through dealerships. Others (software houses) display but leave sales to partnerships, particularly where the products are complex, needing training and after-sales support.

Objective Approaches: kNN

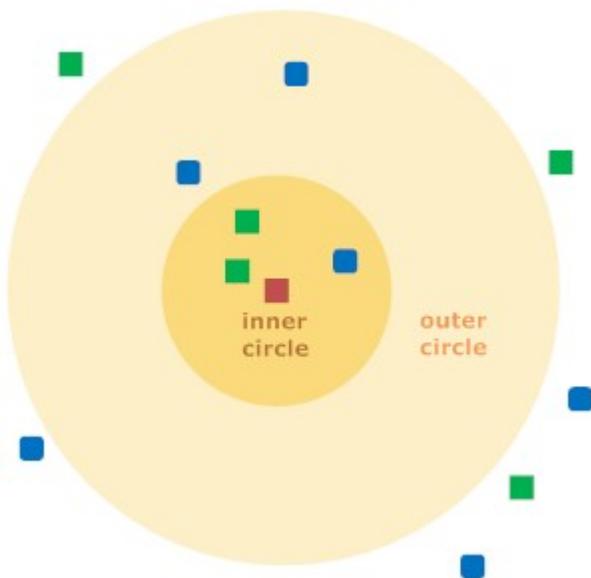
Is there a more objective way? Pricing should have been planned in the market research stage, before you got your developers together. But perhaps things have changed in the last few months as other companies unveiled their latest money-spinners. What advantages does your product have over the competition, and how much are those advantages worth?

Perhaps the easiest way of assessing the competition is to find your product's nearest neighbour, what's called k-nearest neighbour (kNN) approach. In a graphical plot — of, say, price (x) against one feature (y), a simple program would sort through the Euclidean distances calculated as the square root of (x squared + y squared) to find the minimum value. Then the program would find the shortest distance of price plotted against a second feature, and so on, until it found the shortest distance with all features taken into account. But there would be three problems:

1. Comparing on different features would mean bringing different products into the comparison,
2. You'd be assuming that all the products you compare yours against were sensibly priced to begin with (i.e. didn't reflect aberrations in the vendors' sales policies), and
3. The features would all have an equal importance, which is not likely to be the case.

The weighted kNN algorithm corrects for these drawbacks by:

1. Taking a reliable number ( $k$ ) of the Euclidean distances, and
- 2a. Weighting the more distant neighbours in some way, typically: applying an inverse function: dividing by the (distance plus some small number added), or
- 2b. Applying a subtraction function to counter overweighting of close neighbours, or
- 2c. Applying a Gaussian function.



As an illustration, consider the diagram above. The red square can be assigned to either a first class of blue squares or to a second class of green squares. If  $k$  (number of close neighbours taken into account) = 3 the square is assigned to the green square class because there are two green squares and only one blue square inside the inner circle. If  $k = 5$  the red square is assigned to the blue square class because the outer and inner circles combined contain three blue squares but only two green squares.

So, to repeat, the weighted kNN gets the sorted distances, and takes the  $k$  closest of them. Then it multiplies these distances by the weightings, and calculates a weighted average.

But we still haven't taken account of possible price aberrations, which will have a bearing on the value of  $k$  we choose, and the next step is therefore to cross-validate the data.

### Cross Validation

First we divide the data into training sets (often 95% of the population) and test sets (5%). The training set is given to the weighted kNN algorithm, which is used to make predictions (e.g. of the price). The predictions are checked against the test set figures, and an overall score calculated for the algorithm's accuracy. Then the data is divided into new training and test sets, and the accuracy scores again calculated, this being repeated several times. The averaged overall score tells you how good your initial choice of  $k$  was, and you can then adjust  $k$  and run cross validation again until prediction is acceptable.

Generally you'd run the kNN algorithm in just two dimensions first (e.g. price and feature one) because you'd need to scale (i.e. weight) the importance of second against the first. You could do that manually, but cross validating the data would help show that the scaling was sensible.

### Uneven Data

Suppose your competitor's software is not broadly comparable to our yours, but includes other pricing considerations, not strictly based on features. Perhaps your competitors suddenly needed a rapid cash flow. Or they're aiming at the corporate sector, adding functionality to an already existing product. These unknown factors can confuse the picture and make your kNN analysis unreliable. Your best course of action may be then to: graph the distribution of prices, showing the results visually in Excel or a statistical package, and possibly (if matters are still not clear) run a probability package that graphs probability of a certain price range against selected features of choice.

## Using Data

If you've only got 30 competing software programs to consider, then your best bet is probably to purchase a cheap statistical package and key in the data. But that becomes less practicable in other market sectors, where you have hundreds of competing items each with dozens of relevant features: To save time and prevent entry errors you'll want programs that automate the process. All the above steps — in a great more detail than given here — are covered in Toby Segaran's *Collective Intelligence*. {5}

Also covered is the access of real time data from eBay and other sources, which again is only briefly summarized here.

## Real Time Data

Rather than manually search for data, which is time-consuming and prone to error, larger companies are increasing using programs that automatically source real time data and perform the necessary analyses on their own computers, thereby remaining continuously up to date. In this case you might want to use price comparison sites, but eBay remains the best choice in many market sectors. eBay has millions of users and sets prices by auction, i.e. by collective intelligence. That vast body of information can be 'tapped into' through eBay's API (Application Programming Interface: a particular set of rules and specifications that software programs follow to communicate with each other) and in outline the steps would be:

- 1 Obtain a developer key, application key, certificate key and the authentication token.
2. Create a program that imports *xml.dom.minidom import parse, parseString, Node* into *ebaypredict.py*.  
access eBay with a *getHeaders* function.
3. Add *sendrequest* to *ebaypredict.py* (returns an XML document with parameters of your choice: parsed with *parseString* function in the minidom library)
4. Create XML parameters for the *GetSearchResults API*, and

pass them to the *sendrequest* function.

5. Get title, price and features through an eBay API call to *GetItem*.

6. Analyze this data with kNN programs.

#### Resources

1. [Free Statistics](#). Good listing of open source and freeware statistics packages.
2. [Wil's Domain](#). Straightforward listing of statistics software, both free and commercial.
3. [Statistical Analysis Software Survey](#). Useful tables if you're familiar with statistics packages.
4. [Python Resources in One Place](#). Codes for many applications.
5. [Java Programming Resources](#). Tutorials, compiler and resources.
6. [CPAN](#). Comprehensive Perl Archive Network.
7. [Innocentive](#). Offers a marketplace where 160,00 engineers and scientists cooperate to solve problems.
8. [YourEncore](#). Offers a network of retired and veteran scientists and engineers providing our clients with proven experience.

#### Questions

1. What matters need to be weighed when setting a price?
2. Give the advantages and disadvantages of common pricing models.
3. Explain the k-nearest neighbour (kNN) approach.
4. What is cross validation?
5. What further measures are needed to deal with uneven data?
6. Explain, in outline, how you would use real time data from eBay.

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3. *An overview of Pricing Models for Revenue Management* by Gabriel Bitran and René Caldentey. MIT. 2002. Dynamic pricing: technical.

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5 *Programming Collective Intelligence: Building Smart Web 2.0 Applications* by Toby Segaran. O'Reilly. August 2007. Includes specimen code in Python.

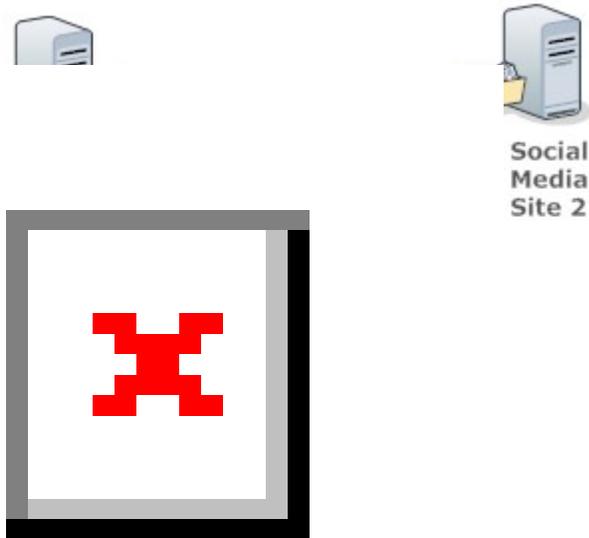
6. *k-NN Nearest Neighbours*. StatSoft. Simple but extended look at kNN approaches.

7. *User Guide to K-Nearest Neighbour (kNN) and Linear Discriminant Analysis (LDA)* UCM. How a software analysis program typically operates.

## Section Contents

## 7.29 COLLECTIVE INTELLIGENCE IN REALTIME SYSTEMS

Collective Intelligence is more widely employed than most Internet users realize.



and processed

Netflix lets people choose movies to be sent to their homes, and makes recommendations based on what customers have previously rented. Google watches visitor behaviours, and employs complex algorithms to produce its PageRank. Amazon analyzes previous purchases, and emails customers with new titles of interest. The Hollywood Stock Exchange lets you buy and sell stocks at a price accurately set by trading behaviour. Digg facilitates the sharing of Internet content by the collective votes of its users. Del.icio.us is a successful social bookmarking service that allows you to tag, save, manage and share web pages from a centralized source. Etc. But these are only the most obvious examples. Behind the scenes, complex algorithms are constantly being employed to:

1. Detect patterns of fraud in credit card transactions by neural networks and inductive logic.
2. Identify intruders in military installations by automatically analyzing video footage.
3. Group customer demands in product design and advertising.
4. Predict demand in supply chains and so minimize

inventories.

5. Pinpoint opportunities in stock markets worldwide.
6. Minimize threats by analyzing the increasing data that government agencies hold on individuals.

How does this help the e-retailer? In today's increasingly competitive environment it's imperative that companies:

1. Identify their better customers: those worth courting with special offers and products.
2. Ensure their goods and services are priced appropriately.
3. Discover and focus on their more profitable lines.
4. Anticipate customer reactions and have support staff properly prepared.
5. Make shopping a pleasant experience, treating each customer as a valued individual.
6. Keep abreast of their competitors — automatically, without tedious manual searches.

Implementation is highly technical, but this module provides an introduction to the theory, approaches and programming of specific instances, notably:

1. How to obtain the data in the first place (your server logs and third-party sites).
2. What the computer programs look like (overview and source of actual code).
3. How to implement them on your server (software and HTML coding requirements).
4. Who supplies the programs ready-built.

Theory

What is collective intelligence, and does it really work?

A broad, straightforward definition: 'Collective intelligence is any intelligence that arises from, or is a capacity or characteristic of, groups and other collective living systems'.

Tom Atlee and George Pór (2007) defined intelligence as the ability to interact successfully with one's world, especially in

the face of challenge or change. Human intelligence involves gathering, formulating, modifying, and applying effective knowledge — often in the form of ideas, images, sensations, patterns of response and sense-making — a process we refer to with words like learning, problem solving, planning, envisioning, intuition, understanding, creativity, etc. Anyone seeking to generate more effective groups, organizations, institutions, healthy communities and sustainable societies soon discovers that individual intelligence is an insufficient factor in their success.

That groups are better at prediction is shown by focus groups and the stock market. Neither is free of bias or sudden changes of heart, but both give a better snapshot of political and business sentiment than the single pundit — and explain why it's so difficult to 'beat the market'.

MIT's Center for Collective Intelligence (CCI) is building systems to solve complex problems like climate change, cancer treatment, and IQ assessment, where no one person or group can be conversant with all of the issues. CCI researchers are exploring collective prediction, building on popular Internet sites where people can buy and sell predictions about the outcome of elections, sporting events, etc. Such web sites, based on the collective wisdom of their users, have proven remarkably accurate.

Though experience has been mixed, many institutions and businesses are pouring considerable funds into this field, which speaks for its potential value. Innocentive, which consults with 160,000 scientists and engineers, offering large cash prizes for innovative solutions, claims that as of 2006, 30% of the problems posted have been solved. Sermo is an association of 70,000 US physicians enabling members to post questions to fellow experts, and Collective Intellect summarizes viewpoints in blogs and other web pages for applications in finance and marketing.

Example One: Video Hire: Making Recommendations

If someone's been shopping at your estore for a while, it's not difficult to build a customer profile. The classic case is books: Amazon notes previous interests and emails the customer with new titles of possible interest. The methodology is proprietary, but Amazon clearly note the customer details, email address, credit-worthiness, the patterns of consumer spend and the fields of interest, sending an email when the field of interest under which they classify all their products matches the interest of a valued customer. A snippet of code (SQL request) searches the customer and product databases for a match, extracts name, email and recommendation, calls a script to wrap them into an email, and off it does. Any programmer can tell you more.

Less simple are partial matches. Your video store customer may like action movies, but he doesn't like them all. He wants the best, especially those that have been well-reviewed by critics or sites whose preferences he generally agrees with. To make recommendations in this case you'll need data for 1. comparisons and 2. some statistics.

## **Data Sources**

There's a surprising amount of data readily available if you know where to look. There are your own server logs, data you can download in comma-delimited text files. AdSense and most traffic analytical programs also let you download the data from their sites, often in Excel-compatible or text forms. Much more extensive is the data that can be accessed from social bookmarking services like [Del.icio.us](http://Del.icio.us) and specialist sites. To do so, however, you'll have to obtain an API (application programming interface) from [ProgrammableWeb](http://ProgrammableWeb) and other sources, and write scripts to use them — access the data, extract it, organize and analyze it: i.e. computer programming.

## **Statistics**

Anyone who pursues research in the life and natural sciences (and increasingly a good many other careers) will be familiar with the various ways of sorting and analyzing data: correlation, multivariate analysis, time series, etc. The

formulae involved are daunting, but their derivation is the concern of statisticians. What the researcher does require is:

1. A broad understanding of statistical approaches,
2. The background to know which statistical methods apply in which sorts of problem dealing with what sorts of data,
3. How to acquire and use the various statistical packages now available for computer use,
4. How to interpret the results sensibly. If the data is in real time (i.e. obtained from their server logs as customer details come in, or from third-party social sites) then the research will also need programming skills to extract that information from web servers, obtain or write computer code for statistical analysis (most are available in computer language libraries), feed the data into the code, and use the results properly.

If, like most e-retailers, your math ended in high-school, you'll need to do the following:

1. Clearly formulate what you want to do with your site,
2. Acquire some basic statistical knowledge: college courses, Internet sites or the local library, or
3. Read Toby Segaran's *Programming Collective Intelligence* (which provides a simple approach to the statistical concepts, data sources and much of the computer code in Python), or
4. Consult the better marketing companies who will have in-house statistical skills.
5. Do a cost-benefit study of the work involved. Programming won't be cheap, and you do need to quantify the competitive advantages. 'Let's just try it and see', is feasible only for companies with large R&D budgets.

### **Assessing Recommendation**

You'll start by asking your customers to rate the movie they rent: say awful (-2), poor (-1), OK (0) good (1) or fantastic (2). In time you'll want to compare ratings between your individual customers, but at first you'll be reliant on the recommendations on third-part sites, i.e. on Yahoo My Movies, Criticker, WhattoRent, Clerkdogs and the like. Then:

## **A. Linking Customer to Third-Party Recommendations**

Your first step is to assess the recommendations on third-party sites. You will:

1. Select the titles of your most popular video hires,
2. Take the scores of one of your better customers who have seen these titles,
3. Go to third-party sites and convert their recommendations into your scores for the titles of interest , i.e. into awful (-2), poor (-1), OK (0) good (1) or fantastic (2),
4. Derive a similarity score, film by film, for these third-party scores: you'll use the Euclidean distance or Pearson correlation to do so (refer statistics sites for what these are).
5. Repeat the process for each of your customers, storing the data in these fields: customer name, customer email, top similarity site, similarity score, site-recommended titles.

## **B. Rating the Recommendations**

Now you could simply look at the similarity scores and match customer with particular third-party site, customer by customer, as in A.5. above. Betty Lewis, your best customer, rates her video titles pretty much as the Criticker site does, so the recommendations on that site will match Betty's preferences. You can use their hot ratings to select other films for her, and email her with titles as they become available. But that's a little unreliable, as some site ratings will be aberrant, inexplicably different from ratings elsewhere. You need to take these other sites into account. You will modify the similarity scores by adding weightings:

1. Extract the similarity scores of all sites for the films of interest,
2. For each film title, multiply the similarity score by the -2 to +2 rating,
3. Calculate the sum of these similarity times the rating scores for each each film on third-party site,
4. Calculate the grand total of all these similarity times the rating scores (i.e. for all sites),

5. Divide 3. by 4. to derive a weighting,
6. Use the ratings on all third-party sites in making recommendations, but multiply the ratings by this weighting (i.e. use the sum of (site1 rating x weighting1) + (site2 rating x weighting2) + . . . ).

### **C. Using Your Own Customers' Ratings**

In time you'll want to use your own customers' ratings, finding groups of customers with similar preferences, when their ratings of a particular film will serve as a guide for other members of the group who have yet to see the film. To group customers, you can:

1. Repeat step A, selecting groups on similarity scores, or
2. Use a clustering technique
3. Use a nearest neighbour approach.

Because of the computational effort involved in comparing everything with everything else, you'll probably want to use some filtering device. An item-based or user-based filtering device can be devised by constructing a shortlist of the most recommended titles, and restricting searching to these titles.

#### **Details**

No code or statistics explanations are provided here, but readers can be assured that:

1. The statistical methods are well known: they are explained in books and on Internet sites, with the necessary formulae given.
2. Most of the code, for extracting the information and deploying statistical assessments, is provided in Python, Java and other languages.
3. Code libraries exist for handling data and statistical analysis in most computing languages: you don't have to reinvent the wheel by writing your own.
4. A halfway house exists. Before plunging into programming you can extract data and experiment using various statistical packages, some free.

5. Data can be extracted automatically from third-party sites (and then processed entirely by computer) by using a free API (application programming interface), e.g. that supplied by Netflix.

#### Example Two: Travel Planning

In this fictitious example, you're a large travel company with dozens of tours starting every day in different parts of the world. Every day you've got to get the participants to the rendezvous points, arranging their flights in the cheapest and most convenient way for them. Yes, you can spend hours on the phone to carriers and booking clerks — and will probably have to anyway, since there's always someone who messes up the best-laid plans — but ideally, you'll want to automate the process as much as possible.

You need an optimizing algorithm, and will probably start by expressing all possibilities as some cost function, this being the air fare plus some monetary weighting for travel time, time spent waiting for connections, and the inconvenience of early morning flights. Then the methods open to you are:

1. *Consecutive searching*. You'll feed all the possible itineraries into a database and devise a program that calculates the costs in every case. Each possibility for every member of the tour party will have to be compared with every possibility for every other member, and the set of bookings chosen that minimizes the total party cost. With a large party, the approach will involve hundreds or thousands of iterations, and probably leave some hard cases (two early starts, a 6 hour wait for someone else, etc.), but the principle is easily grasped. Practicable, but not efficient with computer time.
2. *Hill climbing*. Here the program takes a random schedule looks at neighbouring itineraries to find one that is cheaper. That schedule is treated the same way, and so on, until no cheaper schedules are found. To avoid being caught in a local situation unrepresentative of the whole, you'll need to repeat the exercise several times starting at a different random schedule. Not so easily envisaged, but more efficient.

3. *Simulated annealing*. The process starts with a complete set of itineraries chosen at random. Then one of member's itineraries is changed and costs compared. If there's a reduction, then that change is adopted, and another member's itinerary is changed. If there's a cost increase, however, that first itinerary is retained for further testing, but given a probability weighting (usually  $e$  to the power (cost difference/cost of complete set of itineraries)). Iteration continues until the algorithm will only accept better solutions, and finally the best. Similar to 2, more iterative, but avoids getting stuck in a local situation.

4. *Genetic algorithms*. You start by creating a set of random itineraries called a current population, which is then costed. You then create another population, called the next generation, and add the top solutions of the current population to it. Next, you modify members of next generation by one of two methods. The first is called mutation: you simply modify one of the members of the next generation. The second is called breeding: you take two of best solutions and combine them in some way. Then you repeat the process and another population is created, again repeating for a fixed number of iterations, or until no more improvement is obtained. The best solution (cheapest set of itineraries) is the one chosen.

Code for all these algorithms can be found in programming libraries and tutorials.

But how do you get the airfares and schedules in the first place?

If you have an online booking service, then you'll have access to this flight information.

If not, you can use a vertical search engine like [Kayak](#), accessing through an API (application programming interface: you sign up for a [developer key](#) with Kayak). Then you'll write some code, which in Python (other languages are possible, but Python has libraries of functions already written) adopts these steps:

1. Installs a `minidom` package that treats an XML document as a tree of objects,
2. Creates a file called `kayak.py`, and imports `time`, `urllib2` and `xml.dom.minidom` into it,
3. Creates a new Kayak session using your developer key (you send a request to `apisession` and the XML returned will contain a tag `sid` and a session ID inside it),
4. Extracts the `sid` contents by parsing the XML information received,
5. Creates a function to start the search flight (important parameters are `sid`, `destination` and `depart_date`), returning an ID,
6. Adds this function to `kayak.py`,
7. Creates a tag called `morepending`, which contains the word 'true' until search is complete,
8. Stores the price, depart and arrive tags,
9. Processes and optimizes this information by one of the four search methods listed above.

The actual coding is for your programmer, but most of what's needed can be found in Toby Segaran's book, referenced below. Once the best combination of solutions for all members of the party has been found, the flight details are supplied to the online booking form. Since computations are done in real time, the optimal results are found quickly and reliably.

Which Statistical Approach?

Statistical approaches are not exclusive, and you'll often find yourself using several methods to unlock the significant details of the information you've collected. At least to start with, however, it may help to view problems in this way:

1. Have masses of data? Don't need to know the significant factors? Use neural networks.
2. Have less data? Important to know the relevant factors? Use regression analysis.
3. Need to distinguish groupings in a mass of data? Use

cluster analysis.

4. Need to find the nearest representative? Use kNN analysis.

#### Resources

1. *Statistics on the Web*. Clavius Web. Clay Helberg's useful listing of sites.
2. *Pitfalls of Data Analysis* by Clay Helberg. June 1995. Clavius Web. June 1995.
3. *Information Theory, Inference, and Learning Algorithms* by David MacKay. David MacKay. September 2003.
4. *Free Statistics*. Free Statistics. Good listing of open source and freeware statistics packages.
5. *Statistical Analysis Software Survey*. LionHRTPub. Useful tables if you're familiar with statistics packages.
6. *Python Resources in One Place*. Codes for many applications.
7. *Java Programming Resources*. Tutorials, compiler and resources.
8. *CPAN*. Comprehensive Perl Archive Network.
9. *Innocentive*. Offers a marketplace where 160,00 engineers and scientists cooperate to solve problems.
10. *YourEncore*. Offers a network of retired and veteran scientists and engineers providing our clients with proven experience.
11. *Statistics*. Wikibooks. Extensive sets of articles, not all complete.

#### Questions

1. What is meant by realtime systems? How are programming expenses justified?
2. Give three examples of realtime systems, and their commercial advantages.
3. You've been asked to design the logical system of realtime video hire company. Describe the steps you would take.
4. You're presenting a consultant's plan for a realtime travel company startup. What approaches are possible, and where would the company get its realtime data from?

## Sources and Further Reading

1. *Algorithms of the Intelligent Web* by Haralambos Marmanis and Dmitry Babenko. Manning Publications. June 2009. Specimen code in Java.
2. *Programming Collective Intelligence: Building Smart Web 2.0 Applications* by Toby Segaran. O'Reilly. August 2007. Specimen code in Python.
3. *You're Leaving a Digital Trail. What About Privacy?* by John Markoff. NYT. November 2008.. Article suggesting the numerous applications of CI.
4. *Putting heads (and computers) together to solve global problems* by Anne Trafton. MIT. January 2009.
5. *Collective intelligence*. Wikipedia. With examples and a short listing of sites.
6. *Handbook of Collective Intelligence*. MIT. Detailed, Wikipedia-like entry on MIT site, with good theory and examples.
7. *Blog of Collective Intelligence*. George Pór's: many useful posts by an expert.
8. *Networks, Crowds and Markets: Reasoning About a Highly Connected World* by David Easley. CUP. July 2010.

## Section Contents

## 7.30 REGRESSION ANALYSIS

In this fictitious example, you sell top-of-the-range beauty products through a complex network of reps throughout the USA. Leads for new territories are generated on your website, and the more promising candidates are trained to sell in their area. Remuneration is by commission only, and most of the sales force are women who work part-time. Each salesperson has to place a minimum order for your products (at discounted prices) and is encouraged to recruit other reps, who also work on a commission basis, paying 3% of their commission to their recruiter. A sliding scale of commissions is paid through the chain of recruitments generated in this way, and the policy has proved very effective. When a sales territory achieves a sufficient sales figure, you organize a special promotion, hiring a small conference centre, flying in executives and top salespeople, and distributing samples.

These promotions are your key selling strategy, greatly boosting recruitments and sales, but they are also expensive. In the economic downturn you've found that several have not left you much in profit. How can you tell when promotions are worth undertaking? More exactly, how — based on your past sales records — can you estimate their effectiveness so that promotions don't overspend?

Theory

What you need is an algorithm like:

$$\text{Increased Sales resulting from Special Promotion} = \$A + (\$B \times \text{Factor B}) + (\$C \times \text{Factor C}) + (\$D \times \text{Factor D}) + \dots (\$X \times \text{Factor X})$$

where Factors A, B, C, D, etc. relate to measures you have data on (e.g. number of reps in area, average number of monthly products sold by reps, number attending promotion . . .) and the \$A, \$B, \$C, \$D etc. are coefficients (i.e.

weightings). You derive values for these coefficients by solving the equation.

For how you solve the equation (there are several ways) you'll have to refer to textbooks, and there you'll also find measures for goodness of fit (R-squared, analyses of the pattern of residuals and hypothesis testing). Statistical significance can be checked by an F-test of the overall fit, followed by t-tests of individual parameters. Yes, it's complicated, and even the articles referenced below only scratch the surface. But the theory is for statisticians: all you need to know is how to run one of the many regression programs on the market.

Assemble the data, key it into the data interface, and the programs will estimate not only all the unknowns, but how significant these unknowns are. Having derived the algorithm from past sales data, you can use it to estimate future sales.

But what sort of factors would be relevant in this case? Initially you don't know, and indeed don't have to. The beauty of regression analysis is that the program will automatically sort through the factors, attaching a relevance to them. Most can probably be dispensed with in a simple and robust algorithm, but you won't know before running the regression program. In this case you might start by assembling data as follows. For each special promotion you assemble figures for:

Factor 1. SALES: Increased annual sales in territory resulting from promotion (US\$ '000).

Factor 2. CONFID: Average USA business confidence over year following promotion (-2 to +2).

Factor 3. NOREPS: Number of sales reps in territory before promotion (number).

Factor 4. AVSALE: Average monthly sales of reps before promotion (US\$'000).

Factor 5. TETAFF: Affluence of sales territory: estimated (1 to 5).

Factor 6. ATTEND: Total number attending promotion: excluding staff (number).

You consult your records and key the figures into the regression program:

You consult your records and key the figures into the regression program:

SALES	CONFID	NOREPS	AVSALE	TETAFF	ATTEND
11.5	0	4	0.94	3	82
34.5	2	9	1.24	4	105
7.6	-1	5	0.65	2	74
18.7	1	5	1.01	1	59
31.7	-1	12	0.79	5	89
6.3	2	16	0.44	1	208
22.6	1	2	1.60	5	92
5.4	-1	2	0.65	1	84
12.7	-2	3	1.46	3	158
13.6	0	6	0.75	2	73
45.1	2	7	1.50	5	45
11.8	1	3	0.95	3	83
13.4	-1	8	0.42	5	64
8.9	11	5	0.64	3	82
26.8	1	8	1.39	5	73
19.5	2	3	0.57	1	24
17.4	1	4	0.87	3	64

You then run the regression analysis, and examine the various measures the program provides for each suggested algorithm generated. Among these are:

Term	Coefficient	t statistic	Source of Variation	Sum of Squares	F statistic
Intercept	-1.507	-0.39	Model	1731.5	19.02
CONFID	1.213	0.82	Residual	200.3	
NOREPS	2.056	4.54	Total	1931.8	
AVSALE	19.83	3.59			
TETAFF	0.3773	0.35			
ATTEND	-0.1476	-2.74			

For the algorithm:

$$\text{Sales} = -1.507 + 1.213 \times \text{CONFID} + 2.056 \times \text{NOREPS} + 19.83 \times \text{AVSALE} + 0.3773 \times \text{TETAFF} - 0.1476 \times \text{ATTEND}$$

It's not a bad match, but you'll notice that the weighting for those attending the promotion is negative, i.e. the sales decrease with the number of people attending the promotion. That's hardly what you want, and what does it mean? Perhaps the promotion recruits too many reps lacking the experience and energy to work the territory properly, only spoiling

opportunities for others. You might want to cut down on numbers attending by screening out the unsuitable candidates.

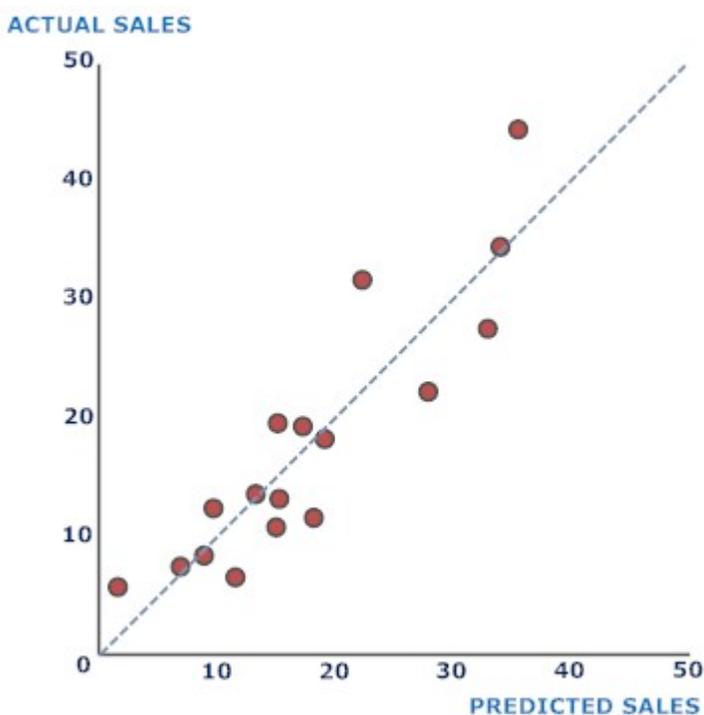
Or it might mean that distressed times bring in too many hopefuls looking for supplementary income, i.e. NOREPS is not independent of CONFID. In fact you'd probably do better to rerun the regression package excluding NOREPS data,

Term	Coefficient	t statistic	Source of Variation	Sum of Squares	F statistic
Intercept	-4.208	-0.89	Model	1594.4	14.17
CONFID	4.432	3.99	Residual	337.5	
NOREPS	1.167	2.96	Total	1931.8	
AVSALE	8.739	1.87			
TETAFF	2.145	2.02			

when this new and more robust algorithm is generated:

$$\text{Sales} = -4.208 + 4.432 \times \text{CONFID} + 1.167 \times \text{NOREPS} + 8.739 \times \text{AVSALE} + 2.145 \times \text{TETAFF}$$

The program gives you a plot of predicted against actual sales figures:



You'd want to refine your methodology for estimating business confidence and affluence in the sales territory, but even as matters stand, regression analysis has:

1. Identified the key factors in your sales promotions.
2. Given you numerical estimates of their importance.

3. Allowed you to broadly predict sales, and so avoid promotion overspends.

#### Resources

1. *Statistics on the Web*. Clay Helberg's useful listing of sites.
2. *Free Statistics*. Good listing of open source and freeware statistics packages.
3. *Wil's Domain*. Straightforward listing of statistics software, both free and commercial.
4. *Statistical Analysis Software Survey*. Useful tables if you're familiar with statistics packages.
5. *Numerical Mathematics*. Inexpensive linear regression package.
6. *FitAll*. General purpose, nonlinear regression analysis programs.
7. *Sagata Regression*: Basic regression packages that work with Excel.
8. *StatFi*. Regression package with good list of features.
9. *Analyselt*. Multifunctional regression package that works with Excel.

#### Questions

1. What is regression analysis? Why is it useful?
2. Give a hypothetical example of its use.
3. In what circumstances could regression analysis be more useful than cluster analysis or neural networks?

#### Sources and Further Reading

1. *Regression analysis*. Wikibooks. Extensive sets of articles.
2. *Programming Collective Intelligence: Building Smart Web 2.0 Applications* by Toby Segaran. O'Reilly. August 2007. Includes specimen code in Python.
3. *Essentials of Statistics* by David Brink. Bookboon. 2010. Clear and rigorous treatment in 103 pp. free ebook.

## Section Contents

## 8. MODELS AND STRATEGY

Introduction: US Scene

Strategic Management

Grouping by Strategy

Business Models

Customer Segments

Customer Channels

Customer Relationships

Key Resources

Key Partnerships

Key Activities

Value Propositions

Cost Structure

Revenue Streams

Internet Revenue Models

Strategy

For all their novelty, Internet businesses follow conventional business models and adopt well-studied strategies. To be successful, your Internet business must also conform to these patterns.

Book Contents

## 8.1 EBUSINESS IN CONTEXT: US SCENE

Ebusiness transactions span the globe, accounting for a few percentage points of retail trade, but considerably more in business to business trade. The US, where ecommerce was born, has a diversified economy, the retail trade compositions in 2000 and 2009 being: {1}

Kind of Business	2000	2009
Motor vehicles & parts	26.7%	18.5%
General Merchandise	13.5%	16.3%
Food & Beverages	14.9%	15.7%
Gasoline & Fuel	8.4%	10.7%
Nonstore Retailers	6.0%	8.6%
Building & Garden Supplies	7.7%	7.4%
Health & Personal Care	5.2%	7.0%
Clothing & Accessories	5.6%	5.6%
Miscellaneous	3.6%	2.9%
Electronics & Appliances	2.8%	2.7%
Furniture & Home Furnishings	3.1%	2.4%
Sports, Hobbies , Music & Books	2.5%	2.2%

Ecommerce was naturally concentrated in nonstore retailers, but accounted for 4% overall. {2}

Type of Business	Ecommerce Sales (US\$million)	Percentage of Total Retail sales
Nonstore retailers	116,543	37.3%
Motor trade and parts dealers	17,201	2.5%
Clothing and clothing accessories stores	2,965	1.4%
Miscellaneous stores retailers	2,360	2.2%
Electronics and appliance stores	1,140	1.2%
Food and beverage stores	883	0.2%
Building material and garden equipment	447	0.2%
General merchandise stores	220	>0.05%
Health and personal care stores	117	0.1%
Total	145,214	4.0%

That 4% has been rising steadily, but the rate of increase, year on year, has fallen off: a result of the global slowdown and a maturing market: {3}

Year	2001	2002	2003	2004	2005
% of Retail	1.0	1.3	1.6	1.9	2.3
Annual Increase	24.8%	30.5%	28.3%	27.2%	25.7%
Year	2006	2007	2008	2009	2010
% of Retail	2.8	3.2	3.3	3.6	4.0
Annual Increase	23.6%	20.0%	3.9%	0.9%	3.8%

Very much larger is the US B2B ecommerce market. Precise figures are hard to come by, much of the information being confidential to private dealing agreements. Forrester's estimate was \$2 trillion by 2009, however, about 10% of business sales overall. The Gartner Group put the global figure at over \$7 trillion in 2010, of which north America's share would approach \$2.8 trillion. Europe would grow to \$2.3 trillion, Asia to \$900 billion; and Latin America to \$124 billion. {4}

The top ecommerce companies are large: {5}

Company	Amazon.Com, Inc	Staples, Inc.	Apple, Inc.	Dell, Inc.	Office Depot, Inc.
Market sector	Mass merchant	Office Supplies	Computers & electronics	Computers	Office Supplies
Online Sales (US \$ millions)	\$ 34,200	\$ 10,200	5,227	4,802	4,100
2009-2010 Growth	24.8%	4.1%	23%	6%	0%
Company	Walmart.Com	Sears Holding Corp	Liberty Media Corp.	Office Max, Inc.	CDW Corp.
Market sector	Mass merchant	Mass merchant	Mass merchant	Office Supplies	Computers & electronics
Online Sales (US \$ millions)	4,095	3,107	3,040	2,859	2,717
2010 Growth	17%	12%	17.8%	3.0%	10.0%

But not the largest. Amazon is ranked 19<sup>th</sup>, for example and Apple 21<sup>st</sup> among US retailers. {6}.

### Sources and Further Reading

1. *Table 1053. Retail Trade Sales.* US Census Bureau. 2011.
2. *Table 1055. Retail Trade Sales.* US Census Bureau. 2011. Small unexplained discrepancy in figure for total.
3. *US Ecommerce Growth.* D Stephen White. August 2010.  
Compilations from government sources: some small discrepancies with references 1. and 2.
4. *The Growth of B2B Ecommerce BtoBB2B.* Summary of a Forrester report.
5. *Top 500 Internet Retailers.* Internet Retailer. 2010.
6. *2011 Top Retailers.* Stores.Org. July 2011.

### Section Contents

## 8.2. STRATEGIC MANAGEMENT

Strategy is the consistent application of the business model as a long-term goal. Put in more detail: 'Strategic management is an ongoing process that evaluates and controls the business and the industries in which the company is involved; assesses its competitors and sets goals and strategies to meet all existing and potential competitors; and then reassesses each strategy annually or quarterly [i.e. regularly] to determine how it has been implemented and whether it has succeeded or needs replacement by a new strategy to meet changed circumstances, new technology, new competitors, a new economic environment, or a new social, financial, or political environment.' {1}

### Formulation

Strategy is commonly formulated in stages. First comes an analysis of the competition, market situation and competition. Then objectives are set, short and long-term, with appropriate implementation dates. The strategy is then formulated as: {3}

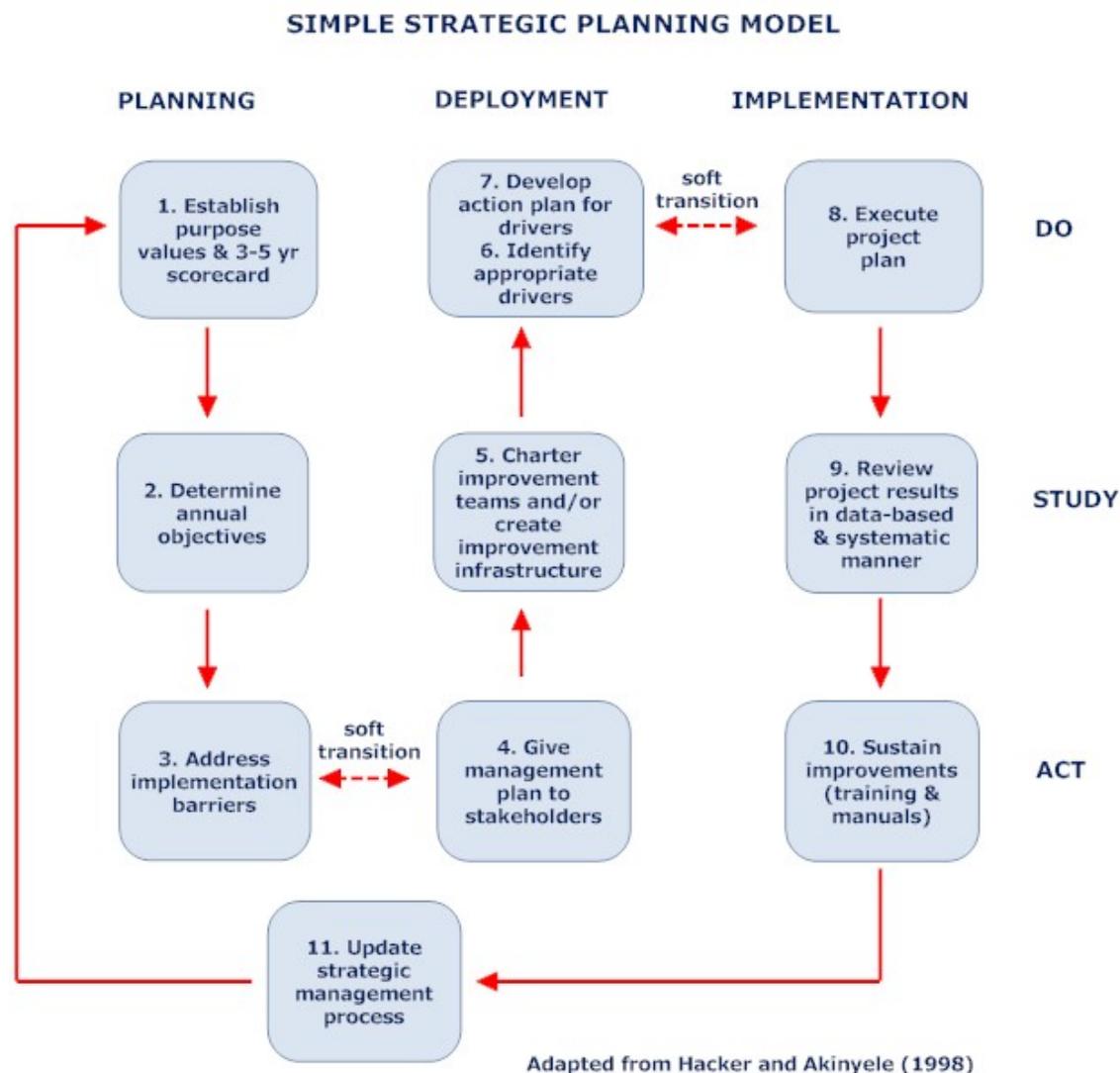
1. Vision statements: long-term future of company.
2. Mission statements: the company's role in society.
3. Overall company objectives: both financial and strategic.
4. Business unit objectives: both financial and strategic.
5. Tactical objectives.

Strategy will take into account:

1. Competitive stance vis-à-vis the market and competition.
2. Effectiveness: will it work, can it be made to work, and how?
3. Suitability: is it for us, does it make economic sense, how would we benefit?
4. Feasibility: results of cash flow modelling, break-even forecasting and resource deployment analysis.
5. Acceptability: how acceptable to shareholders, employees and customers? What are the risks involved?

6. Direction of action: towards growth, consolidation, diversification, or harvesting?

Strategy may be based on economics (competitive rivalry, resource allocation, economies of scale, etc.) or sociology (behaviour of employees, customer and shareholders), or (commonly) a mixture of both.



## History

Business strategy is not written in tablets of stone, but evolves in response to new studies, perceived opportunities and threats, and apparent excesses or oversights of previous strategies. Not all theories have been progressive, universally accepted or even helpful. One decade has sometimes to undo the harm the previous one inflicted. Managements can be found embracing mixtures of theories, some not contemporary or mutually compatible. Charismatic CEOs leave; new competitors appear on the horizon; the world suddenly looks

different. Reorientations take time to filter down and be implemented.

#### Some Landmark Studies

Strategic management is an immense field of research, with many contending theories and areas of dispute. What is given on this page is a brief summary, providing some intellectual foundation for the many business models that exist and can be seen operating in the case studies. {2}

**Peter Drucker.** His 1964 *Concepts of the Corporation*, looked at General Motors, General Electric, IBM and Sears Roebuck and concluded the most successful companies were centralized and goal-setting.

**Alfred Sloan:** reorganized General Motors in 1921 but his *My Years with General Motors* was not published until 1963.

**Alfred Chandler**, active from the late 1950s. His 1962 book, *Strategy and Structure* argued that corporations should develop their strategy before their organizational structure: form should follow purpose.

**Theodore Levitt's** *Marketing Myopia* of 1960 in the Harvard Business Review looked at corporate strategy from a radical and broad perspective.

**H. Igor Ansoff's** *Corporate Strategy* framed the mindset of a generation with a detailed blueprint for planning a firm's objectives, expansion plan, product-market positions and resource allocation, indeed so thoroughly that the resulting corporate strategy departments gave 'strategic planning' a bad name.

**Bruce Henderson** founded the Boston Consulting Group (BCG) in 1964, which blended market analysis and research together with financial theory to produce the micro-economic analysis of competitors and their relative costs: a concept that forms the bedrock of all subsequent strategy. His experience

curve and growth/share matrix remain two of the most powerful tools in strategy.

**Henry Mintzberg's** *The Nature of Managerial Work* (1973) and **H. Igor Ansoff's** *Strategic Management* (1979) set the tone for the 70's.

**Michael Porter's** *Competitive Advantage: Techniques for Analyzing Industries and Competitors* (1980) argued that the profitability of corporations was determined not only by a firm's relative competitive position (as Henderson had shown), but also by the structural characteristics of the corporation, which could be described in clear, micro-economic terms.

**Ohmae's** *The Mind of the Strategist: the Art of Japanese Business* described how Japanese companies combined combined analysis, intuition and willpower in the pursuit of global dominance.

**Gary Hamel** and **C.K. Prahalad's** 1989 *Strategic intent* article argued that successful companies were both ambitious and committed to change the ground rules of business. Their later book *The Core Competence of the Corporation* argued that the key to strategy was a firm's distinctive skills, technologies and assets, and its collective learning ability.

Many others elaborated on this 'resource-based' view of strategy: that the resources a firm enjoys, its people and knowledge, are more important than its market positions, and that the most successful companies leverage their unique set of competencies across their business units.

**Goold, Campbell and Alexander's** *Corporate-Level Strategy* (1994) saw the corporate centre as a 'parent', which should develop parenting skills until the divisions stood on their own feet.

**Treacy and Wiersema** subsequently elaborated the value discipline concept of Porter. Companies succeed through relentless pursuit of one particular characteristic appreciated by customers, of which there were three to choose from:

1. Operational excellence.
2. Ease of purchase and use at a low price.
3. Solutions tailored to individual customers.

## **Phases of Strategic Thinking**

Several overlapping and sometimes blending phases of strategy formulation can be recognized. {2}

### **1. Planning in Large Multiproduct Companies: 1950s-60s**

Aimed to produce large, multi-product firms, although accompanied by decentralization and diversification into attractive but often unrelated businesses.

### **2. Planning in Large Multi-product Companies: 1965-75s**

Adopted the Boston Consulting Group's (BCG) micro-economic approach, concentrating on areas where market leadership was possibly, and divesting in others. In detail:

1. Focus on cash rather than profits.
2. Aim for cost advantage over competitors.
3. Force competitors to withdraw from the company's main profit segments.
4. Use debt to finance growth.
5. Reinforce market leadership.
6. Raise returns for stockholders.
7. Avoid overextending the product line or building in too much complexity or overhead.
8. Use excess cash flow to diversify into new areas.

Though not central to BCG's world-view, companies also tended to build large central planning departments in conglomerates, and diversify excessively: both caused problems later.

### **3. Retreat from Strategic planning: mid to late 1970s**

Central planning retreated into pragmatism as:

1. Micro-economic techniques for analyzing competitive advantage became more powerful.
2. Central planning and conglomerate diversification became intellectually tarnished.

3. Oil price hike of 1973 and stock market crash of 1974 hit the more progressive companies.

#### **4. Creative Reaction to BCG school excesses: from 1973 to present**

Focused more on the intuitive, adaptive and creative aspects of strategy, making managers less reflective planners and more face-to-face communicators and decision-makers.

#### **5. Rigorous micro-economic analysis: from 1980s to present**

Elaboration of the BCG framework of competitive advantage to include.

1. Threat from new entrants.
2. Bargaining power of customers and suppliers.
3. Threat from substitutes.

The overall message was that companies should find markets and market niches they could dominate, erecting barriers against competition by low costs or product/service differentiation.

#### **6. Skills and capabilities: from 1990s to present.**

Focus shifted to a company's skills and capabilities (its core competencies) in expressing its vision and mission statements. Corporate strategy is more seen as the definition, creation, stimulation and reinforcement of competencies across many market segments. Drawing on works of military strategy, these approaches observe that plans give way in practice to the judgement of frontline officers making snap decisions. The battle plan must always be complemented by the instincts of the leaders. Similarly, a good strategy should give managers the general direction and focus, while remaining open-ended and not over-planned. People are more valuable than plans, which is why strategy should be developed by company executives and not outside consultants.

Other influences have been:

1. Integration of strategic analysis and cost reduction through business process re-engineering.
2. Improved data-gathering and analysis on competitors to better select acquisition candidates
3. Unlocking customer value.
4. Cutting times in developing and delivering products to customers.
5. Concentrating on fewer products and relying more on outsourcing.

In short, the key today is seen as:

1. Differentiating the company from its competitors.
2. Developing skills and positions that no competitor can approach.
3. Specializing in areas that fostered a superior better technology, product or service, or a lower cost position.

#### Questions

1. What is strategic management?
2. How is strategy formulated, and what does it take into account?
3. Describe five landmark studies in strategic management.
4. Management studies continually evolve. Discuss.

#### Sources and Further Reading

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5. Strategic Management Theory: An Integrated Approach by Charles Hill and Gareth Jones. Google Books. Cengage Learning. 2009. Aimed at MBA students. Click on subject lists for extensive lists of similar books.
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## 8.3 GROUPING BY STRATEGY

Businesses may be guided and constrained by common strategies, often grouped as:

### **Outside-In**

Outside-in: what do our customers want or could want from us? Example: Tesco plc.

### **Inside Out**

Inside-out: how can we sell what we've got or could develop? Example: Aurora Health Care.

### **Unbundled**

Unbundled: how can get our businesses to improve by standing on their own feet? Example: Fiat.

### **Multisided**

Multisided: what strengths and economies can we achieve by getting our different divisions / acquisitions to work together? Example: Cisco

### **Government-Supported**

Government-supported: how can we use government aims and institutions to assist sales? Example: Glaxo's Zantac.

### **Loss-Leading**

Loss leading: how can we attract customers with initially free or low-price offers? Example: Google services.

### **Long Tail**

Long tail: how can we make a profit with the sale in small numbers of a great range of products? Example: PoD publishing

### **Open Model**

Open model: how can sell what originally comes free? Example: Google Ads.

### **Custom Value Leader**

Custom value leader: how can we be seen as the best in this market? Example: Intel.

### **Value Innovator**

Value innovator: how can serve a need that hasn't been recognized before? Example: Netscape's SSL.

### **Customer Capitalizer**

Customer capitalizer: how can we earn even more from our customers? Example: Nespresso.

### **Brand Capitalizer**

Brand capitalizer: how can we improve and get more from our brand reputation? Example: P&G's Crest.

### Questions

1. Name twelve business groupings by strategy.
2. Provide a brief case study for five such business groupings.

### Sources and Further Reading

1. *Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers* by Alexander Osterwalder and Yves Pigneur. Wiley 2010.

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## 8.4 BUSINESS MODELS

There are many business models. One well known model is that by Shikar Ghosh (1998) {1}, which recognizes eight elements:

1. Value proposition: benefits the customer enjoys when buying from a company.
2. Revenue model. how the money is made.
3. Market opportunity: the nature and size of a company's marketplace.
4. Competitive environment: other companies occupying the same marketplace.
5. Competitive advantage: advantages a company enjoys over its competitors.
6. Market strategy: how a company will target its customers and promote its products.
7. Organizational development: a company's management structure.
8. Management team: experience and skills of a company's leaders.

Another is the contemporary focus on value: businesses must generate value in some way, to: {2} {3}

1. Owners, whether proprietor, partners or share holders, in the form of dividends, a stronger balance sheet and/or share value.
2. Customers in better goods and services: more choice, value for money, help and after-sales service.
3. Employees as salaries and more worthwhile jobs.
4. Communities as better public or charitable services, and more prosperous environments.
5. Trades and professions as increased skills, techniques and public standing.
6. Host nation as prestige, competitiveness and trade balances.

Definition

A business model describes the rationale of how an organization captures, creates and delivers value. Such a model has to be intuitive and cover all matters of interest, i.e. encompass the necessary and sufficient conditions of company operation. The concept should be simple, complete and relevant, without oversimplifying the complexities of how enterprises actually function.

Osterwalder and Pigneur’s Model

A successful concept creates a shared language by which existing businesses can be fully understood, evaluated and strategic alternatives devised. The Osterwalder and Pigneur model {4} recognizes nine basic elements or building blocks: these are:

customer segments	key resources	value proposition
customer channels	key partnerships	cost structure
customer relationships	key activities	revenue streams

Osterwalder and Pigneur’s concept, which is adopted in this book, has been applied and tested around the world and is already used in organizations such as IBM, Ericsson, Deloitte, the Public Works and Government Services of Canada. Their business model identifies and examines nine key elements where problems and opportunities may lie.

All companies must conform to the model, but some of the more noteworthy examples of model elements are:

**Customer Segments**

Google makes money from one customer segment (Google Ads) while subsidizing another two segments (Google search and AdSense).

Apple evolved into a company selling PCs, tablets, phones, music and software, all to different customer segments.

Seascope e-Art misinterpreted keyword research and supposed customer segments that did not exist.

Wal-mart aims its products at the price-conscious customer.

GlaxoSmithKline repositioned its Ropinirole drug for treatment of Parkinson's disease as an effective treatment for Restless Leg Syndrome.

Liquidation found customers for items surplus to demand.

Dell lost market share to HP and Apple by not finding new market segments.

Proctor & Gamble found new market segments with its Tremor and Vocalpoint services.

Zappos targeted customers wanting quality shoes at a reasonable price.

Netflix focused on very small sector of the entertainment market

### **Customer Channels**

Commerce Bancorp reached out-of-hours customers and busy mums by keeping retail rather than banking hours.

Craigslist expanded from an email listing to an Internet-based classified ads.

Amazon expanded from selling books to general retail and other services.

Andhra Pradesh bypassed centuries of corruption to open free channels between government and citizens.

Intel marketed its chip to PC purchasers.

Ipswich Seeds eventually found new customer channels (online catalogue).

OpenTable used the Internet for its restaurant reservation booking service.

Proctor & Gamble marketed Chlorox as a 'green' product.

Fine Arts Ceramics found new customer channels through third-party auction sites.

### **Customer Relationships**

Tesco succeeded with a 'customer first' policy.

Cisco collaborated with customers to see off the competition with innovative technology.

Lulu's PoD services empowers authors.

Lotus Notes was continually re-engineered to maintain its customer base.

Fiat canvassed car buyers and built what was actually wanted.

Eneco sold a commodity as a premium service to flower-growing companies.

Easy Diagnosis provided a free expert system as a loss-leader for its IT services.

Small, personal companies may weaken their customer relationships by going online.

### **Key Resources**

Google used customer data collected from search engines and its Analytics program to develop its Ad service.

SIS Datenverarbeitung employed its programming expertise to re-engineer an ERP system.

SmithKlineGlaxo monetized unused internal assets as a patents pool on neglected tropical diseases.

Amazon developed sophisticated technology which it then offered in cloud services.

Skype employed largely free resources to undercut telecomms prices.

EasyDiagnosis employed its medical knowledge to create an online medical diagnosis expert system.

Aurora Health Care analyzed its medical records with business intelligence systems to offer a superior service.

### **Key Activities**

Apple makes tablet computers and smart phones.

Commerce Bancorp provided banking services.

Lotus makes software.

Fiat makes motor cars.

Dell makes computers.

GlaxoSmithKline makes drugs.

Cisco makes routers and other IT equipment.

Liquidation auctions excess supplies.

SIS Datenverarbeitung provides information technology products and services.

### **Key Partnerships**

eBay forged relationships with 60 website, including AOL and PayPal.

Proctor & Gamble 'Connect & Develop' policy expanded internal research through outside partnerships.

GlaxoSmithKline operates closely with the FDA.

Fiat links to key suppliers through private industrial networks.

Wal-mart has key partnerships with suppliers.

PayPal has a key partner in eBay.

Dutch flower growers have a key partner in Eneco.

Zipcar has key partnerships with environmentally-conscious city authorities.

By using a business model, Ronald Chan identified three new key partners.

### **Value Proposition**

Amazon retails books and other products at competitive prices, all with purchaser reviews.

Netscape made the first browser and opened up the Internet.

Nespresso developed coffee machines for the mass market.

Netflix provides on-demand Internet streaming video.

Microsoft developed Visual Basic for fast and accurate program coding.

Eneco moved from being a fixed cost gas supplier to providing a service for greenhouses.

Nintendo offered its wii game controller.

By trial testing, Harold Ingleton identified new value propositions for his customers.

GlaxoSmithKline repositioned its Ropinirole drug for treatment of Parkinson's disease as an effective treatment for Restless Leg Syndrome.

### **Cost Structure**

Skype uses the Internet and does not have to manage its own network.

Early dotcom companies spent more on advertising than profits warranted.

OpenTable used the Internet to bring preexisting services together.

Apple adjusted its prices for the iPod as new models were made available.

Halberd Engineering divided into two companies with different cost structures.

Netscape was an innovative company but its cost structure soon became unviable.

### **Revenue Streams**

Nintendo reinvested its revenue streams in low-tech games.

Amazon reinvested book sale revenues into general retail and then computing services.

Dale Abrahams had no significant advantages in any business element, and so lost money.

Intel spent billions of its revenues on marketing its logo to PC purchasers, but got the money back through premium-priced chips.

PayPal had to spend lavishly on marketing a 'sure fire thing'.

Other Models

Business models are not exclusive. Much can also be learned from other models and analyses.

## **SWOT**

SWOT refers to factors external to the company by which its strategic outlook may be assessed: strengths (S), weaknesses (W), opportunities (O) and threats (T). {9}

Examples: Amazon, Inc., Craigslist, Tesco plc, and Paypal,

## **Pestel Analysis**

Similar to the SWOT analysis, but here the factors assessed are political (P), economic (E), social (S), technological (T), environmental (E) and legal (L). {10}

Examples: Tesco plc.

## **Value Vectors**

When able to do so, customers opt for better value, but that better value can be price, performance, or relational value. {11}

Price value covers: 1. Best price for a standard product, and 2. Acceptable quality.

Performance value covers: 1. Better functionality, 2. Innovative features, 3. Improved quality, 4. Superior design.

Relational value covers: 1. Personalized treatment, 2.

Products tailored to the customer's needs, 3. Integrated solutions, 4. All-round service excellence.

Value vectors change as a market matures, the relational value often becoming more important.

Example: Commerce Bancorp.

## **Value Chain Analysis**

To assess its competitive advantage, a company can be modelled as a chain of value-creating activities, typically input logistics > operations > outbound logistics > marketing & sales > services. {12}

Example: Tesco plc.

## **Porter's Five Force Analysis**

Porter's Five Forces is a business strategy framework developed by Michael E. Porter of the Harvard Business School in 1979. Since 'pure competition' in an ideal market would drive the profits of all participating companies down to zero, the model identifies five forces that prevent this undesirable result: supplier power, threat of new entrants, threat of substitutes, buyer power and rivalry. {13}

Example: Apple iPod.

### Questions

1. What are business models? What are their strengths and weaknesses?
2. Compare and contrast three business models.
3. Describe Osterwalder and Pigneur's business model.
4. Briefly illustrate five applications of Osterwalder and Pigneur's business model.
5. What is SWOT analysis?. Give an example of its use.
6. Describe a practical application of Pestel analysis.
7. Explain why vector values change as a market matures.
8. Describe the value business model, and its application in value chain analysis.
9. Examine the Apple iPod product with Porter's Five Force Analysis.

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## 8.5 CUSTOMER SEGMENTS

By Customer Segments is meant the different groups of people or organizations an enterprise aims to reach and serve. Customers make the heart of any business model, and without them no company can be profitable.

To better serve their customers, companies commonly group them into segments distinguished by common needs, common behaviors, or other attributes. Companies make a conscious decision as to which segments to serve and which segments to ignore, thus allowing them to focus on matters that vitally affect their business. Customers require separate segments if they:

1. Need and justify a distinct offer
2. Are reached through different Distribution Channels
3. Require different types of relationships
4. Have substantially different profitabilities
5. Are willing to pay for different aspects of the offer

Koch and Nieuwenhuizen recommend a simple weighting table. {2}

Question	Yes Score	No Score
Are the competitors in the two products or areas the same?	-30	+30
Are the relative market shares (RMS) * of your firm and the leading competitors roughly the same in the two products or areas?	-50	+50
Are the customers the same in the two products or areas?	-20	+20
Are the customers' main purchase criteria and their order of importance roughly the same in the two products or areas?	-30	+30
Are the two products substitutes for each other?	-10	+10
Are the prices of the two products (for equivalent quality) or in the two areas roughly the same?	-20	+20
Is your firm's profitability roughly the same in the two products or areas?	-40	+40
Are the cost structures in the two products or areas similar (i.e. roughly the same proportion of cost in raw materials, in manufacturing, in marketing and selling, etc.)?	-10	+10
Do the products or areas share at least half of their costs (i.e. use common labor, machines, premises and management resources for at least half of their total costs)?	-30	+30
Are there logistical, practical or technological barriers between the two products or areas that only some competitors can surmount?	+20	-20
Is it possible to gain an economical advantage by specializing in one of the products/areas by gaining lower costs or higher prices in that product/area as a result of focusing on it?	+30	-30
Total		

If the total is positive number, the two products or areas should be treated as separate business segments.

\*The relative market share is a company's market share divided by the market share of its largest competitor.

### Customer Segment Groupings

1. Mass Markets, a Business Model which doesn't distinguish between different Customer Segments. Value Propositions, Distribution Channels, and Customer Relationships all apply to one large group of customers with broadly similar needs and problems. This type of business model is often found in charitable organizations, the consumer electronics sector and garden supply centres.

2. Niche Markets, a Business Model which caters for specific, specialized Customer Segments. Value Propositions, Distribution Channels, and Customer Relationships are all tailored to the specific requirements. This type of business model often found in supplier-buyer relationships, where multiple car-part manufacturers depend heavily on purchases from major automobile manufacturers.

3. Segmented Markets, a Business Model which recognizes market segments with slightly different needs and problems. A retail bank may distinguish between a large group of

customers of modest resources, and affluent clients looking for asset management and taxation services. Similarly, Micro Precision Systems, which specializes in providing outsourced micromechanical design and manufacturing solutions, serves three different Customer Segments: the watch industry, the medical industry, and the industrial automation sector, each involving slightly different Value Propositions.

4. Diversified Markets, a Business Model which caters for two unrelated Customer Segments with very different needs and problems. Amazon.com decided in 2006, for example, to diversify its retail business by selling 'cloud computing' services (online storage space and on-demand server usage). By doing so it capitalized on the powerful IT infrastructure it had built up, but created an entirely different Customer Segment.

5. Multi-sided Markets, a Business Model which serves several *interdependent* Customer Segments. A credit card company, for example, needs both a large base of credit card holders and a large base of merchants who accept those credit cards. A free newspaper needs a large reader base to attract advertisers, and advertisers to finance production and distribution. Both segments are needed to make this business model work.

Relevant Case Studies

### **Customer Segments**

Google makes money from one customer segment (Google Ads) while subsidizing another two segments (Google search and AdSense).

Apple evolved into a company selling PCs, tablets, phones, music and software, all to different customer segments.

Seascope e-Art misinterpreted keyword research and supposed customer segments that did not exist.

Wal-mart aims its products at the price-conscious customer.

GlaxoSmithKline repositioned its Ropinirole drug for treatment of Parkinson's disease as an effective treatment for Restless Leg Syndrome.

Liquidation found customers for items surplus to demand.

Dell lost market share to HP and Apple by not finding new market segments.

Proctor & Gamble found new market segments with its Tremor and Vocalpoint services.

Zappos targeted customers wanting quality shoes at a reasonable price.

Netflix focused on very small sector of the entertainment market

#### Questions

1. What are customer segments?
2. Briefly describe five types of customer segment.
3. How can you recognize distinct customer segments?
4. Briefly illustrate the importance of customer segments with three case studies.
5. What ebusiness topics can help distinguish customer segments?

#### Sources and Further Reading

1. Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers by Alexander Osterwalder and Yves Pigneur. Wiley 2010.
2. Simply Strategy: the Shortest Route to the Best Strategy by Richard Koch and Peter Nieuwenhuizen. FT Press January 2009.

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## 8.6 CUSTOMER CHANNELS

The Customer Channels is the building block that describes how a company communicates with its Customer Segments to deliver a Value Proposition.

A. Channels have several functions, including:

1. Raising awareness of the company's products and services
2. Helping customers evaluate the company's Value Proposition
3. Allowing customers to purchase specific products and services
4. Delivering a Value Proposition to customers
5. Providing post-purchase customer support

B. Companies commonly examine their performance to answer such questions as: What channels are best suited to our Customer Segments? How are we reaching customers now? How well are our Channels integrated? Which ones are working work best? Which are most cost-efficient? How are we integrating them with sales and after-sales routines?

C. Companies may also distinguish between their Owned and Partner Sales, and between Direct Sales (using their Sales force and web site) and Indirect Sales (own stores, partner stores and wholesalers). Partner Channels have lower profit margins, but they allow a company to extend its reach and to benefit from partner strengths. Owned Channels, particularly direct ones, have higher margins, but can be costly to establish and maintain. Most companies use both, finding the mix that maximizes customer Value Propositions and company Revenues.

Channels also possess five distinct temporal phases, any or all of which may apply to aspects A to C above.

1. Awareness: how are customers to be made aware of products and services?

2. Evaluation: how can customers be helped to evaluate our products and services?
3. Purchase: how are purchases to be facilitated?
4. How are Value Propositions to be delivered to the customer?
5. What after-sales services do customers expect?

## Relevant Case Studies

### **Customer Channels**

Commerce Bancorp reached out-of- hours customers and busy mums by keeping retail rather than banking hours.

Craigslist expanded from an email listing to an Internet-based classified ads.

Amazon expanded from selling books to general retail and other services.

Andhra Pradesh bypassed centuries of corruption to open free channels between government and citizens.

Intel marketed its chip to PC purchasers.

Ipswich Seeds eventually found new customer channels (online catalogue).

OpenTable used the Internet for its restaurant reservation booking service.

Proctor & Gamble marketed Chlorox as a 'green' product.

Fine Arts Ceramics found new customer channels through third-party auction sites.

## Questions

1. What are customer channels? What functions do they serve?
2. List the three types of customer channels and five temporal phases of them.
3. Briefly illustrate the importance of customer channels with three case studies.
4. What ebusiness topics can help improve customer channels?

## Sources and Further Reading

1. Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers. by Alexander Osterwalder and Yves Pigneur. Wiley 2010.

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## 8.7 CUSTOMER RELATIONSHIPS

Customer Relationships is the building block that describes the types of relationships a company establishes with specific Customer Segments.

Customer relationships may be driven by one or more of three motivations: 1. Customer acquisition, 2. Customer retention and 3. Increased sales (upselling). Motivations commonly change or evolve. Customer relationships in the mobile phone market were first driven by acquisition strategies involving free mobile phones.

When the market became saturated, operators switched to customer retention and increasing the average revenue per customer.

Customer relationships may be driven by one or more of three motivations: 1. Customer acquisition, 2. Customer retention and 3. Increased sales (upselling). Motivations commonly change or evolve.

Customer Relationships in the mobile phone market were first driven by acquisition strategies involving free mobile phones. When the market became saturated, operators switched to customer retention and increasing the average revenue per customer.

Companies need to be clear about their motivations, and to analyze performance carefully to establish such benchmarks as: cost of customer acquisition, effectiveness of various marketing approaches, average period of customer retention, integration of motivations with overall company policy.

There are several categories of Customer Relationships, which are not mutually exclusive:

### **Personal assistance**

The human interaction: a customer will communicate with a real company representative for help in the sales process and afterwards. Communication may be at the point of sale,

through call centers, by email, blogs, social media or other means.

### **Dedicated personal assistance**

Continuing human interaction between a real company representative and a specific customer, typically over a long period of time. Key account managers who maintain personal relationships with important clients are one example, as are investment banks that serve selected, high-worth individuals.

### **Self-service**

Here the company maintains no direct relationship with customers, but provides the means for customers to help themselves.

### **Automated services**

This is a sophisticated form of customer self-service integrated with with automated processes. Examples are online banking and Internet collaborative services.

### **Communities**

Particularly with the advent of social media sites, companies have sought to create online communities that allow users to exchange knowledge and solve common problems. In turn the companies are kept abreast of customer wants and opinions. GlaxoSmithKline, for example, created a community around alii, a new prescription-free weight-loss product, which allowed it to understand of the challenges faced by overweight adults, and so better manage customer expectations.

### **Co-creation**

Companies are increasingly extending the traditional customer-vendor relationship to co-create value with customers. Amazon, for example, encourages customers to write reviews and so create value for other book-lovers. Companies like YouTube.com help customers to create content for public consumption.

Relevant Case Studies

## **Customer Relationships**

Tesco succeeded with a 'customer first' policy.

Cisco collaborated with customers to see off the competition with innovative technology.

Lulu's PoD services empowered authors.

Lotus Notes was continually re-engineered to maintain its customer base.

Fiat canvassed car buyers and built what was wanted.

Eneco sold a commodity as a premium service to flower-growing companies.

Easy Diagnosis provided a free expert system as a loss-leader for its IT services.

Small, personal companies may weaken their customer relationships by going online.

#### Questions

1. What are customer relationships? Why are they important?
2. What are the three motivations driving customer relationships?
3. With a case study each, illustrate how a company gained and failed with its customer relationships.
4. What ebusiness topics can help improve customer relationships?

#### Sources and Further Reading

1. Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers. by Alexander Osterwalder and Yves Pigneur. Wiley 2010.

#### Section Contents

## 8.8 KEY RESOURCES

Key Resources is the building block describing the most important assets needed to make a business model work. Every business model requires them, and it is only through them that companies generate Value Propositions and Revenues.

Key resources can be physical, financial, intellectual, and/or human. A microchip manufacturer needs capital-intensive production facilities, whereas a microchip designer depends more on human resources. Key resources can be owned or leased by the company, or acquired from key partners.

Key Resources can be categorized as follows:

### **Physical**

Physical assets such as manufacturing facilities, buildings, vehicles, machines, systems, point-of-sales systems, and distribution networks come into this category. Large retailers like Wal-Mart and Amazon.com rely heavily on physical resources, which are often capital-intensive.

### **Intellectual**

Under intellectual resources come brands, proprietary knowledge, patents and copyrights, partnerships, and customer databases. All are increasingly important components of a strong business model. Intellectual resources take time to engender and develop. Consumer goods companies like Nike and Sony rely heavily on their brands. Microsoft and Adobe depend on software and related intellectual property that is continually being developed. Qualcomm, a supplier of chipsets for broadband mobile devices, built its business model around patented microchip designs that now earn the company substantial licensing fees.

### **Human**

All enterprises need human resources, but those resources are particularly prominent in knowledge-intensive and creative

industries. A pharmaceutical company relies on human resources in its skilled scientists and aggressive sales force.

## **Financial**

Some business models depend especially heavily on financial resources and/or guarantees: as cash, lines of credit, or a stock option pool for hiring key employees. Ericsson, the telecom manufacturer, will opt to borrow funds from banks and capital markets, for example, using those funds to provide vendor financing that in turn ensures orders are placed with Ericsson rather than with the competition.

### Relevant Case Studies

## **Key Resources**

Google used customer data collected from search engines and its Analytics program to develop its Ad service.

SIS Datenverarbeitung employed its programming expertise to re-engineer an ERP system.

SmithKlineGlaxo monetized unused internal assets as a patents pool on neglected tropical diseases.

Amazon developed sophisticated technology which it then offered in cloud services.

Skype employed largely free resources to undercut telecomms prices.

EasyDiagnosis employed its medical knowledge to create an online medical diagnosis expert system.

Aurora Health Care analyzed its medical records with business intelligence systems to offer a superior service.

### Questions

1. What are key resources?
2. Name the four types of key resources.
3. Briefly describe three case studies illustrating the importance of key resources.
4. What happens when key resources are not properly

matched?

5. What key resources are used in selling content?

### Sources and Further Reading

1. Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers. by Alexander Osterwalder and Yves Pigneur. Wiley 2010.

### Section Contents

## 8.9 KEY PARTNERSHIPS

Key Partnerships are the network of suppliers and partners that make the business model work. Companies forge partnerships to optimize their business models, reduce risk, and/or acquire resources. Four types of partnerships are commonly distinguished:

1. Strategic alliances between non-competitors.
2. Competition: strategic partnerships between competitors.
3. Joint ventures to develop new businesses.
4. Buyer-supplier relationships to assure reliable supplies.

The three motivations applying are:

### 1. **Optimization and economy of scale**

Here the object is the best allocation of resources and activities. Since a company rarely owns all the resources needed to perform every activity by itself, it enters into partnerships with companies who can supply at optimal cost.

### 2. **Reduction of risk and uncertainty**

Partnerships can reduce risk in uncertain environments. Competitors often form a strategic alliance in one area while competing in another. Blu-ray, for example, is an optical disc format jointly developed by a group of the world's leading consumer electronics, personal computer, and media manufacturers. The group cooperated to bring Blu-ray technology to market, but individual members compete in selling their own Blu-ray products.

### 3. **Acquisition of particular resources and activities**

Companies extend their own capabilities by relying on other firms to furnish particular resources or perform certain activities. Resources may include knowledge, licenses, or access to customers. A mobile phone manufacturer may

license an operating system for its equipment rather than developing one in-house. An insurer may find it better to rely on the competition of independent brokers to sell its policies rather than develop its own sales force.

Relevant Case Studies

### **Key Partnerships**

eBay forged relationships with 60 website, including AOL and PayPal.

Proctor & Gamble 'Connect & Develop' policy expanded internal research through outside partnerships.

GlaxoSmithKline operates closely with the FDA.

Fiat links to key suppliers through private industrial networks.

Wal-mart has key partnerships with suppliers.

PayPal has a key partner in eBay.

Dutch flower growers have a key partner in Eneco.

Zipcar has key partnerships with environmentally-conscious city authorities.

By using a business model, Ronald Chan identified three new key partners.

Questions

1. What are key partnerships? How do they differ from customer segments?
2. Name the four type of key partnership.
3. Describe the three motivations applying to key partnerships.
4. Describe key partnerships in action with two case studies

## Sources and Further Reading

1. Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers. by Alexander Osterwalder and Yves Pigneur. Wiley 2010.

## Section Contents

## 8.10 KEY ACTIVITIES

Key Activities are those a company must engage in to make its business model work. Every business model requires Key Activities, and they naturally differ depending on the business model type.

For Microsoft, the Key Activities include software development and marketing. Dell depends on supply chain management. A consultancy company will concentrate on problem solving.

Key Activities can be important in any business building block, but are especially prominent in the following:

### **Production**

Production activity dominates the business models of manufacturing firms, be they related to design, manufacture, delivery or quality control.

### **Problem solving**

Consultancies, hospitals, and other service organizations typically focus on problem solving activities, requiring in turn knowledge management and continual staff training.

### **Platform/network**

Creating or maintaining a platforms can be a key activity. Visa's business model requires a common platform between banks, merchants and customers. Microsoft must supply a reliable operating system to support third-party software products. eBay's platform is its auction site and software. Platforms have to be maintained, extended and promoted.

Relevant Case Studies

### **Key Activities**

Apple makes tablet computers and smart phones.

Commerce Bancorp provided banking services.

Lotus makes software.

Fiat makes motor cars.

Dell makes computers.

GlaxoSmithKline makes drugs.

Cisco makes routers and other IT equipment.

Liquidation auctions excess supplies.

SIS Datenverarbeitung provides information technology products and services.

First mover advantage can be overrated: Early Dot Com Failure, but does sometimes apply: eBay and PayPal.

#### Questions

1. What are key activities? How do they differ from key resources?
2. Name the three areas where key activities become important.
3. Describe first mover advantage in terms of key activity.
4. What key activities are employed in selling on the Internet?

#### Sources and Further Reading

1. Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers by Alexander Osterwalder and Yves Pigneur. Wiley 2010.

#### Section Contents

## 8.11 VALUE PROPOSITIONS

Value Propositions are the products and services that create value for a specific Customer Segment. They do so by solving a customer problem or satisfying a customer need. This building block is an aggregation or bundle of benefits that a company offers customers.

Some Value Propositions involve innovative technology. Some simply deliver better service. Others are a mix of better goods and service. Indeed there are many different types, some of which can be quantified (price, speed of service) and some of which remain qualitative (design, status, customer experience).

Value Proposition Types

### **Newness**

Some Value Propositions satisfy a new customer need, either because the need was not recognized, or there was no similar offering. Sometimes the newness is technology related. Cell phones, for example, created a new industry around mobile telecommunication. Or social issues become important, as with ethical investment funds.

### **Performance**

Improving a product or service has been a common way of creating customer value. But there can be limits to improvement, or the improvement itself can be unwanted. Increased PC performance in recent years, for example, with faster processors and larger RAM and hard disk storage, have not stimulated a corresponding growth in customer demand.

### **Customization**

More closely tailoring products and services to customer needs in specific Customer Segments also creates value. Companies have recently been able to tie mass customization with customer co-creation, for example, which provides

economies of scale without blurring of specific customer needs.

### **Getting the Job Done**

Value is created by simply helping a customer get certain necessary jobs done. Rolls-Royce, for instance, not only manufactures but maintains jet engines, the airline companies paying Rolls-Royce a fee for every hour an engine runs.

### **Design Design**

An intangible but important value element in many industries, particularly in the fashion accessory and consumer electronics industries.

### **Brand/Status**

Companies work hard to maintain their brand image, as wearing a Cartier watch or Valentino dress confers status. Choice of trainers is also a mark of group affiliation in the young.

### **Price**

Offering the same product or service at a lower price creates value in price-sensitive Customer Segments. Generally, however, the product or service is entirely redesigned, as in the 'no-frills' easyJet and Southwest airlines, or the low-cost Nano that will make the automobile affordable to large sectors of the Indian Market. Free newspapers, emails, mobile phones, etc. take the process further, and earn their revenues by advertising or premium services.

### **Cost reduction**

Helping customers reduce costs is another way of creating value. Salesforce.com, for instance, leases a hosted Customer Relationship Management (CRM) application, which relieves companies of the expense and trouble of buying, installing and managing the software themselves.

### **Risk reduction**

Reduced risks also creates value: hence the warranty or service-level guarantee in many goods and services.

## **Accessibility**

Extending access to products or services is another way to create value. NetJets popularized the concept of fractional private jet ownership. Mutual funds make it possible for those with modest wealth to build diversified investment portfolios.

## **Convenience/Usability**

Things made easier or more convenient to use also creates value for customers. Apple came to dominate the market when the iPod and associated iTunes, Apple offered unprecedented ease in searching, buying, downloading, and listening to digital music.

Relevant Case Studies

## **Value Proposition**

Amazon retails books and other products at competitive prices, all with purchaser reviews.

Netscape made the first browser and opened up the Internet.

Nespresso developed coffee machines for the mass market.

Netflix provides on-demand Internet streaming video.

Microsoft developed Visual Basic for fast and accurate program coding.

Eneco moved from being a fixed cost gas supplier to providing a service for greenhouses.

Nintendo offered its wii game controller.

By trial testing, Harold Ingleton identified new value propositions for his customers.

GlaxoSmithKline repositioned its Ropinirole drug for treatment of Parkinson's disease as an effective treatment for Restless Leg Syndrome.

Questions

1. What is a value proposition?
2. Briefly describe eleven types of value proposition.
3. Briefly illustrate the importance of value propositions with

three case studies.

4. What topics of ebusiness relate to value propositions?

### Sources and Further Reading

1. Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers. by Alexander Osterwalder and Yves Pigneur. Wiley 2010.

### Section Contents

## 8.12 COST STRUCTURE

The Cost Structure describes all costs incurred to make a business model work. Such costs can be calculated relatively easily after defining Key Resources, Key Activities, and Key Partnerships.

Costs are minimized in every business model, but low Cost Structures are more important to Wal-mart, for example, and ‘no frills’ airlines. It’s therefore helpful to distinguish between two broad classes of business models: cost-driven and value-driven (with many business models falling between these two extremes).

### **Cost-driven**

Cost-driven business models minimize costs wherever possible, often through a low price Value Propositions, maximum automation, and extensive outsourcing.

### **Value-driven**

Value-driven companies focus on Premium Value Proposition, often with a high degree of personalized service. Designer clothes, luxury hotels and asset management fall into this category.

Cost Structures also have the following characteristics:

### **Fixed costs**

Costs here remain the same regardless of the volume of goods or services. Examples are salaries, rents, and maintenance in factories, restaurants and leisure facilities.

### **Variable costs**

Costs here vary in proportion to the volume of goods or services. Music festivals are one example, as are hosting services.

### **Economies of scale**

Costs per unit output here fall as output expands. Mining and manufacturing companies belong to this category — usually to

a certain level, when increasing scales bring their own technological problems.

### **Economies of scope**

Larger companies may enjoy a wider scope of mutually-supporting operations. Amazon, for example, was able to use the technology developed for Internet selling of books and other goods to offer cloud computing services at competitive prices.

Relevant Case Studies

### **Cost Structure**

Skype uses the Internet and does not have to manage its own network.

Early dotcom companies spent more on advertising than profits warranted.

OpenTable used the Internet to bring preexisting services together.

Apple adjusted its prices for the iPod as new models were made available.

Halberd Engineering divided into two companies with different cost structures.

Netscape was an innovative company but its cost structure soon became unviable.

Questions

1. What are cost structures?
2. Describe six types of cost structure.
3. Describe the advanced web technologies that maintain competitiveness.
4. Describe in some detail a relevant case study.

## Sources and Further Reading

1. Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers. by Alexander Osterwalder and Yves Pigneur. Wiley 2010.

## Section Contents

## 8.13 REVENUE STREAMS

Revenue Streams is the building block representing the cash (*not* profit, which is revenue minus costs) a company generates from each Customer Segment.

Such Revenues are the lifeblood of a company. Revenue Streams may have different pricing mechanisms, such as fixed list prices, bargaining, auctioning, market dependent, volume dependent, or yield management.

A business model also distinguishes revenues resulting from 1. one-time customer payments from 2. recurring revenues where ongoing payments deliver a Value Proposition or after-sales services to a customer. Companies continually research the answers to such questions as: What are customers willing to pay for what value? How are they currently paying, and are they satisfied doing so? How much does each Revenue Stream contribute to overall revenues and profits?

Revenue Streams can be generated in many ways:

### **Asset sale**

Ownership rights are sold of a physical product. Amazon.com sells books, music, consumer electronics, etc. online. Ford sells automobiles, which buyers are free to drive, resell, or dispose of.

### **Usage fee**

Use of a particular service is sold, the amount paid depending on the usage. A telecom company may charge on the type of call and minutes spent on the phone. A hotel charges customers by the type of room and nights occupied. A delivery service charges customers for the delivery of a parcel from one location to another.

### **Subscription fees**

Here a continuous or repeated access to a service is sold. A gym sells its members a monthly or yearly subscription for

access to its exercise facilities. World of Warcraft Online, a Web-based computer game, allows users to play an online game in exchange for a monthly subscription. Nokia's music service gives users access to a music library for a subscription fee.

### **Lending/Renting/Leasing**

A Revenue Stream may be created by granting someone the exclusive right to a particular asset for a fixed period in return for a fee. Lenders receive recurring revenues, and lessees pay a fraction of the full cost of ownership. Rentals (cars, cottages, farm machinery, etc.) are familiar examples.

### **Licensing**

Here the content owners retain copyright while selling licenses to third parties. Media companies obtain their revenues in this manner, as do patent holders of particular technologies.

### **Brokerage fees**

Revenue here derives from an intermediation services performed on behalf of two or more parties. Brokers and real estate agents earn a commission each time they successfully match a buyer with seller. Credit card providers earn revenues by taking a percentage of the value of each sales transaction executed between credit card merchants and customers.

### **Advertising**

Fees for advertising a particular product, service or brand form the basis of this Revenue Stream. Newspapers, and the media industry generally, rely on this approach, which has spread to website advertising and to software sales.

### **Pricing Mechanisms**

Pricing may be Fixed or Dynamic. The first is based on static variables. A List Price is as stated in the brochure etc., but may be subject to discounts depending on the number of items purchased or service required. Price may also be tailored to characteristics of the particular Customer Segment. Dynamic Pricing, by contrast, depends on market conditions, and is subject to the power and negotiating skill of the

purchaser. In Yield Management the price depends on the inventory and time of purchase (as in airline seats or hotel rooms). Price in real-time markets is dynamically established by supply and demands conditions. Prices at auction result from competitive bidding.

Relevant Case Studies

### **Revenue Streams**

Nintendo reinvested its revenue streams into low-tech games.

Amazon reinvested book sale revenues into general retail and then computing services.

Dale Abrahams had no significant advantages in any business element, and so lost money.

Intel spent billions of its revenues on marketing its logo to PC purchasers, but got the money back through premium-priced chips.

PayPal had to spend lavishly on marketing a 'sure fire thing'.

Questions

1. What are revenue streams exactly? Why are they important?
2. What are the seven types of revenue streams?
3. Describe the different pricing mechanisms.
4. What ebusiness approaches and technology bear on revenue streams?

Sources and Further Reading

1. Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers. by Alexander Osterwalder and Yves Pigneur. Wiley 2010.

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## 8.14 INTERNET REVENUE MODELS

The Internet has profoundly changed the nature of business in many market sectors, and there is debate over whether the change is one of type or degree. Nonetheless, most observers believe that the same basic rules apply to Internet businesses as to any other business, and Internet revenue models are commonly grouped as follows:

**B2B: Business to Business**

Businesses sell to other businesses. Much the most important grouping, ten times the size of the B2C market.

### **E-Distributor**

E-Distributors sell goods and services direct to companies. Examples are Cisco Systems, Fiat Group Automobiles S.p.A. and Eneco Energie.

### **E-Procurement**

E-Procurement companies create and sell access to digital markets. Example: Google Services.

### **Digital Exchanges**

Digital exchanges are electronic marketplaces where hundreds of suppliers meet large commercial purchasers. Example: Liquidation.Com.

### **Industrial Consortia**

Industrial Consortia are industry-owned vertical marketplaces that serve specific industries. Example: GlaxoSmithKline's Patent Pools.

### **Private Industrial Networks**

Private Industrial Networks or Private Trading Exchanges are digital networks that coordinate the flow of information between companies that do business together. They constitute some 75% of all B2B expenditures by large companies. Examples are Wal-Mart, Inc. and Procter & Gamble Co.

B2B: Business to Customer

Retail: businesses that sell to customers. The grouping can be further distinguished in many, sometimes overlapping, ways, but below is a common one.

### **Online Retail Stores: E-Tailers**

A varied grouping ranging from giant stores like Amazon to Mom and Pop sites selling handicrafts. Estimated at \$3.9 trillion in 2009 for the United States. The low barriers to entry make this an extremely competitive sector. Examples: Amazon, Inc. and Wal-Mart, Inc.

### **Content Provider**

Not only text but CDs, photos, audio and video files are marketed in electronic form in a market that generated revenues of \$3.9 billion in 2009. Example: Netflix.

### **Portals**

Portals offer packages of content and services. Example: Google Services and Andhra Pradesh e-Governance.

### **Transaction Brokers**

Transaction Brokers help get things done more quickly and cheaply. Examples: PayPal, Open Table and Commerce Bancorp.

### **Market Creators**

Market Creators use Internet technology to create markets that bring buyers and sellers together. Examples are eBay, Inc. and Liquidation.Com.

### **Service Providers**

Service Providers make money by providing a service. Example: SIS Datenverarbeitung GmbH and Zipcar.

### **Community Providers**

Community Providers create sites where individuals can meet, exchange experiences or work on common projects. Example: Twitter, Inc. and Aurora Health Care.

### **Customer to Customer**

Customers connect directly with each other to trade or purchase. Examples: Craigslist and eBay, Inc.

### **Peer to Peer**

A technology that allows consumers to share files and service, not always legally. Example: 4Shared.Com.

### **M-Commerce**

A growing sector that uses wireless technology for many of the groupings above. Example: PayPal mobile.

### eCommerce Enablers

The Gold Rush model: less than one percent of the half million miners who descended on California in the Great Gold Rush became wealthy, but companies supplying their needs often built long-lasting empires in banking, real estate and clothing. The representatives in the Internet age are as follows.

### **Hardware**

Companies assembling computers and servers. Example: Dell, Inc.

### **Software: Operating Systems and Servers**

Companies include Microsoft and Apple.

### **Hard/Software: Routers**

Example: Cisco Systems.

### **Software: Ecommerce Systems**

Companies include Amazon Merchant Services and Yahoo Merchant Solutions

### **Software: Customer Relationship Management**

Examples. Microsoft Dynamics CRM and Sage CRM.

### **Software: Encryption**

Examples: NCH Software and Sophos.

### **Software: Streaming and Rich Media**

Example: VideoLan and Adobe Flash Media Live Encoder.

### **Software: Payment Systems**

Examples: Amazon Flexible Payments Service and Verotel.

### **Software: Performance Enhancement**

Examples: Limelight Networks and Cachefly.

### **Software: Databases**

Examples: Oracle, and DB2 database software.

### **Software: Site Hosting**

Examples: Corporate Hosting and BlueWho.

### **Consulting: Search Engine Optimization**

Software and advice relating to seo: examples include Market Position and SearchEngine Journal.

### **Consulting: Marketing**

Companies include Clickz and Marketing Experiments.

### **Consulting: Ecommerce Gurus**

Individuals include Jay Abraham, Dan Kennedy and Ralph Wilson.

Questions

1. Describe, with examples, a common threefold grouping of Internet businesses.
2. Describe the essentials of five types of business to business Internet transactions.
3. Briefly describe B2C Internet businesses.
4. Name as many eBusiness enabler types as possible.

Section Contents

## 8.15 STRATEGY

Strategy is the practical application of a business model to a company's particular situation and plans. Amongst other aims, it should:

1. Define the key operating parts of the business, where the company needs to act differently to be successful.
2. Assess the overall improvements to be had by changes in the key parts.
3. Show where most earnings and profits lie, and why this is.
4. Point to skills the company needs to acquire or develop.
5. Identify business segments or product lines that should be phased out or sold.
6. Enable the company to compete effectively.

### First Steps

The first requirement is an analysis of the company or proposed company along the lines of the business model, i.e. break the company's operation into its component building blocks or elements and understand and quantify these as much as possible.

1. Customer Segments
2. Value Propositions
3. Customer Channels
4. Customer Relationships
5. Revenue Streams
6. Key Resources
7. Key Activities
8. Key Partnerships
9. Cost Structure

The following, when quantified, will assess the company's competitiveness in the market sector or sectors in which it does business::

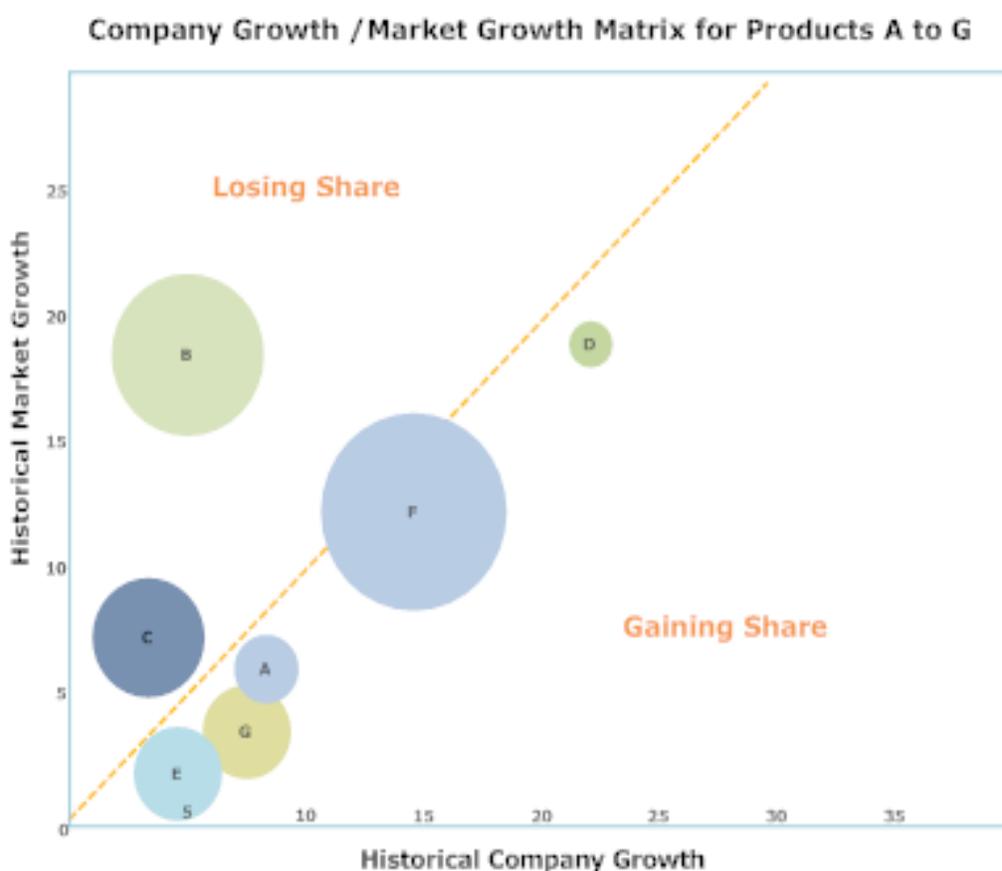
1. Company's relative market share (RMS) in the relevant market sector.

2. Current trend of the RMS.
3. Expected or predicted annual future growth in the relevant market sector.
4. Return on capital employed (ROC or ROCE), both of the company and the average applying to their market sector.

Relative market share is the market share a company enjoys in some market sector divided by the market share of the largest competitor in the segment. If the company has the number one position in the sector, then its market share is divided by that of its nearest competitor, and the RMS will be a figure exceeding one.

Results are often presented as simple graphs.

1. **Product growth versus market growth** for products where size of circles is proportional to sales revenues:



Products B and C are clearly losing out to the competition.

2. **Expected growth versus market share**, where growth is in units sold rather than dollars. The comparison yields the famous BCG (Boston Consulting Group) matrix of:

# BCG Matrix

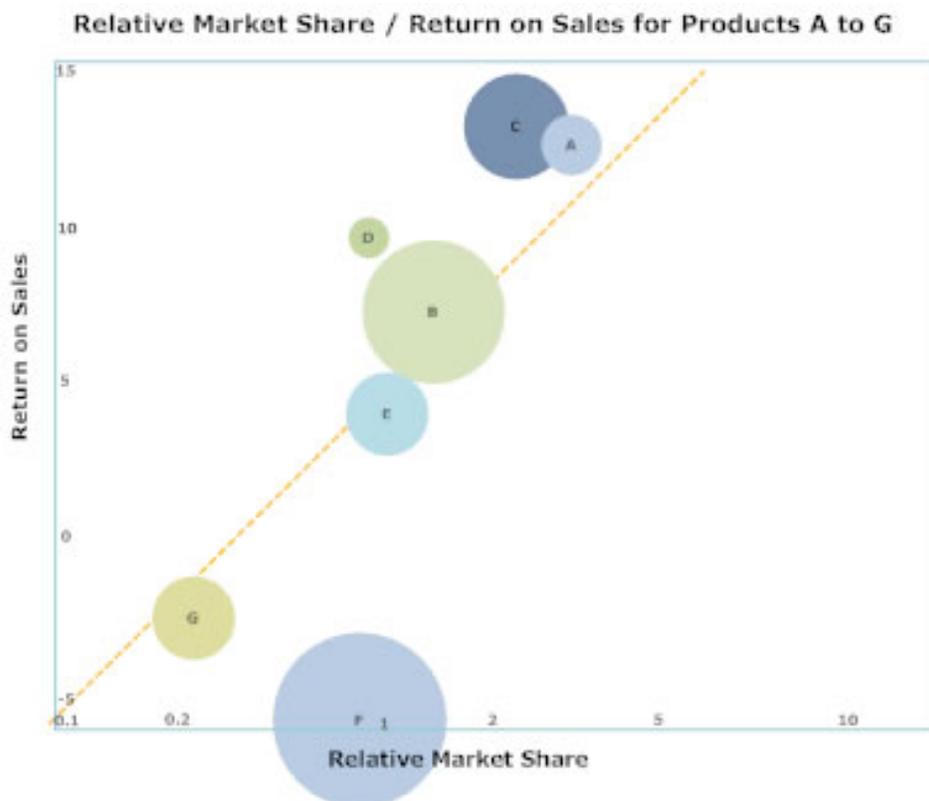


*Cash cows* that provide the bulk of a company's sales and profits.

*Stars* that need to be developed quickly.

*Dogs*, that are a mixed group, those on the right being poised for market leadership and those on the left requiring to be dropped or sold.

*Question marks* containing some future stars but costly to develop: select the best and sell the others.

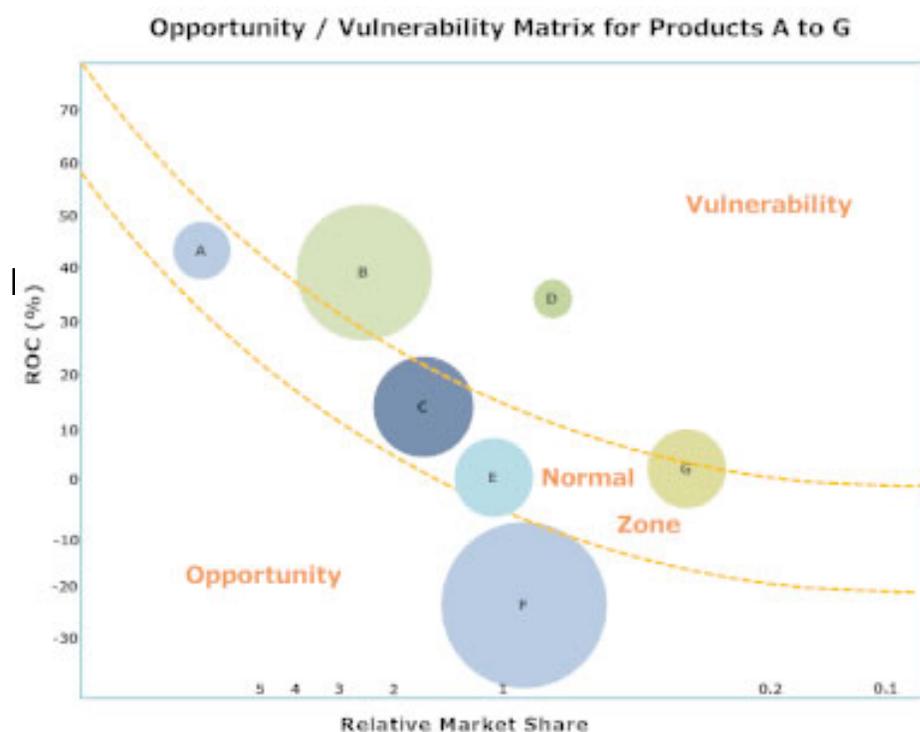


### 3. Relative market share versus return on sales.

Products F and G are generating a negative figure for return on sales, i.e. losing money.

### 4. Return on capital versus relative market share:

Three quarters of businesses tend to fall in the normal zone because RMS share does generally correlate with profitability (here return on capital: see graph below). Those above and to the right of this 'banana' zone are termed vulnerable because experience has shown that such segments with high returns on capital but small market share are not sustainable in the long term: market share must increase or profits fall. Product F represents an opportunity if the associated competencies can be improved.



Competitiveness or winning the race is of first importance. Second comes the attractiveness of an industry or market sector, i.e. how much the race is worth winning. Experience suggests that the first accounts for some 70% of a company's

profitability, and the second for some 30%. A good industry or market to be in will have these characteristics:

1. High returns on capital for the players accounting for most of the market.
2. Stable or rising average industry return on capital.
3. Clear and high barriers to entry, keeping out new entrants.
4. Low exit barriers.
5. Capacity at or below the level of demand.
6. Reasonable to high market growth.
7. Few threats from substitute products or services.
8. Low bargaining power of suppliers.
9. Low bargaining power of customers.

Some general points. These exercise are the most difficult for newcomers. Well-established companies will have their quantified business models, though it never hurts to redefine or reexamine the model. Return on capital employed is crucial, and poor averages for market sectors are often not apparent to outsiders. A falling ROC is a warning, though many large companies (e.g. oil and mining companies) invest heavily at the outset but gradually show better figures as production builds. Barriers to entry include high costs to build, brand or switch production, access difficulties with supplies, property, expertise, patents, and aggressive attitudes of large competitors. Barriers to exit include costs of firing employees, investment write-offs, sale of property, equipment, intellectual property, etc. and non-economic factors such as pride or desire to keep a business empire. Threat from substitutes can arise from competing technologies (gas, electricity and nuclear power versus coal, or airlines versus railways), or simply from changing lifestyles (healthier versus less healthy foods, etc.). The relative bargaining power of the industry over its suppliers and customers is generally increased if the industry is dominated by a few big companies (e.g. supermarkets in groceries).

Competencies

Companies do not have to excel in all business segments to succeed, but they do need to identify and excel at the key competencies. On competitor research there is a range of views. One extreme holds that competitors must be understood exhaustively if they are to be beaten. The other tends not to worry overmuch about competitors but focuses instead on their own company performance, identifying and improving the important competencies. Most companies lie somewhere between the two.

#### Questions

1. What is meant by relevant market sector? Give some examples for Internet companies
2. You have to make a Board presentation on company strategy. What matters would you cover in your introduction?
3. What is the Boston Consulting Group matrix? Illustrate its use with two brief case studies.
4. What is relative market share commonly compared against? How can these plots be useful?
5. Explain competitiveness in and attractiveness of a market sector. What factors commonly make a market sector attractive?
6. What the two views regarding competencies? How are the market sectors likely to differ if one or the other view is more correct?

#### Sources and Further Reading

1. *Simply Strategy: the Shortest Route to the Best Strategy* by Richard Koch and Peter Nieuwenhuizen. FT Press January 2009.

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## 9. LEARNING FROM OTHERS

Introduction

Cautionary Tales

A Start

Coins International

Fine Art Ceramics

Halberd Engineering

Ipswich Seeds

Seascape e-Art

Whisky Galore

Case Studies

Amazon

Andhra Pradesh

Apple iPod

Aurora Health Care

Cisco

[Commerce Bancorp](#)

Craigslist

Dell, Inc

Early Dotcom Failures

Easy Diagnosis

eBay

Eneco

Fiat

Glaxosmithkline

Google ads

Google services

Intel

Liquidation

Lotus

Lulu

Netflix

Nespresso

Netscape

Nintendo wii

Tesco

[Open table](#)

Paypal

Proctor & Gamble

SIS Datenverarbeitung

Skype

Twitter  
Wal-mart  
Zappos  
Zipcar

Sensible companies watch their rivals closely, not only to maintain a competitive edge, but to learn from them, understand their policies and go one one better.

Book Contents

## 9.1 CASE STUDIES: GROUPING BY BUSINESS MODELS

Cautionary Tales are fiction, stories based on the author's experience in commerce and ecommerce. They don't purport to be true, but simply paint a picture of what often happens in business, i.e. behind the annual reports, the blogs and the case studies as written up.

Case studies are not fiction, but the facts tidied for presentation, much as a scientific paper presents a flawless body of research that omits the dead-ends, funding problems, quarrels with colleagues and other troubles that vex human beings.

Case Studies Grouped by Business Model Elements

customer segments	key resources	value proposition
customer channels	key partnerships	cost structure
customer relationships	key activities	revenue streams

Case studies where the business model elements {1} are worthy of special mention:

### Model as a Whole

A simple business model can identify business plan weaknesses from the outset: Whisky Galore.

Simple business models can be very successful: Craigslist.

Business models commonly evolve: Google Ads.

Brilliant innovation will not save a company from a weak business model: Netscape.

## **Customer Segments**

Companies that serve two or more distinct customer segments can be unbundled: Halberd Engineering.

Keyword research can help identify customer segments: Seascope eArt.

Acquiring customers can be very expensive, especially with untested value propositions: Early Dot Com Failures.

Market segments can be increased by organic growth and acquisition: eBay.

High marketing spend to increase customer channels can be recouped by charging a premium for the product: Intel Corporation and GlaxoSmithKline.

A wide range of services and expertise is often needed to gain customer confidence: Liquidation, Inc.

Companies may be successful by focusing on a small segment of the market: Netflix.

New ideas can come from an unbundling of companies: Nespresso SA from Nestlé.

Success can come from changing customer segments targeted. Nintendo's focus on casual gamers.

## **Customer Channels**

Third party channels are often useful to young companies: Fine Art Ceramics.

Selling direct to customers over the Internet can cut out middlemen and offer low prices: Dell Inc.

A new customer channel can be made with an add-on: Nintendo with hardware, Easy Diagnosis with software.

Marketing techniques may be mixed, new and traditional, even in Internet-based companies: Open Table.

## **Customer Relationships**

Ecommerce can weaken customer relationships: A Start.

A simple website may equate with honesty: Craigslist.

Companies adopting the customer relationships of another industry may secure a competitive advantage: Commerce Bancorp.

A focus on the customer is essential in many industries: Aurora Health Care and Wal-mart.

An outside-in, customer focused business model can be very competitive. Tesco plc.

## **Key Resources**

Skills and technological know-how can be obtained by company acquisition: Cisco Systems.

Companies not possessing a key resource can outsource the work: Eneco Energie with Yokogawa.

Leadership is a key resource: Fiat and Apple iPod.

Internet technology is widespread in industry today: Fiat, Wal-mart and Aurora Health Care.

Key resources can be found in new relationships with companies and individuals: Proctor & Gamble.

Acquisitions fail if there is no synergy between the two companies: eBay with Skype.

## **Key Partnerships**

Numismatics requires close partnerships with other dealers: Coins International.

Key partnerships with other industries can be vital: Apple iPod with music recording companies.

Key partners can include government institutions: GlaxoSmithKline with the FDA.

Key partnerships may not be obvious: SIS Datenverarbeitung GmbH.

## **Key Activities**

First mover advantage can be overrated: Early Dot Com Failure, but does apply: eBay and PayPal.

## **Value Proposition**

Ecommerce can improve what is offered to customers: Ipswich Seeds Ltd.

Skills acquired in one customer segment can be leveraged into another: Amazon.

A value proposition can be a public service: Andhra Pradesh e-Governance.

As a product or service matures, its value proposition may change: Commerce Bancorp.

Internet technology creates new services: Easy Diagnosis.

A commodity can be sold as a service at a premium price: Eneco Energie.

A product may arise through a coming together of several industries: e.g. Internet, digital and printing technology in Lulu.

Branding increases the perceived value of a product: Proctor & Gamble.

A business may have obvious advantages to many parties, but still be difficult to launch: Zipcar.

## **Cost Structure**

Advanced web technologies can reduce costs and maintain competitiveness: Cisco Systems and Fiat.

Companies can turn something that doesn't cost them into a value proposition: Skype.

## **Revenue Streams**

Revenues generally need to be invested in the product to maintain a competitive advantage: e.g. Google Services and Lotus Notes.

Companies can have paper values even when loss making: Amazon and Twitter.

Ecommerce businesses are viable, but profit margins are not always be generous: Zappos.

## Other Models

Much can also be learned from SWOT (Amazon, Inc., Craigslist, Tesco plc, Paypal), Pestel Analysis (Tesco plc) Value Vectors (Commerce Bancorp), Value Chain Analysis (Tesco plc) and Porter's Five Force Analysis (Apple iPod).

## Questions

1. Briefly describe the nine elements of the Osterwalder and Pigneur business model. Give one case study example of each.
2. What are customer segments? Give three Internet examples where customer segments are important.
3. What are key partnerships? Give two examples of key partnerships that not obvious on first inspection.
4. Explain what is meant by a value proposition, and give five case study examples.
5. What is meant by unbundling of a business? How can it be helpful? Give two examples.
6. Give some examples, noting the relevant case studies, of other business models/analyses.

## Sources and Further Reading

1. Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers. by Alexander Osterwalder and Yves Pigneur. Wiley 2010.

## 9.2 A START

Not all businesses convert to ecommerce.

### Peerless Dreams

Suppose you run an upmarket boutique with two staff and a part-time bookkeeper. Other local companies have a website, and some have ventured into ecommerce. Shouldn't you?

Think about it. You thrive because a. you're local, b. you know your customers well, and c. you have superb selling skills. None of that transfers to the Internet. But could an online catalogue do any harm?

Most certainly. It might a. become a drain on your time and financial resources, b. provide information for your competitors, and/or c. prevent customers from dropping into your shop on the offchance of finding what they want — i.e. deprive you of selling opportunities.

### Toner Supplies

You supply laser cartridges, new and replacement, to local companies. Why not set up an online ordering system, which would shop-window your service better?

Because you'd immediately be in competition with large companies supplying at discount, and would almost certainly fail. Your cheerful personality and immediate delivery is what's going for you at present, and you should stick with it.

### Carefree Holidays

A third example. You're a holiday letting company with 300 properties that are currently marketed through magazine adverts, repeat bookings/personal recommendations and a third-party holiday-listing website. Why not create your own website, perhaps with automatic booking facilities, and save the \$35,000/year (5% commission) that the third party

charges you? The site build is not the big expense (\$20,000) but running the site will set you back \$25,000 a year, and advertising a good bit on that. Worse is the loss of contact with customers. Selling is a personal matter, and holiday-makers warm to the friendly voice over the phone backed by brochures that appear in the postbox a few days later. Yes, your own website could pay dividends in the long run, but some halfway house might be better: a simple online catalogue of properties, with marketing through other holiday companies, many of which will charge \$250/year for a listing. Bookings are still finalized by phone.

customer segments	key resources	value proposition
customer channels	key partnerships	cost structure
customer relationships	key activities	revenue streams

The cases are self-evident, but gain by looking at the Business Model

All seek to use the Internet (customer channels) to more effectively target their customer segment(s). But doing so:

1. Weakens their customer relationships.
2. Exposes them to Internet competition from companies with much larger resources.
3. Drains their revenue streams.
4. Requires they make key partners of web build companies, which was risky in the early days of ecommerce.

## Questions

1. Why don't all businesses convert to ecommerce?
2. What aspects can be made clearer with business models?

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### 9.3 COINS INTERNATIONAL

Research can only take a company so far. Educated guesses can be made for likely traffic and conversion rates, but more is often needed, particularly when using the pay-per-click search engines for marketing, where charges soon mount up.

Companies commonly test their proposition by setting up a test website with a dummy ordering system, monitoring results carefully for changes in:

1. Goods offered.
2. Presentation of goods.
3. Site layout.
4. Ad copy at the ppc search engines.
5. Keywords targeted.
6. Marketing through the larger ppc search engines, the smaller ppc search engines, price comparison search engines, eBay and other auction sites, banner ads and box adverts in trade periodicals.

A tall order? It certainly takes time and money, but becomes necessary in many cases.

#### The Coinage of Yuan China

Ronald Chan is the world's leading expert on the cash coinage of Mongol China, and proposes to write a book on the subject. He sends off his carefully-crafted proposal to the specialist publishing houses, but cannot convince them that sufficient demand exists. He then proposes an ebook, but the response is the same: you'll be wasting your time. How can he demonstrate to himself and others that sales will be adequate?

He presents his proposal as a fait accompli, as practically written already. Either on a social site, free blogsite or eBay, he:

1. Crafts his profile, stressing his expertise and qualifications.
2. Adds a few pages of interest to fellow collectors and

curators on cash coins.

3. Experiments with promotion through natural and pay-per-click search engines.

3. Presents his book as almost completed.

4. Monitors conversion rates at various prices and book details.

5. Takes advance orders.

6. Encourages feedback.

If results are positive he can either contact publishers again, or self-publish with some expectation of success.

### Harold Ingleton: Fine Coins

Consider Harold Ingleton, a New York coin dealer with a small shop, a dwindling clientele and increased exhibition costs at coin fairs. Many colleagues have gone on line, and are doing (so they say) reasonably well. But Harold knows that competition is fierce, and that conversion rates need to be high to justify what the ppc search engines charge.

Conversely, to get a good listing in the natural search engines he has to develop a good site and/or branch out into less popular lines. He sets out the various factors:

	USA Issues	World Gold	European Silver	Ancients	Islamic
Market size	large	small	moderate	moderate	small
Supplies	good	moderate	moderate	good	restricted
Inventory costs	moderate	high	moderate	high	low
Price range US\$	50-5000	100-5000	100-800	50-2000	20-1000
Profit margins	low	moderate	moderate	moderate	high
Identification/research	none	some	some	none	much
Marketing	ppc	ppc	natural + ppc	ppc	natural + ppc
Outlook	stable	declining	improving	declining	improving

What's best? He can continue with USA issues, but realizes the markups may be too small to cover click-through charges. World gold will cut down on the drudgery of posting low-value items, but the market is specialized and inventory costs will be high. Perhaps he should brush up his Arabic/Persian for

Islamic issues, traveling extensively to get supplies? All have their pluses and minuses. On balance, Ancients (Greek and Roman issues) looks safest, but he has to beat the competition and cover marketing costs.

## **Practicalities**

Crucial are conversion rates, and Harold therefore does the following:

1. Obtains a domain name for testing purposes: \$12.
2. Builds a test website, either:
  - a. through an all-in ecommerce hosting service,
  - b. free service or an 'out-of-the box' software package: \$400 - \$800 (but can be reused for the real site later).

Or:

- a. Uses third party ecommerce service like Yahoo merchant.
  - b. Sells through eBay.
3. Installs split-testing software: \$30 - \$200.
4. Installs software to manage ppc bids and monitor results: \$50 - \$500/month.

Total bill: \$1000 - \$5000, plus time or staff salaries.

To offer coins he doesn't actually possess, Harold will have to sell other dealer's pieces on commission, monitoring conversion rates carefully as changes are made — from pieces offered for sale, through site layout and sales copy, to using different ppc search engines. It's a lot of work, but at the end of the period Harold will actually know — probably far better than his competitors — what works and what does not work. He will have the right strategy for managing bids at the ppc search engines, and will know how to design and promote his site using the natural search engines or banner ads. Since \$5,000 can easily be spent on a good-looking but ineffective website, these expenses could indeed prove a sound investment. As marketing professionals say: there are those who test continually, and those who go out of business.

## Business Model

The business model covers all elements of the business, but the element of interest in both cases is the value proposition: what value propositions can the writer or dealer deliver that will interest his customer segment(s)?

customer segments	key resources	value proposition
customer channels	key partnerships	cost structure
customer relationships	key activities	revenue streams

Ronald Chan is using his key resources (knowledge) and key partnerships (museums and other dealers) to offer his value proposition ('The Mongol Coinage of China') to his customer segments (Yuan cash coin collectors, numismatic booksellers, dealers and museums). Just spelling out the last identifies three market segments he has so far overlooked. A detailed letter to numismatic booksellers, dealers and museums is certainly worth considering, and indeed the larger dealers and museums do sometimes finance important studies for a share of the revenues.

Harold Ingleton's case is a little different. He is using his key resources (knowledge) and key partnerships (other dealers) to offer his value proposition (coins) to his customer segments (coin collectors, other dealers and museums). But here he has to research:

1. Customer segments (who will buy what, and at what markup).
2. Key partnerships (coin sources: critical, sometimes more

important than customers).

3. Customer channels (Internet coin purchasers, and what they look for).

4. Cost structure (how much is the web site and its marketing going to cost?)

Running a trial website becomes even more important.

#### Questions

1. What does this page focus on?

2. Provide hypothetical examples in a market sector familiar to you.

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## 9.4 FINE ART CERAMICS

Sue and Tom Prichard run a small gallery business specializing in fine art ceramics. Both are professional potters and teach at local colleges. Over eight years they have built up a gallery and mail-order business that promotes the work of leading US potters and sells to some 500 ceramics collectors throughout the country. The average price of items offered is \$200, and the Prichards charge a 35% commission. Sales are initially made through a gallery they rent for the summer months, and by personal recommendation, and are followed up by an informal catalogue and advertisements in specialist magazines. The business is not lucrative, but brings in some welcome extra cash and extends their circle of friends.

The Prichards have been approached by a local businessman who offers a cash injection of \$300,000 for a third share of the business. He wants to expand the customer base through ecommerce, setting up a fully-featured website that exhibits all the pieces available and takes orders by credit card for the US and abroad. Contacts with exhibitors and selection of exhibits will remain in the hands of the Prichards, but a manager will handle commercial aspects and webmaster be appointed to run the website.

Tom Prichard likes the idea. He points out that the offer is a generous one and that the businessman concerned is well known for his straight dealing and commercial flair. At worst they give up a third of their profits, and at best could start making serious money. Most importantly, the commercial drudgery, which they both dislike and takes up so much time, will be handled by someone else, giving them more opportunities for their own work.

Sue is less keen. She fears the profit motive may endanger the personal contacts they have built up with artists and collectors, and may leave them considerably worse off, as the

investor has asked that they both invest a sum of \$10,000 as a pledge of faith.

Who is right? Sue takes the proposition to Nick Ridley, Head of Business Studies of the college where she teaches. Nick suggests the Prichards start by making a very rough business plan, of their current business and of the ecommerce proposal.

### **Business Plan: Current Business**

Working in round numbers (all US\$ '000) for the next financial year:

Assets	Stock	\$30	Totals
	bank account	\$20	Total: \$50
Income			
sales	turnover	\$200	
	commission at 35%	\$70	Income: \$70
expenses	gallery rental	\$8	
	salesperson salary	\$27	
	catalog printing	\$3	
	shipping & handling	\$15	
	advertising	\$3	
	miscellaneous	\$1	Total expenses: \$57
			Pretax profits: \$12

### **Business Plan: E-Business (all US\$'000):**

Assets	stock	\$30	Totals
	bank account	\$20	
	cash injection	\$300	Total: \$350
Income			
sales	turnover	\$800	
	commission at 35%	\$280	Income: \$280
Expenditures	website build	\$100	
	salary: manager	\$50	
	salary: webmaster	\$30	
	salary: packer	\$24	
	search engine promotion	\$2	
	offline advertising	\$18	
	shipping & handling	\$60	
	catalog printing	\$10	
	miscellaneous	\$5	Expenses: \$299
			Pretax profits: (\$19)

## First Assessment

Nick Ridley doesn't like these figures. He accepts that the website build is a one-off expense, and that a profit of \$81,000 p.a. otherwise is very attractive, but he wants to know the assumptions behind the fourfold increase in sales. Sue says it's what their investor thinks is achievable. Nick suggest the Prichards look at clickthroughs and conversion rates more carefully.

## Conversion Rates

Currently the Prichards sell around 20 pieces a week or 1,000 a year on behalf of some 30 potters. As a minimum, and supposing that each piece is sold within 3 months, they need to feature 1,000 pieces on their website. Theirs is a specialist market, and site traffic will take time to grow, but the Prichards believe that they should average the following over the year:

1. Visitors: 200,000.
2. Clickthroughs on at least one exhibit: 90%
3. Conversion rate: 2%.

If the average price of each piece exhibited is \$200, sales are then  $200,000 \times 0.9 \times 0.02 \times 200$  or \$720,000. This figure is little short of the \$800,000 of the plan, and the Prichards point out that continuing offline sales to their previous customers will easily make up the difference.

## Second Assessment

But Nick is even less happy with these figures. He questions the following.

1. Traffic of 200,000 visitors a year. This is a high figure for a specialist site in the first year of operation. Can the Pritchards justify this figure by:

- a. competitor intelligence?
- b. keyword analysis with keyword research?

2. Excessive reliance on search engine promotion. He directs them to a report by eMarketer (eCommerce B2C Report, 2000) which found that only 2% of shoppers made purchases at sites to which they were sent by the search engines.

Far more effective were

- a. Online malls (5%),
- b. A link from another site (8%),
- c. Being a known brand offline (16%),
- d. Offline advertising (21%) and
- e. Previous visits or bookmarks (48%).

All these suggest visitors may need to visit the site 12 times before they purchase anything, a figure supported by email marketing studies.

3. Conversion rates of 2%.

a. Rates of 5% or more have been achieved in ecommerce, but generally for well-known brands offered at significant discounts.

b. A more realistic conversion rate may be 0.1%/clickthrough.

4. No provision for returns.

a. They should allow for some 10% of items to be returned, at their expense.

## Revised Sales

The Prichards redo the figures, assuming: Visitors: 50,000  
 Clickthroughs: 90% Conversion rates: 0.1%. Sales are then  
 $50,000 \times 0.9 \times 0.001 \times \$200$  or \$9000. The conclusion is  
 obvious, but the Prichards set out the business plan again,  
 this time removing the website build expense (all in US\$ '000):

Assets	stock	\$30	Totals
	bank account	\$20	
	cash injection	\$300	Total: \$350
Income			
Sales	turnover	\$9	
	commission at 35%	\$3	Income: \$3
Expenses	salary: manager	\$50	
	salary:webmaster	\$30	
	salary:packer	\$24	
	search engine promotion	\$2	
	offline advertising	\$18	
	shipping & handling	\$60	
	catalog printing	\$10	
	returns	\$2	
	miscellaneous	\$5	Expenses: \$201
			Pretax profits: (\$198)

### Third Assessment

Nick isn't surprised. He's seen many plans (and businesses) bite the dust. In fact he feels the 0.1% conversion rate may be overly pessimistic, but he suggests that the Prichards establish the real figure at someone else's expense. He recommends that they research existing online art galleries, select one that has acceptable traffic figures (i.e. provides proper statistics), and monitor the results of placing some of their unsold stock with them.

This they do, and even their potential investor accepts (in later going through the Prichard's sales figures, and the business returns of the gallery concerned) that there's no substitute for hard facts. The Prichards do make some sales through the third party online gallery, however, and by experimenting with different galleries and type of work they find they can increase

the prices realized (and their own profits) for several of the potters they represent by marketing in this way.

#### Points to Note

1. Importance of market research.
2. Using third parties.

#### Questions

1. What was wrong with the first business model, and how should this have been evident without further research?
2. What marketing methods should have been included in the first plan?
3. Suggest other ways of marketing through third party sites.

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## 9.5 HALBERD ENGINEERING LTD.

Halberd Engineering Ltd. is a UK-based supplier of parts for the naval and commercial marine industries. It has offices in Sweden, the US and Japan, and an annual turnover around £40 million. Unfortunately, the company has been slow to modernize, and its share of the world marine engineering spares market has declined by some 40% in the last ten years. It retains a reputation for being a solid and reliable supplier, but its pricing structure is not competitive, particularly in the large Far East market.

First Proposal: IT Division

The IT division suggest that Halberd should consider expanding its services by offering information and order facilities over the Internet. A company portal would display catalogues, list spare parts with prices, delivery times and shipping costs. A pilot scheme could be set up for £800,000, a modest sum that would be recouped within two years by increased sales and better inventory control.

### **First Discussion: Main Board**

The board accept the need for some overhaul of Halberd operations, but have recently invested heavily in the Japanese division, with only limited success. They are not keen to increase expenditure at a time of difficult trading conditions, and believe ecommerce to be greatly over-hyped. In discussion, the following emerges:

1. £800,000 can be only a notional figure, as the IT division has never delivered within time and budget. The division urged a company intranet in 1996, initially costed at £720,000 but which eventually ran up a bill of £2 million, with benefits that remain unclear.
2. There can be no advantage, if Halberd prices are indeed uncompetitive, of advertising the fact on a website. The company should build on its reputation for providing a

personal and knowledgeable service, and its ability to source parts beyond the reach of its competitors.

3. The IT proposal has the interest of the Chairman, one non-executive director with contacts with the airline industry, and the directors responsible for IT, Sweden and the USA. The proposal is opposed by the directors responsible for finance, engineering, the UK and Japan operations. Other directors are undecided.

To resolve the situation, the non-executive director suggests setting up a steering committee under the chairmanship of the most skeptical director (Finance) but with an agenda agreed by the main board. Key points are:

1. The proposal should be studied in detail, with costs and timescales properly assessed.
2. A cost-benefit study of the company intranet should be undertaken, to assess its value and learn from any previous mistakes.
3. This assessment should last 6 months and cost no more than £80,000.
4. Input should be sought from all divisions, particularly marketing companies and overseas sales divisions.
5. Competitor analysis should be included, but secrecy maintained throughout.
6. Assessment should cover the new technologies of customer relationship management and supply chain management in an effort to improve competitiveness.

### **First Proposal Assessment**

Conclusions of the first assessment are generally discouraging. These are the salient points:

1. A very large portal is required, with something around 13,000 pages. Even with additional staff, or the use of outside contractors — possibly application service providers — the building and testing of such a system would take two years.
2. Costs would be as follows (over 2 years: all in £'000):

ITEM	IN HOUSE	OUTSIDE CONTRACTORS
Server + hosting	1,700	800
IT salaries	440	-
Webpage build	-	780
Programming	-	250
Division reorganization	1,200	800
TOTAL	3340	2630

3. The IT division is opposed to outside contractors: a crucial element of Halberd's business (and possibly survival) would be in the hands of third parties.

4. Access to Halberd's prices could be restricted to bona fide customers through a supplied id and password. The information obtained would provide some measure of the effectiveness of the site, though the restriction would also impact on its primary purpose, which is to widen the customer base.

5. Supply chain management is not applicable. Halberd's problem is not the dovetailing of complex operations but obtaining supplies from 137 manufacturers, many of which are old-fashioned and inflict handling costs out of proportion to the value of sales.

6. Customer relationship management has future possibilities, but a current application is expensive (£2.1 million) and its track record unconvincing. The Japan division in particular stresses the need for repeated personal contact.

7. The company intranet has (unexpectedly) paid its way. Savings in order duplication, inventory levels and staff travel amounted to £320,000 last year, and could be increased further if an xml-based system were introduced. Time and budget overruns were caused by ad hoc decisions taken by separate divisions without proper cost-benefit studies — i.e. poor central control.

8. Internet ordering has been adopted in a random manner by the industry, but smaller suppliers — especially those supplying secondhand material through in-house auctions — appear to have been successful. Anecdotal evidence suggest that sales have been increased in the 15% to 35% range.

9. Informal contacts indicate that at least two of Halberd's

important competitors are working on Internet selling strategies: their pricing structure is expected to further undercut Halberd's.

### Second Proposal

The board finds itself in a dilemma. The finance director has been won over to Internet trading, but the original proposal is not attractive. Halberd certainly needs to rethink its business, but ecommerce is too expensive an option at the present time, and its benefits too uncertain. Various possibilities are discussed — bank loans, going public, joint ventures — but rejected.

The mood brightens over lunch. The non-executive director points out the airline industry now uses electronic procurement almost exclusively, but relies on frequently-updated catalogs supplied on CD. Why not something similar for Halberd? CD catalogs with parts illustrated and numbered could be used as marketing material by Halberd reps. The portal would simply provide the latest prices, delivery times and shipping & handling charges for bona fide customers. A simple database solution in short.

The non-executive director also observes that 76% of Halberd's turnover comes from selling parts supplied by just 8 manufacturers. Why not create a new company that handles just these fast-selling items, perhaps even joint-venturing with the supplier of the CDs, since the media world has high entrance costs? Indeed the director happens to know two media companies that are anxious to expand into the marine supplies market.

And the rump of the business, the safe, solid but not very competitive part of Halberd? Keep it in its present form, but allow it to charge premium prices for sourcing obscure items.

A new (6 month: £80,000) proposal is drawn up, to investigate these proposals:

1. Set up a new company, (Swift Engineering) controlled by Halberd but able to joint venture with media and other

companies to take advantage of electronic commerce. This company will:

- a. Focus on selling the products of 8 manufacturers.
  - b. Produce CD catalogs featuring products of these 8 manufacturers.
  - c. Attempt through its joint venture to supply non-competitors with similar CDs, i.e. expand the supply/media business.
  - d. Achieve significant savings in price and delivery time.
2. Create a portal site that:
- a. Restricts access to Swift Engineering customers
  - b. Supplies price, delivery, shipping & handling charges for CD catalog products
  - c. Take delivery times (and if possible prices) directly from 8 manufacturers.
3. Keep the original Halberd in its present form (now simply called Halberd), but:
- a. Introduce a premium sourcing service for some products.
  - b. Increase prices for other lines — expecting to wind up this unprofitable side of the business if necessary.
  - c. Redesign the company intranet with xml.
  - d. Build the database-driven customer portal as an extension of the company portal — i.e. allowing input and some control from all Halberd divisions.

## Second Proposal Assessment

The prospects now look very different:

ITEM	HALBERD	SWIFT ENGINEERING
Server + hosting	-	20
IT salaries	-	140
CD production	-	130
Programming	200	250
Company setup / reorganization	200	500
total	400	1040 (Halberd share: 51%)

1. Costs are estimated as follows (over 2 years: all £'000)

2. A media company (Icaro Productions) is prepared to joint venture on a 51:49 basis, and to sign an exclusivity clause for future business in the marine engineering market.
3. One of the manufacturing companies already has its information in CD form, and two of the others agree to employ Halberd's new company to produce CDs for them.
4. All divisions are enthusiastic about the proposal, particularly Japan, which will have the pricing necessary to break into the Korean and Chinese markets.
5. The proposal is a solidly-researched document, against which Halberd's bank is happy to advance a loan.

#### Points to Note

1. Hiving off a profitable sector as Swift Engineering and allowing original Halberd to premium price for hard-to-get items. Two different companies can then compete properly in two different customer segments.
2. Ecommerce applied where it most counts: Swift Engineering only.
4. Supply of catalogues on CDs to Swift Engineering's bona fide customers, inviting feedback and rep. visits — i.e. build customer relationships.

#### Questions

1. Describe Halberd's dilemma. What else could have been done to get an independent view of opportunities?
2. Give a SWOT analysis for Halberd Engineering.
3. What crucial step is missing from this example?

## 9.6 IPSWICH SEEDS LTD.

Ipswich Seeds Ltd. is a traditional family business owned by the Thomsons. The company supplies horticultural seeds to specialist gardeners throughout the UK, marketing these through selected garden centers and a seedsman's catalogue. The latest Thomson to take control, young (43 year old) Peter Thomson is a man of new ideas, however and his first innovation has been to take the company online. In place of the traditional catalogue, which cost £21,000 annually to print and mail, he has placed the entire range of the company's products online. The company's £25,000 website catalogue provides the same information as the printed version, and invites orders from new customers by phone (credit card) or letter (check). The first year expectations were for a 30% reduction in demand for the traditional catalogue, and a 20% increase in orders. In fact, demand for the printed catalogue has increased by 40% and orders have dropped by 5%. What has gone wrong?

### Market Research Study

Peter Thomson employs a local market research company to assess the situation and advise. Three months and a £8,500 bill later, the Thomson Board reviews their report, which concludes:

1. Being traditional folk, gardeners prefer a printed catalogue. Even when online (and only 63% are) they still ask for the printed version.
2. Increased demand for the catalogue has come from mere visitors to the website, many of whom are competitors and/or not specialist gardeners intending to make a purchase.
3. Sales have fallen because gardeners have found it easier to make price comparisons. Some ISL products are priced 30% more than those of the larger suppliers.
4. ISL should upgrade their site to take online orders.
5. The gardening world has changed in recent years, and ISL

need to identify their market segment more exactly. The market research company will be pleased to undertake a further study for £17,500.

Updated Website: Online Ordering

‘Nothing we didn’t know or couldn’t have guessed’ is the response of Board members to the research work, and they will not sanction further expenditures in this direction. Peter Thomson does win approval for an improved website, however, and the Board agree to spend another £10,000 on improving site content and adding online payment facilities.

The Board Meeting a year later sees much shaking of heads when Peter Thomson reports that:

1. Sales have increased by 8%.
2. Profits overall have fallen by 2% now that ISL have brought their prices more into line with other suppliers.
3. The website still only accounts for 12% of ISL sales.

### **Ecommerce Research**

Unabashed, Peter Thomson has a further suggestion to make. He wishes to employ a young ecommerce consultant to make an initial assessment of the site for a fee of £1,000.

Anxious to establish himself, the young man will waive his fee if the Board do not feel his recommendations make sense, and if they do not result in significant improvements. With some misgivings, the Board agrees.

Ecommerce Assessment

A week later the ecommerce consultant presents his report, which says that though there’s much wrong with the site, all can be fixed very cheaply. The main problems are:

1. No competitor research seems to have been undertaken, and the site is not positioned effectively in the ecommerce seed catalogue world.
2. Site traffic is only 1,500 visitors/month, when a respectable figure would be 5,000/month.

3. The web design company that built the site presents a monthly report that no one at ISL understands. There needs to be closer liaison which allows technical matters to be seen from a business perspective. Ideally, ISL should manage their own site.

4. Keywords have not been chosen wisely. For example, *seed catalog* is used rather than *seed catalogue*. Though the keyword increases the chance of the site being found by US gardeners, it faces too much competition from other sites (25,000 on Google alone) ever to rank well on the search engines. By being too ambitious, ISL have failed to achieve any online showing at all. Use *catalogue*, and the number of competing sites falls to 8,000, which is manageable.

5. Content on most pages is supplied by a database, which assists site maintenance but makes it practically invisible to the search engines. Some straightforward HTML pages should be added.

6. Pages need to be rebuilt about specific products — a single page about *cactus seeds*, for example, could generate an additional 1400 visitors/month.

7. Content has been lifted from the traditional catalogue, and assumes long familiarity with the company. For new web visitors, however, the specific selling points of ISL's products should be highlighted in a snappy and memorable way.

8. More should be made of the 'about us' page: when the company was founded, awards won, stately homes listed that use ISL products, etc.

9. The site is too impersonal. Visitors like to see real people behind companies, and the site should feature photographs of staff members, seed nurseries and the smiling winners of local horticultural shows.

10. The site lacks a legal disclaimer, a returns policy and clearly stated guarantees.

The Board accepts the recommendations, voting an additional £3,000 to make the changes needed. These will be done by the consultant in cooperation with the web design company, £2,000 of fees being withheld until sales actually improve.

## Improved Website

Six months later, Peter Thomson is able to report that:

1. Site traffic is 6,500/month.
2. Sales have increased 10% per month for the last three months.
3. Profits are also up, and show a 18% increase over six months. A 40% increase over the year is projected.
4. ISL have received two proposals to increase their marketing outlets, one from a US garden center.
5. Consultant recommends that ISL investigate affiliate schemes.

The Board grant the consultant his outstanding fees, and congratulate themselves on their business caution.

## Business Model

How has ISL done? Better than could be expected, making gains in these areas of the business model:

customer segments	key resources	value proposition
customer channels	key partnerships	cost structure
customer relationships	key activities	revenue streams

1. Customer segments: unchanged but **more successfully targeted**.
2. Customer channels: **changed**: Internet-facilitated.

3. Customer relationships: **improved** with the 'about us' page. Could be extended with gardening help pages and a social media representation.
4. Key resources: no change: horticultural knowledge and seed facilities.
5. Key partnerships: unchanged, but could be strengthened with input to garden centre websites:
6. Key activities: unchanged: horticultural seed suppliers.
7. Value proposition: **improved**: rapid selection of a wide variety of horticultural seeds.
8. Cost structure: **slight improvement** that will eventually produce substantial economies when the printed catalogue is entirely replaced by web pages and an ecatalogue.
9. Revenue streams: **slight improvement**, which should continue as ISL becomes established online.

#### Questions

1. What is the key point made by this example?
2. Describe ISL's performance in terms of the Osterwalder and Pigneur model.
3. What other marketing platforms are now available?
4. Outline a more effective marketing strategy than Peter Thomson's.

## 9.7 SEASCAPE E-ART

*Seascape Art* is a fine art gallery specializing in paintings associated with the sea. Its proprietor is a well-respected figure in art circles, and runs a small gallery in New York. Attracted by ‘Internet success stories’, he has compiled some cost and conversion figures, which suggest that an online gallery is a must-have. After all, he argues, targeted traffic x conversion rate = sales. What’s wrong with that?

### Keyword Research

Quite a lot. Suppose keyword research suggest traffic as follows (if the gallery has first page rankings):

Keyword	Google traffic in 24 hours	Total search engine traffic/month	Competing sites
seascape art paintings	2	171	7
seascape artists	10	855	297
seascape pictures	7	598	631
seascapes	54	4,615	209,000
marine art	17	145	46,400
seascape	50	4270	431,000
seascape art	5	427	5,530
marine fine art	1	85	655
seascape paintings	5	427	10,600
marine painting	1	85	5,270
TOTAL		11,678	

If the gallery’s average commission/profit margin is \$1000, and adopting a conservative conversion rate of 1%, the website would generate a revenue of  $\$1000 \times 11,678 \times 0.01$  or \$116,780/month.

Again, probably not. Here are the problems.

1. The competition has been overlooked. Disregarding the keywords where the number of competing sites is over 10,000

(i.e. where the gallery will not get a look in), the monthly figures reduce to 2,221 visitors and \$22,210 revenue.

2. A topnotch search engine submission company might beat the competition, but probably not with useful keywords.

Looking at the matter further:

3. When do decent cash flows appear in the business plan? Better make that 12-24 months: it takes time to establish an online presence.

4. What sort of visitors will the keywords draw?

a. *seascape art paintings*: researchers, artists, the merely interested, occasional buyer

b. *seascape artists*: researchers

c. *seascape pictures*: researchers, artists, the merely interested, occasional buyer

d. *seascape art*: researchers, the merely interested, occasional buyer

e. *marine fine art*: buyers and researchers

f. *marine painting*: shipyards and boating enthusiasts

#### Conversion Rates in Practice

The keywords likely to draw customers are *seascape pictures* and *marine fine art*: a total of 683/month. Only some of these will be looking to purchase. The likely monthly traffic reduces to 300, and revenues come down to \$3,000, a more realistic figure.

Now the conversion rate. Why the assumed 1%? Because that's a reasonable figure. So it is, if the following apply:

1. Product is well known brand: advertised offline.
2. Product is standard: customers know what they're getting.
3. Incentives apply: easy delivery, discounted prices.
4. Product is well promoted: from shopping mall, personally recommended by prestigious site or authority.

Since none of these is the case, a conversion rate of 0.3% or less would be safer. Revenues come down to \$1,000/month at best. Then there is the extra insurance, returns, legal fees. . . The picture's obvious, and explains the glut of online

galleries, which competitor research should have highlighted.  
What can the gallery owner do?

1. Build an online gallery but promote it through affiliate programs and/or fine art directories, on and offline.
2. Consider promoting the site through the pay-per-click search engines.
3. Try marketing through existing online galleries, possibly through some partnership arrangement.
4. Give up the ecommerce dimension and stick to what he knows.

#### Points to Note

1. Work needed to get the business model right.
2. Keyword research can help identify the appropriate customer segment(s).

#### Questions

1. Outline a research program leading to the same conclusions by a different route.
2. What marketing methods could increase conversion rates?
3. What element(s) of the Osterwalder and Pigneur model is/are crucial? What should be done?

## 9.8 WHISKY GALORE

Dale Abrahams is an entrepreneur, one of an estimated 7 million such in the USA, and now going into the online selling of fine scotch whiskies. Dale will offer free shipping to NY State addresses on purchases over \$300, and also offer a premium service: a choice whisky, gift-wrapped and sent express delivery anywhere in the world. Capital has come from friends and family, and all Dale has to worry about is selling over the Internet.

Marketing is largely through the pay-per-click search engines (essentially Overture) and Dale is reckoning on paying an average of \$0.20/click on thirty keywords to get 2000 click-throughs per month in year one. An Overture presence will feed through into other search engines, of course, and Dale is expecting these extra visitors to amount to 1,000, 3000 and 6000/month in years one, two and three. Conversion rate is 2.0% and average profit per sale is \$30. Monthly profit in year one is  $0.02 \times 3000 \times \$30$  or \$1800, rising to  $0.02 \times 5000 \times \$30$  or \$3000 in year two and  $0.02 \times 8000 \times \$30$  or \$4800 in year three. His 'conservative' business plan (all in US\$'000) can be summarized as:

	Year One	Year Two	Year Three
Profit on Sales	21.6	36.0	56.0
Site Build	8.0	0	0
Site Maintenance	0	2.0	2.0
Marketing	4.8	4.8	4.8
Salary, hosting, etc.	20.0	20.0	20.0
Profit (Loss)	(11.2)	9.2	30.8

Dale's living expenses, kept to an absolute minimum of \$20,000 a year (which includes site hosting at \$50/month) is a

disproportionately large item in the plan, but Dale hasn't the funds, or indeed the confidence, to lower this proportion by starting bigger. But he will be guided by results, replanning operations if the first year goes better than expected.

What were the results? Here are the figures for the first year of trading, with explanations to follow:

	Year One
Profit on Sales	2.7
Site Build	8.0
Site Maintenance	0
Marketing	3.6
Salary, hosting, etc.	20.0
Profit (Loss)	(28.9)

1. Dale had to pay an average of \$0.25 per click and still got only 1200 click-throughs a month.
2. The feed through to other search engines was minimal, and amounted to only 500/month.
3. Supply difficulties reduced the average profit margin to \$11/order, and the conversion rate was 1.2%.

## Phase Two

Dale decides to concentrate on his most profitable lines, revamping the site to attract visitors from Google, etc. Here is

	Year One	Year Two	Year Three
Profit on Sales	2.7	42.0	58.8
Site Build	8.0	5.0	0
Site Maintenance	0	0	2.0
Marketing	3.6	3.0	3.0
Salary, hosting, etc.	20	20	20
Profit (Loss)	(28.9)	14.0	33.8

the plan for years two and three:

Dale still pays \$0.25/click at Overture, but opts for only 1,000 clicks a month on more selected keywords. Conversion rate is planned at 2%, but the profit per sale is \$35. Dale also counts on getting another 4,000 and 6,000 visitors per month from the other search engines. But the picture after year two is:

	Year One	Year Two
Profit on Sales	2.7	8.4
Site Build	8.0	5.0
Site Maintenance	0	0
Marketing	3.6	3.6
Salary, hosting, etc.	20	20
Profit (Loss)	(28.9)	(20.2)

1. Overture raised their bid prices, and Dale had to pay an average of \$0.30 per click for 1000 click-throughs a month.
2. Traffic from other search engines was only 1500/month.
3. An average profit margin of \$35 was achieved but the conversion rate fell to 0.8%.

### Phase Three: Major Redesign

Dale now gets an ecommerce consultant in, who recommends a raft of measures: redesign to make the site search-engine friendly, search engine promotion by professionals, a newsletter, diversifying into choice wines, etc. The plan now expects 10,000 visitors/month, a conversion rate of 2% and a profit margin of \$20. Dale has to hire someone to write the newsletter.

	Year One	Year Two	Year Three
Profit on Sales	6.1	8.4	48.0
Site Build	8	5	5
Consultancy	-	-	3.5
SE Promotion	-	-	5
Newsletter	-	-	2.4
Marketing	3.6	3.6	3.0
Salary, hosting, etc.	20	20	20
Profit (Loss)	(25.5)	(20.2)	9.1

What happened? The site only attracted 6000 visitors/month and the conversion rate rose to 1.2%. Dales's reward for three

	Year One	Year Two	Year Three
Profit on Sales	6.1	8.4	13
Site Build	8	5	5
Consultancy	-	-	3.5
SE Promotion	-	-	5
Newsletter	-	-	2.4
Marketing	3.6	3.6	3.0
Salary, hosting, etc.	20	20	20
Profit (Loss)	(25.5)	(20.2)	(21.6)

years of hard work was a *loss* of \$67,300.

Unrealistic? Many fledgling emERCHANTS have worse experiences. Dale's mistakes were:

### General Errors

1. The business plan wasn't sufficiently researched.
2. The competition wasn't assessed. The days of 'having a go' are long past, and *anyone* who operates on the Internet today is up against professionals with extensive experience and large budgets.

### Specific Errors

1. Profit margins weren't really known.
2. Too much reliance was placed on Overture, ignoring the cheaper pay-per-click machines, eBay and price comparison machines.

3. The natural search engines were largely ignored.
4. The site was over-expensive and inflexible: content was database fed (invisible to the natural search engines) and no accountancy package was integrated (book-keeping was time consuming, and complete picture was difficult to see).
5. A newsletter was introduced too late and in the wrong way.

#### Phase Four: Realism Dawns

	Year One	Year Two	Year Three	Year Four	Year Five
Profit on Sales	18.0	30.0	48.0	86.0	115.0
Research	2.3	0			
Site Build	0	0	4.0	2.0	2.0
SE Promotion	-	-	5.0	3.0	3.0
Newsletter	-	-	2.0	2.0	2.0
Marketing	4.0	8.2	20.0	24.0	24.0
Salary, hosting, etc.	10.0*	10.0*	30.0	30.0	30.0
Profit (Loss)	1.7	11.8	(13.0)	25.0	54.0
	eBay sales	eBay sales	own website	own website	own website

A more realistic picture would have been:

\* Part-time only

#### **Profit Margins**

In our worked example, Dale Abrahams expected an average profit margin of \$30 per order. The assumption played a critical role in his business plan, so how did he arrived at the figure?

Simple. He spent weeks checking prices at the Internet stores and at local shops, 'finding':

1. Collecting Scotch is a hobby, indeed more a religion. Some labels are difficult to find, and price is not the customer's first consideration. A \$10 difference in prices between Internet retailers was common, and the differential could be up to \$40 for the choicer malts or blends. Bargains could sometimes be found in off-line stores.
2. Even the largest online stores stocked only a selection, leaving many labels unrepresented.

3. The price differential could be widened to \$50 if choice whiskies were marketed as special gifts, i.e. offered as an all-in service with 'free' overnight shipping.
4. There were many books and even Internet sites, providing information that could be 'repackaged' on Dale's site, enhancing the perceived value of his products.

## **Presentation**

Dale had a two-pronged approach. His site, *whiskies-online.com*, was advertised as *the* specialist site for Scotch whiskies, and carried good photos and interesting write-ups. What wasn't in stock — and Dale in fact didn't carry *anything* in stock — could and would be sourced without delay. As an extra service (the second prong) a choice whisky could be gift-wrapped and rushed overnight to anywhere in the world for a 'small' charge.

Naturally, Dale opened correspondence with the distilleries and the larger outlets, though without committing himself to purchase. He kept watching briefs on Internet prices, and made sure that while his site stocked some popular labels at competitive prices, it also featured labels that were not generally available, allowing Dale to add a hefty markup.

Moreover, because he wanted the site to show continually changing stock, with 'just in at a special price' promotions, Dale agreed with the web-design company (who charged \$5,000 more for the feature) to have the page content dynamically generated. Dale keyed information into a database, the content of which was then uploaded to the design company's server and fed into Dale's pages. The company charged \$50/month for the hosting service, but Dale otherwise had control of his site.

## **Mistake 1**

The plan seemed foolproof, but Dale soon found that:

1. He received comparatively few orders for the popular labels: the conversion rate was just over 1%. There was nothing special to attract customers, and they stayed with their trusted suppliers.

2. He got good orders for the unusual labels, but lost them when he couldn't supply within a week. He was finally obliged to buy from local retailers, obtaining a 10% trade discount, but rarely achieving more than a \$10 profit margin.

Dale was beginning to realize what should have been obvious: customers and other retail outlets knew far more than he did about the spirits trade. Good whiskies have to be bought as they become available, and Dale eventually and reluctantly spent some \$10,000 on a selection, renting a small lockup, and assiduously promoting just these labels on his website. One outlet offered him a commission to sell their lines, but Dale wanted to do things his way.

## **Mistake 2**

Some of his stock sold well, but a lot did not. Some labels were five times as popular as others, and Dale did not know why. He was tempted to join an enthusiasts club, but realized that, as a retailer, he was supposed to know the answers anyway. He carried on, but suffered from funds tied up in his inventory, which he could not easily dispose of.

His site was also rather different now. Far from being *the* site, carrying a world-beating selection, it was a collector's site, carrying a small selection of choice items. And that created its own problems. Internet shoppers do not search with 'Glenfarclas Whisky' or 'Buchanan's Deluxe' but under 'whisky'. And the bid price for that search word on Overture was over 30 cents. Visitors came in droves but bought little. If his site had really some two hundred malts on offer, Dale might very well have achieved a decent conversion rate. But he had only 30 on offer, so that 85% percent of visitors went away disappointed: the conversion rate was 0.8%. Customer acquisition cost was therefore  $\$0.30/0.008$  or \$350: not an exorbitant figure in today's climate but not one Dale could accommodate on a slender budget and with so much capital tied up in slow-moving stock.

## **Solution**

Dale's problems were:

1. He didn't have sufficient experience to anticipate difficulties with the plan,
2. He didn't understand customer preferences, and — most serious of all — he didn't test to ascertain them.

Money was tight, but the \$8,000 spent on the site build would have been better allocated as:

1. Basic website built online under some test URL with dummy ordering facilities: \$300 in fees for an all-in ecommerce hosting service.
2. 5,000 test click-throughs with Overture and the smaller ppc search engines. Search words, and software/services (split testing and bid management and monitoring) for 3 months of testing would have cost \$2000.
3. Stock purchases of whiskies with the right profit margin which could then be marketed through eBay, i.e. without any website at all. (Dale assumed that his customers needed educating with his whisky information pages, but in fact purchasers of \$100 plus items have already done their homework.)

Two years later, with a good track record, and sales figures to guide his trading, Dale would have been well placed to get the funding required to stock and run a proper whisky store.

#### Using Pay Per Clicks Effectively

A proper study would look at the various advertising options more fully, not neglecting banner ads and the natural search engines.

#### Comparing PPC Search Engines

But if we just look at the top bid prices for 'whisky' in the better-known ppc search engines:

	Overture (now Yahoo)	Google Adwords	Kanoodle	GoClick	Enhance	FindWhat
	average \$ per click	average \$ per click	average \$ per click	average \$ per click	average \$ per click	average \$ per click
whisky	0.34	0.10	0.06	0.03	0.08	0.06
conversion rate	3.0%	6.0%	0.8%	0.8%	0.6	1.3
marketing cost	\$ 11.3	\$ 1.7	\$ 5	\$ 3.7	13.3	4.6
monthly traffic	261	1020	100	100	300	100

The conversion rates are notional figures, based on MEC's studies, as are the traffic figures for the smaller ppc engines, but what this simple study suggests is:

1. The various ppc machines give very different marketing costs.
2. The smaller ppc engines do not always provide better value.
3. Better traffic is supplied by the larger ppc machines, especially Google Adwords.

### **Paying For The Top Ranking**

Whether you should pay for the top ranking depends on the traffic and conversion rates. Both tend to fall off with decreasing rank, which is reflected in the bid prices. How it will work in your particular case can only be discovered by testing.

	Overture #1	Overture #2	Overture #3	Overture #4	Overture #5	clicks/month for #1 ranking
	average \$ per click					
scotch	0.25	0.15	0.14	0.14	0.13	320
single malt scotch	0.45	0.25	0.23	0.21	0.11	338
glenfiddich scotch	0.29	0.28	0.27	-	-	11
whisky	0.34	0.29	0.23	0.21	0.20	261
chivas regal whisky	0.13	-	-	-	-	13
glenfiddich whisky	0.26	0.16	-	-	-	1
single malt whisky	0.45	0.20	0.18	0.17	0.16	17

## Varying the Keywords

Keyword costs vary considerably, between similar phrases

	whisky	scotch	single malt	single malt scotch	chivas regal	glenfiddich
Google Adwords						
average \$ per click	0.10	0.18	0.26	0.36	0.09	0.09
conversion rate	2.0%	3.0%	5.0%	6.0%	5.0%	3.0%
marketing cost	\$ 5.0	\$ 6.0	\$ 5.2	\$ 6.0	\$ 1.8	\$ 3.0
clicks/month	870	3000	330	72	54	6
	whisky	scotch	single malt scotch	single malt whisky	chivas regal whisky	glenfiddich whisky
Overture						
#1 \$ per click	0.34	0.25	0.45	0.45	0.13	0.29
conversion rate	2.0%	2.5%	3.0%	3.5%	3.0%	3.5%
marketing cost	\$ 10	\$ 8.3	\$ 15.0	\$ 12.9	\$ 4.3	\$ 8.3
clicks/month	597	532	338	17	13	11

and across the ppc search engines:

## PPC Engines Generally

1. Ecommerce is competitive, and openings are soon exploited.
2. An effective ppc marketing campaign will employ several hundred bids across ten or more of the ppc search engines. The advantage obvious lies with the bigger companies who can devote staff exclusively to this task.

## Price Comparison Machines

The price comparison search engines do not publish their fee structure, and companies have to approach them as a bona fide advertiser with specific products. But *if* the MEC figures

still hold, then using the price comparison engines might yield something like this:

	whisky	scotch	single malt	single malt	chivas regal	glenfiddich
Price Comparison Search Engines						
average \$ per click	0.10	0.18	0.26	0.36	0.09	0.09
conversion rate	2.5%	2.5%	5.0%	5.0%	6.0%	6.0%
marketing cost	\$ 4.0	\$ 2	\$ 5.2	\$ 2	\$ 5.0	\$ 1.5

### Using eBay and other Auction Sites

eBay charge an insertion fee (\$0.30 to \$4.80) plus a commission (5.25% for the first \$25, plus 2.75% of the remaining closing price). Marketing fees (supposing no re-insertions) compare as follows.

\$ price of item	\$65	\$120	\$180
Google Adwords	\$1.8 - \$6.0	\$1.8 - \$6.0	\$1.8 - \$6.0
Overture	\$4.3 - \$15.0	\$4.3 - \$15.0	\$4.3 - \$15.0
Small ppc machines	\$3.7 - \$13.3	\$3.7 - \$13.3	\$3.7 - \$13.3
price comparison machines	\$1.5 - \$2	\$1.5 - \$2	\$1.5 - \$2
eBay	\$2.7	\$4.2	\$ 5.9

These are very notional figures and assume goods priced attractively and presented well, i.e. achieving fairly high conversion rates. If Dale's poor 0.8% conversion rate applies, then the marketing costs are many times those shown.

Auctions are popular. Here are the top auction and auction-like sites worldwide: quality is rather mixed.

ebay.co.uk	ebay.com	ebay.com.au	ebay.ca
ubid.com	ioffer.com	bidz.com	mightybids.com
ebid.co.uk	deremate.com	tradera.com	bid4assets.com
edeal.com(now Truition)	turners.co.nz	auctionfire.com	ebaycareers.com
bidchaser.com	shopgoodwill.com	auction.com	auctionweiser.com
auctionhints.com	bidchaser.com	business-auctions.com	auctioncity.co.nz
bid-alot.com	auctions4acause.com	bidchaser.com	ebayliveauctions.com
priceline.com	ebaymotors.com	qxl.com	auction-warehouse.com
buyme.co.nz	directmylinks.com	-	bidchaser.com

### Points to Note

A simple business model would have identified the weaknesses in Dale's plans from the outset.

1. Customer segments: **unknown and untested.**
2. Customer channels: Internet-facilitated: Dale had **no experience** here.
3. Customer relationships: **poor to nonexistent.**
4. Key resources: none: Dale **knew nothing** about the spirits trade.
5. Key partnerships: distilleries: Dale has **no proper relationship** with them, **or the resources** to buy wholesale.
6. Key activities: selling fine whiskies.
7. Value proposition: resourcing fine whiskies: Dale **is again without the necessary knowledge, experience and contacts.**
8. Cost structure: **few improvements possible:** why would customers trust Dale rather than order through their usual supplier?
9. Revenue streams: **poor**, as Dale has no competitive advantages.

customer segments	key resources	value proposition
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## Questions

1. What should Dale's first question have been?
2. What, overall, were Dale's two greatest mistakes?
3. Analyze Dale's performance under the Osterwalder and Pigneur business model.
4. What crucial benefit was offered Dale, which he turned down?
5. Cost an effective research program for Dale.

## Resources and Further Reading

1. *Pricing Central*. Price comparison shopping portal.
2. *Recommend.org*. Short but useful listing of price comparison machines.
3. *Marketing Experiments*. Experimental data, courses and partnerships.

## 9.9 AMAZON, INC.

Amazon is the world's largest online retailer, selling over forty categories of goods, from books to electronics to groceries to jewelry to auto parts. The company is also an ecommerce and Internet technology platform, a fulfillment and logistics platform, a search technology, an Internet advertising platform, and even an Internet startup incubator. In 2010 its net revenue increased 39.6% to \$34.2 billion, and its net income increased 27.7% to \$1.15 billion. {8}

Amazon is one of the more innovative of online retailers, and has experienced great success and failure, a record reflected in a share price that has oscillated from a high of \$106 in 1999 to \$6 in 2001, rising to \$60 in 2003, only to fall to \$27 in 2006. In recent years Amazon stock has traded above \$150. {9}

### Business Models

Amazon has three distinct businesses, plus a slew of nascent enterprises and developing opportunities

### **Amazon Retail**

Starting in books and then expanding into electrical and other goods, Amazon built an online retail business around three aims:

1. Best prices: Amazon products are generally offered at a discount, a steep discount in the case of books.
2. Unrivalled selection: Amazon often has the largest selection of goods in a particular category, especially books (outside S/H marketplaces like Abebooks.)
3. Convenience: Amazon focus on the customer and try make purchasing an enjoyable experience, offering:
  - a. An attractive, easy-to-use customer interface (which evolved through many trials).
  - b. Fast and reliable delivery from vast, fully automated warehouses, first located in strategic spots in the US but increasingly worldwide.

- c. A no-nonsense returns policy.
- d. Reviews by customers of the product.
- e. Purchase suggestions based on previous purchases and webpage viewing (an example of realtime systems).

Amazon was incorporated in 1994 in the state of Washington by Jeff Bezos, went online in 1995, and issued an IPO on May 15, 1997. Many developments, controversies and setbacks attended Amazon's eventual success: {1}

1. Amazon aimed for market share and did not make a profit till 2001.
2. Amazon has faced lawsuits over exclusivity of contracts (Toys'R'Us: 2004-) and size claims (Barnes and Noble: 1997).
3. Amazon's auction site, founded in 1997, proved unsuccessful, but its technology was later incorporated into Amazon Marketplace.
4. Amazon Prime was launched in 2005, offering free shipping for a flat annual fee.
5. In August 2007 appeared AmazonFresh, a grocery service offering perishable and nonperishable foods.
6. Amazon MP3, launched in September 2007, sold MP3 downloads without digital rights management, forcing iTunes to follow suite.
7. Amazon began film production in 2008, producing the film 'The Stolen Child' with 20<sup>th</sup> Century Fox.
8. Not all growth was organic. From 1998 onwards, Amazon acquired several companies, notably Bookpages.co.uk (1998), Joyo.com, a Chinese ecommerce website (2004) and BookSurge a POD company, (2005), Mobipocket.com, an eBook software company (2005) and The Book Depository (2011).
9. Book reviews proved not to be so independent, but what authors, publishers and marketing companies shamelessly exploited in promotion.
10. Kindle, Amazon's ebook reader, proved a runaway success, inspiring many lookalikes and allowing more ebooks than hardbacks to be sold in July 2010.

11. Amazon has conducted a running battle with US States over sales tax, collecting from only five in 2011.

### **Amazon Marketplace**

Amazon also offered a third-party selling platform, Amazon marketplace, that allowed merchants to offer goods and services through an online shopping mall. Amazon charged a commission based on a formula involving the sale price of the item, a shipping credit, a referral fee of 6-25% of the sale price, a variable closing fee and a \$0.99 fixed closing fee. This has now been augmented or replaced by four comparable services:

**Sell on Amazon.** Merchants pay \$39.99 per month, plus a commission varying as above, generally between 15% and \$1.35 per item.

**Amazon Webstore.** More complete service. Merchants pay \$24 per month plus 2% of sales.

**Checkout by Amazon.** Similar to PayPal and Google Checkouts, but needs to be integrated into shopping cart.

**Fulfillment by Amazon.** Allows merchants to use Amazon's advanced fulfillment technology.

The services are being expanded from USA, Canada, UK and Germany to other countries. Details cannot be given because Amazon does not release information on these businesses, either revenues or usage levels.

### **Amazon Web Services**

Amazon leveraged the technology it developed in retail to offer an increasing number of web services: {10}

<i>Computer-Related</i>	<i>Monitoring</i>
Amazon Elastic Compute Cloud (EC2)	Amazon CloudWatch
Amazon Elastic MapReduce	<i>Networking</i>
Auto Scaling	Amazon Route 53
<i>Content Delivery</i>	Amazon Virtual Private Cloud (VPC)
Amazon CloudFront	Elastic Load Balancing
<i>Database</i>	<i>Payments &amp; Billing</i>
Amazon SimpleDB	Amazon Flexible Payments Service (FPS)
Amazon Relational Database Service (RDS)	Amazon DevPay
<i>Deployment &amp; Management</i>	<i>Storage</i>
AWS Elastic Beanstalk	Amazon Simple Storage Service (S3)
AWS CloudFormation	Amazon Elastic Block Storage (EBS)
<i>E-Commerce</i>	AWS Import/Export
Amazon Fulfillment Web Service (FWS)	<i>Support</i>
<i>Messaging</i>	AWS Premium Support Web
Amazon Simple Queue Service (SQS)	Traffic Alexa Web Information Service
Amazon Simple Notification Service (SNS)	Alexa Top Sites
Amazon Simple Email Service (SES)	<i>Workforce</i>
	Amazon Mechanical Turk

## SWOT Analysis

Amazon is a company in transition, moving from a innovative online retailer to a broad-based web services supplier. Because Amazon provides no breakdown in annual reports, it is not easy to discern the impact of this change, but in general:

### Strengths

1. A brand well respected for prices and customer convenience.
2. Online trading company that has come through the recession relatively well.
3. Accumulated technological expertise in retailing and customer management technology.

### Weaknesses

1. Amazon's net margin has been positive, but no better than many bricks and mortar retailers: 3.2% in 2007, 3.4 % in 2008, 3.7 % in 2009 and 3.4 % in 2010.
2. Amazon's self-publishing facilities will change the publishing industry business model, but the beneficiary may not be Amazon.

## Opportunities

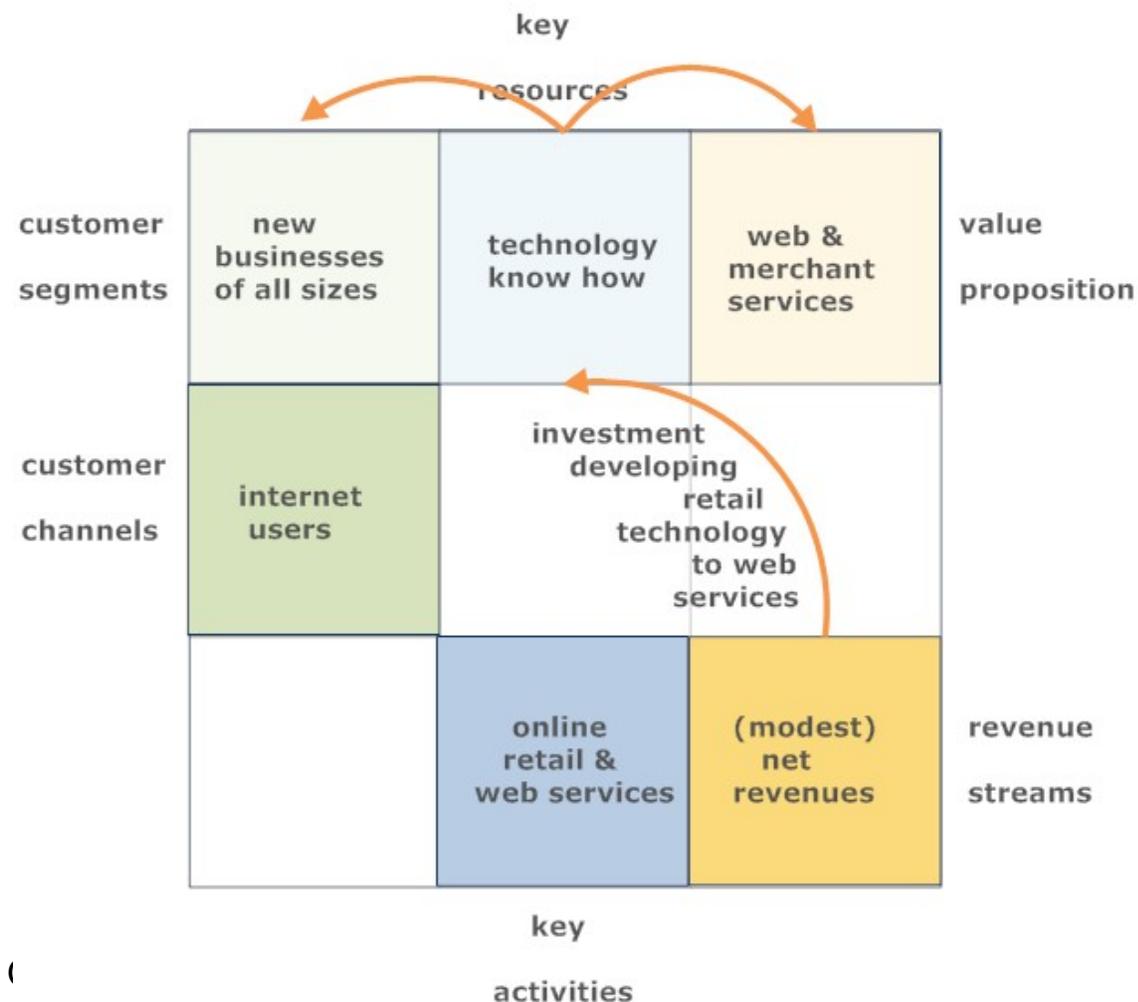
1. Amazon is poised to exploit the shift to cloud and other third-party services.
2. Amazon's Kindle, which has made ebooks respectable, has conquered only a small part of the publishing industry.

## Threats

1. Kindle: Amazon has improved the hardware and dropped prices, but many still regard the reader and ebooks as expensive. Cheaper readers will come from China and Korea, and ebook prices may be undercut with Google etc. agreements with publishers.
2. Amazon web services face competition from established providers: Dell, Microsoft and Google.
3. Merchant services are in competition with a host of Internet Payment Service Providers located across the world.

## Points to Note

1. An evolving business model.
2. Early focus on market share rather than profitability.
3. Leverage of IT retail skills into web services.



1. What aims did Amazon build its business around?
2. Was Amazon continuously successful? Describe some successes and failures.
3. What facilities does Amazon Marketplace offer? How successful is it?
4. Describe some Amazon web services and comment on their prospects.
5. Provide a simple SWOT analysis for Amazon.
6. What, in a nutshell, has made Amazon into a major player?

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## 9.10 ANDHRA PRADESH E-GOVERNANCE

The eGovernance system in Andhra Pradesh is an outstanding attempt to overcome the poverty, illiteracy and corruption endemic in India by using Internet technology to empower citizens in their everyday dealings with the State Government.

Andhra Pradesh has a multi-ethnic population of 76 million. Five languages are spoken, but only 8% have completed high school education, and 48% are illiterate. Some 70% earn their living from the land. The average annual household income is \$600, with 20% of the population below the poverty line of \$49 per year. Some 50% of homes have no electricity, and 69% do not have piped water.

Under the leadership of Nara Chandrababu Naidu, the Government of Andhra Pradesh employed McKinsey & Co. to produce a twenty-year plan for the State's agriculture, healthcare, education and industry development. Their *Vision 2020* advocated:

1. A radical change of mindset.
2. Simple, moral, accountable, responsive and transparent government.
3. A shift from 'institution-centered' to 'citizen-centered' objectives.
4. Provision of sustainable and affordable IT infrastructure.
5. Software development to centre on health, agriculture, education and business.
6. Recruiting recent ICT graduates, while training existing staff.
7. Implementing initiatives created in the late 1990s.

The benefits to State Government included:

1. Higher employee productivity.
2. Better use and re-use of information by Government departments.

3. Reduced maintenance and training costs by adopting common systems and processes.

The 'C-6 Model' envisaged:

1. Content. Develop existing software to desired ends.
2. Competencies. Train existing staff rather than recruit new.
3. Connectivity. Encourage private operators to lay fiber-optic cable throughout the state.
4. Cyberlaws. AP's Information Technology Act 2000 to cover data privacy, integrity, access control, non-repudiation and audit of electronic transactions.
5. Citizen Interface Options. Connect citizen service centers, Internet kiosks, home PCs, etc.
6. Capital. Financing by Public Private Partnership.

Each eSeva centre (*seva* means 'service' in Sanskrit) would run on:

Sun E250 servers, Compaq ML 530 database servers.

Oracle 9iAS, application server running on Sun Solaris.

Oracle 8i R3 database server running on Microsoft Windows 2000.

Firewall server.

Network monitoring system running on Cisco.

10 KVA UPS with one-hour backup and 5 KVA UPS for all servers in the datacenter  
10 client machines and 10 printers at each eSeva Center.

*Seva centres* (outsourced to private companies) would run 8 a.m. to 8 p.m., 7 days week over the Internet through [www.e sevaonline.com](http://www.e sevaonline.com). Centers would have 24-44 staff members. Citizens would not be charged for the service, except for utilities, which would be billed Rs.5 per transaction.

Estimated costs were as follows:

eSeva18 (Pilot) to November 2002: \$200,000

Site/Building Preparation: \$600,000

Hardware/Software/Networking: \$1million.

Implementation

Implementation was staggered, with various services appearing as need and circumstances permitted. The computer-aided *Administration of Registration Department* (CARD), for example, was one of the first eGovernance initiatives implemented, with 2.8 million land records dating from 1983 digitized and accessible from 387 offices around the state. The pilot study conducted in 1996 cost \$55,000, and the full project, launched in 1998, cost \$6 million. Six months after implementation, some 80% of all land registration transactions were carried out electronically. Land registration can now be completed in one hour instead of 7-15 days of the previous system. Title searches over the past 20 years can be done in 15 minutes rather than the 3 days. Certified copies of documents are obtainable in 30 minutes rather than the 3 days of the conventional system.

Old habits died hard, however. Some 90% rural and 80% urban land registrees attended a CARD office with a document writer or a middleman. The average bribe paid was an additional 7.95% (2.85% urban and 25.81% rural) of the actual fees due. Some 83% (60% urban and 94% rural) of citizens thought the registration officer was corrupt, and 85% (64% urban and 96% rural) thought the Land Department itself was corrupt.

Services for the *Hyderabad Metropolitan Water Supply & Sewage Board* were rolled out early, and quickly paid for themselves. Prior to April 2002, the average number of customers who paid was roughly 60,000 across all districts. From August 2001, thanks to TV-, print-, computer- and word-of-mouth-advertising, the number of paying customers rose to 100,000, an increase of 66%. Customer service improved, and complaint waiting times were generally halved.

The original *Andhra Pradesh State Electricity Board* was unbundled into several companies, and similar improvements achieved.

## Services Payable at Seva Centres

Electricity Water and sewerage Telephone bills Property tax CST returns A2 returns of APGST AA9 returns of APGST Examination fee IT returns of Salaried class Prepaid parking tickets Renewal of Trade licenses Change of vehicle owner address Transfer of vehicle ownership Issue of driving licenses Renewal of driving licenses (non-transport vehicles) Registration of new vehicles Quarterly tax payments of autos Quarterly tax payments of goods vehicles Lifetime tax payments of new vehicles Registration of birth Electricity Water and sewerage Telephone bills Property tax CST returns A2 returns of APGST AA9 returns of APGST Examination fee Change of vehicle owner address	Transfer of vehicle ownership Issue of driving licenses Renewal of driving licenses (non-transport vehicles) Registration of new vehicles Quarterly tax payments of autos Quarterly tax payments of goods vehicles Lifetime tax payments of new vehicles Registration of birth Registration of death Issue of birth certificates Issue of death certificates Internet-enabled electronic payments Download of forms and Government Orders Reservation of APSRTC bus tickets Reservation of water tanker Filing of passport applications Sale of non-judicial stamps Sale of trade license applications Sale of National Games Tickets Sale of entry tickets for WTA Sale of EAMCET applications Collection of telephone bill payments Sale of new AirTel Prepaid Phone cards Top up/recharge of AirTel Magic cards Sale of entry tickets for Tollywood Star cricket Sale of entry tickets for Cricket match (RWSO) Filing of Reliance CDMA Mobile Phone connections
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## Services Subsequently Payable at Seva Centres

Railway reservation Sale of movie tickets Payment of traffic-related offenses Payment of degree examination fees of O.U. Sale of I-CET applications Online reservation of Tirupati Temple Tickets Collection of bill payments of Idea Cellular Collection of bill payments of HUTCH Issue of encumbrance Certificate Market value assistance	General insurance Reservation of tourist accommodation Reservation of tourist bus tickets Call center Indian Airlines ticket reservation Life insurance premium payment Issue of caste certificates Sale of Indira Vikas Patra ATM services Collection of bill payments of Air Tel Renewal of drug licenses Issue of bus passes Collection of trade licenses of Labour department
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## Services Subsequently Payable at Seva Centres

Crop selection Farm practices Pest control	Diseases Tele-veterinary services Agricultural market prices Employment
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### Overall Successes

The system has been a well-publicised success. Notable features:

1. 7.02 million transactions have been accomplished since inception in August 2001 and Rs.19.6 billion collected.
2. 45 services became accessible, with each transaction designed to take no more than 90 seconds.
3. Time saved was the greatest boon: particularly by middle class citizens.

4. 78% of users were educated, and 97% were literate.
5. Utility payment was the most used: electricity 93%, telephone 77% and 72% for water bills.
6. Investment was attracted from Andhra Pradesh, Indian and overseas sources, including the World Bank and the UK's Department of International Development.
7. The PPP approach is working, with increased opportunities for private companies to employ and train staff.
8. A gradual improvement in the quality of life is being observed.

#### Government Initiatives

Government performance has been monitored, as has the behaviour of utility payers. Initiatives underway include:

1. Cluster analysis to target consumption, billing and metering irregularities.
2. Similar computer analysis to identify electricity loss and theft.
3. Software to regulate distribution losses and maintenance costs.
4. Software to monitor financial and operational information on individual electricity supplies.
5. A microwave communication-based network to control the power supply to one million customers.
6. Training of officials in the new objectives and priorities.

#### Continuing Challenges

Traditional attitudes changed slowly. Staff were initially reluctant to input information, and data is still being entered carelessly. The removal of the two greatest perks of a government job — the power of harassment and additional income that comes from bribes— was also resented, being met with non-compliance and sabotage. Attitudes changed when threatened layoffs did not occur, and employees were indeed rewarded for implementing eGovernance projects. Sympathetic training of older staff helped.

Customers unused to paying for utilities, or inured to official harassment, were slow to see advantages, but the Government set up grievance centers, and introduced self-assessment that explained matters more effectively.

Customers in rural areas still walk to government offices, preferring to have the functionary stamp and sign the certificates. Servicing through kiosks may therefore become mandatory.

Change is happening, but not as fast as eSeva planned and hoped for.

### Looking Ahead

The eSeva system is serving as a model for other Indian States, even as it undergoes developments itself. Fibre optic cables are being laid to all Andhra Pradesh villages, and in time the staffed kiosks will be replaced by PC users. Staff in low-level jobs will need to be redeployed, possibly trained in basic teaching and medical services.

### Questions

1. What problems did the government of Andhra Pradesh face? Explain how the McKinsey plan sought to overcome them.
2. How was the plan implemented, and with what success?
3. Give some idea of the services the eGovernance system supplies.
4. What are the current challenges and further plans?

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entry on most matters, but eGovernance only mentioned in passing.

#### Section Contents

## 9.11 APPLE IPOD

Apple was incorporated in 1976 and is headquartered in Cupertino, California. The company designs, manufactures, and markets smart personal devices, the Macintosh (Mac) family of personal computers, the iPod portable music player, the iPhone, and, the iPad, plus various accessories and peripherals including software, printers, storage devices, speakers, and headphones. Also important is its online music store iTunes. {18}

Apple reported a total revenue of \$65.2 billion in 2010, and a net income of \$14.0 billion. An 88% increase in iPhone and related product sales was reported, and the iPad, in its first year, brought in around \$5 billion in sales. {18}

Business Model: Design and Innovation

Apple is known for well-engineered, attractive products {7} {16} and continual innovation. {10} {11} Its early PCs were 'plug and play', and later machines retained the affection of graphics departments even though the ease of use advantages had largely disappeared. Apple pioneered the PDA market with the Newton in 1993, introduced the easy-to-use iMac in 1998, and the iBook in 1999. Most important still were the 2001 launch of iTunes, the opening of its own own stores, and the introduction of the iPod, which changed the way people listened to music. {1}

In 2002 came flat-panel LCDs for desktops, and in 2003 the release of the iLife package (with contained improved versions of iDVD, iMovie, iPhoto, and iTunes), and its fast Mac G5 PC. Apple continued its advances into digital lifestyle strategy by launching iTunes Music Store online in 2003. Through deals with the large recording companies —BMG, EMI, Sony Entertainment, Universal, and Warner — the iTunes was able to offer over 200,000 songs on its day of opening. {1}

## iPod

In the early 2000s, the music industry was facing (and losing) a battle with piracy. Apple's response was firstly, beginning in 2001, to open retail stores across the US to ensure proper marketing of its products. Secondly, in April 2003, Apple launched an Internet-based music selling initiative called iTunes, making deals across the recording industry and preventing piracy with added DRM (digital recording management) software. Thirdly, hard on the heels of iTunes, Apple launched its iPod, which alone could play iTunes downloads. Because iPod was an attractive product, and fitted seamlessly with iTunes, the iPod became a smash hit. The revenues of Apple grew from US\$ 5.3 billion in 2001 to US\$ 13.9 billion in 2005. The corresponding share price of Apple rose 305% from less than US\$ 10 to over US\$ 40. In 2005, some 23 million iPods were sold, and Apple stock had risen to US\$ 75 by December. {3}

The iPod success boosted the brand image of Apple, materially assisting PC sales, which rose from 2.5% in the early 2000s to 4% of the US market by the first half of 2005. In the full year of 2005, Apple sold 4.5 million PCs, one million of them to Windows users who had switched over to Mac. {3}

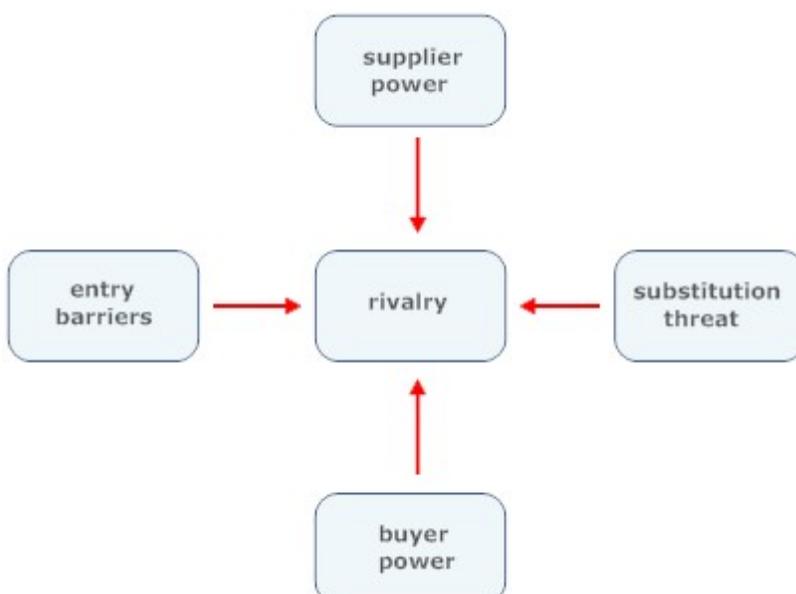
Subsequently, iPod sales have played a smaller part in Apple's fortunes as Mac and iPhone sales took over. iPods were the primary growth engine for 2006 and 2007, accounting for 58% of Apple's total revenue growth for both years, but in 2007 iPod sales generated only 14% of overall sales growth. As a percentage of total revenue in the financial year, iPod sales were as follows: 33% in 2005, 40% in 2006, 35% in 2007 and 28% in 2008. {6}

Apple slowed the decline in sales in a saturated market by introducing new models as a 'must have' gadget (with new styling, 'touch' operation, Wi-Fi connection and increased memory) {19}, usually at high prices that were slowly scaled back as yet newer models were introduced.

In iPod's first two years on sale, the average selling price (ASP) was around \$350. In 4Q 2004, prices were cut by \$100, and demand increased considerably. In Q2 2005, Apple priced its 'Min' iPod at \$199, and launched the shuffle. The ASP dropped from \$264 in Q1 to \$191 in Q2, and sales again increased. The ASP gradually fell over the next two years, but volume of units sold remained constant. In 2007, the unit sales growth was 31%, but revenue growth was only 8%. In 1Q 2008, Apple introduced its Touch model, creating a higher ASP (\$181) but an increase too in revenue growth: 10%. In fact, though iPod unit sales only grew 5% year on year for 1Q 2008, dollar sales increased by 17% due to a higher ASP. {6}

### Michael Porter's Five Forces Analysis

Porter's Five Forces is a business strategy framework developed by Michael E. Porter of the Harvard Business School in 1979. Since 'pure competition' in an ideal market would drive the profits of all participating companies down to zero, the model identifies five forces that prevent this undesirable result. {20}{21}



### Supplier Power

Apple did not fear supplier power because:

1. It had long-established relationships with chip and other

parts suppliers.

2. Considerable competition existed among parts suppliers.
3. iTunes secured partnership agreements with the large recording companies that met their piracy concerns. {13}

### **Barriers to Entry**

Other companies found it difficult to compete because:

1. Apple was secretive about plans, and the iPod appeared suddenly, with a considerable headstart over rivals (which Apple maintained with further products). {16}
2. iPod was new technology, which competitors had to acquire, either by in-house development (lengthy) or by acquisition (expensive).
3. Apple had secured the necessary patents.
4. Apple possessed a strong brand synonymous with quality.
5. Apple built on user familiarity with Blackberry and other devices, taking customer expectations to another level. {13}

### **Buyer Power**

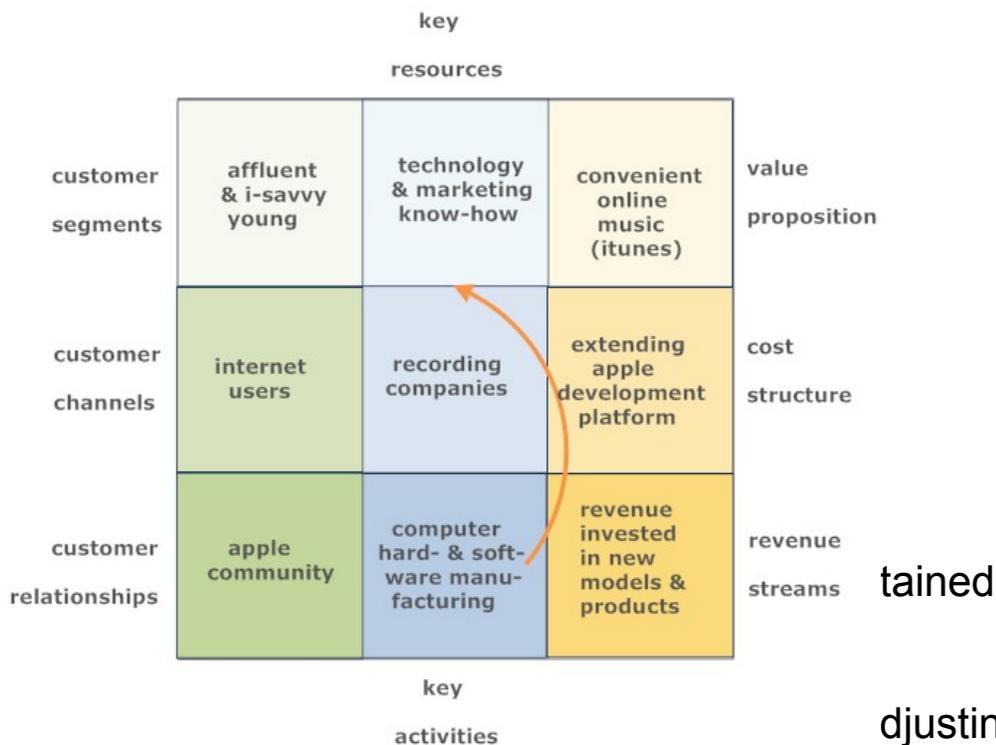
Buyers were comparatively weak as:

1. Most purchases were for individual use.
2. iTunes was a service not offered elsewhere.

### **Threat of Substitutes**

Cheaper iPod look-alikes appeared, but Apple headed off the threat of substitutes by:

1. A simple-to-use seamless integration of iTunes with iPod.
2. Branding iPod as the product setting standards. {16}
3. Marketing the iPod as one of a closed ecosystem of products built round Apple technology. {12}



2. Controlling its (own) distribution centres.
3. Management vision and consistency with Steve Jobs as CEO from 1997. {15}
4. Marketing the Apple brand as a 'cool' etc. culture. {12}

In 2007, however, Amazon introduced music downloads without DRM, and Apple had to follow suit.

#### Points to Note

Apple has enjoyed mixed fortunes, {3} but its revival with the iPod is part of a larger strategy. With the return of Steve Jobs, it: {2}

1. Listened to marketers and correctly sensed a move towards socially-determined applications, away from PCs that did everything to devices that did a few things superlatively well.
2. Focused on a few developments, ruthlessly weeding out the rest.
3. Built up the brand name with Apple communities {14}, consistency {9}, logo {10} and good design. {16}
4. Developed the iPod in conjunction with iTunes: the simple, seamless operation of the two together made both popular (as Amazon's Kindle has with wireless-delivered ebooks.)
5. Offered a far greater choice of music than was available from competitor Microsoft's Zune store. {5}

6. Boosted sales in a declining market by introducing more expensive models and judiciously reducing prices of earlier models.
7. Used R&D investment more efficiently: as a percent of sales, Apple's investment is only 4.1% compared to Google's 12% and Microsoft's 15.4%. {13}

#### Questions

1. Explain why the Apple iPod was such a successful product.
2. How did Apple manage the introduction of newer models and products?
3. What is Michael Porter's Five Forces Analysis? Apply it to Apple.
4. Identify the successful strands of Apple's business strategy.

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Section Contents

## 9.12 AURORA HEALTH CARE

Aurora Health Care is a not-for-profit health-care provider, with an extensive network of doctors, physicians and hospitals serving Wisconsin and northern Illinois.

Faced with intense competition, Wisconsin's largest employer and healthcare provider saw the need for reorganization, specifically to further integrate its services about an efficient patient-centered model in which knowledge management played an important role.

This analysis is less a case study than an example of business intelligence in action, demonstrating the dependence of large companies today on knowledge management and Internet technologies.

### Background

Aurora Health care was created in 1984, aiming to provide:

1. People with the care they need in settings that were convenient and comfortable.
2. Families with services and support they needed to lead healthier lives.
3. Physicians with the latest technology and treatment for their patients.
4. Talented staff the opportunity to fulfill their professional callings.
5. Employers with cost-effective health care options for their employees.
6. Citizens with healthy communities.

Twenty or so years later, Aurora Health Care was serving a large geographic area with sites in more than 90 communities throughout eastern Wisconsin — including 13 hospitals, more than 100 clinics and over 130 community pharmacies. Over 3,400 physicians were affiliated with Aurora Health Care, including some 700 who comprised the Aurora Medical

Group. Some \$25 million was being provided in community outreach and free preventive services.

## Business and Knowledge Management Strategies

Initial assessment can be summarized with a SWOT analysis:

### **Strengths**

A: Leadership: Aurora Health Care was noted for:

1. Multidisciplinary councils providing leadership and input on strategy, policy, clinical operations.
2. System-wide clinical leadership through collaboration with other senior leadership teams.
3. Rapid adoption of best practices based on quality, patient loyalty, employee engagement, and financial performance.

B: Growing financial assets: Aurora Health Care revenue 2007-8:

1. Increased in total net service from \$3.2 billion to \$3.5 billion.
2. Outpatient hospital and clinic visits rose by 25.5%.

C: Extensive human assets: Aurora Health Care:

1. Aurora was Wisconsin's largest employer, with 28,000 employees.
2. Employed a mix of highly-mobile skilled, unskilled, and professional employees.
3. Inculcated a 'responsible freedom' concept to maximize problem-solving, learning and respect for cultural diversity.
4. Maintained qualified and motivated employees through annual assessments and agreed goal achievements.

D: Continual training: Aurora Health Care:

1. Was committed to continual staff training.
2. Recommended an induction course to new employees.
3. Required newly-hired leaders to attend the 'Aurora Quest' program.
4. Supplied very extensive courses in many disciplines.

E. Effective IT infrastructure: Aurora Information Services:

1. Worked closely with the business groups.
2. Supported regional and departmental projects.
3. Provided key infrastructure and operational support: system support, networking, help desk, user access and security, and desktop support.
4. Supplied key information for business and staff.

In detail, these included:

1. Aurora iConnect: the internal intranet linking all caregivers to information.
2. Employee Connection: giving individuals access to information on compensation, benefits and emergency notification.
3. Learning Connection: monitoring mandatory and elective education and training programs.
4. My Aurora: allowing electronic communication between patients and caregivers.
5. Web Budgeting: monitoring budget trends and variances.
6. Web Management Reporting: supplying financial applications
7. Brass Ring: managing employment postings, applications and the applicant reviews.
8. CERN: accessing patient medical records, with approved applications, security clearance levels and defined processes.
9. IREQ: a program that manages supply and services expenses.
10. AFE: software managing capital item purchases.
11. Data Warehouse: software combining different data sources through a repository.
12. Biorepository: managing all biological products and related clinical information for clinical research and genetic knowledge enhancement.

F. Consistent Patient Care: Aurora Health Care:

1. Followed best practices in health care consistently throughout the region.
2. Integrated care practices for patients.
3. Supported standardized practices that clearly benefit

patients.

4. Improved services without undue competition for patients and revenue.

5. Worked with patients to provide care when, where, and how wanted.

## **Weaknesses**

A. Overcentralized: Aurora Health Care was sometimes:

1. Unable to respond quickly to local needs.

B. Varied Business Practices. Aurora Health Care sometimes found:

1. Mission statements were less understood in outlying areas.

2. Application of best practices could be fragmented.

C. System Interface: Geographical spread Aurora Health Care sometimes caused:

1. Misalignment between divisional functions.

2. Poor integration of patient needs when these involved physicians, nurses, behavioral health therapists, pharmacists, social workers and other experts.

3. Data entry errors in codification, knowledge oversight, selective encoding, and knowledge purging.

## **Opportunities**

A. Innovation: Aurora's strategic positioning as a systematic innovator provides increased opportunities to

1. Encourage staff to develop new and better practices.

2. Recognize opportunities as they arise.

3. Establish innovation tools for idea generation based on a deep understanding of established strategy and goals.

4. Implement innovations in a seamless manner.

5. Anticipate patient needs.

6. Review best practices continuously.

B. Knowledge Access: Opportunities existed to improve:

1. Review of patient, financial and employee data.

2. Leadership's role in active data review.

3. Data collection, analysis, review, communication, and action.

C. Customer Service: Opportunities existed to further improve:

1. Individualized and personalized care developed from the patient's point of view and designed around what patients need to heal.

D. Knowledge Reward System: Opportunities for improvements exist:

1. For front line staff, who felt excluded from the knowledge management reward measures.

### **Threats**

A. Competition from other care-providers was intense, and threatened:

1. Decreased market share.

B. Knowledge Loss caused by failure to:

1. Rapidly adopt the 'One Aurora' solution.

2. Get new employees to use the provided information, tools, and resources.

Solutions: Knowledge Management Culture

The recommendations based on this assessment were:

Medical care is knowledge-intensive, and any management system must ensure that knowledge is shared between individuals, teams members, organizations, and outside bodies. By knowledge is meant not only clinical studies but data on staff performance and rewards, quality of treatment, outcome reviews and financial implications.

Evaluation, reward and further training were to be founded on accountability, teamwork and respect. Specifically that:

### **Staff:**

1. Should be accountable to each other, patients, and communities.

3. Work with each other, patients and families.

4. Welcome diversity of ideas and opinions.
5. Respect their patients' wishes.

**Leaders:**

1. Instill confidence, creativity and passion in others.
2. Keep promises and treat all fairly.
3. Accentuate abilities and not other's weaknesses.
4. Provide opportunities for growth, special projects, etc.
5. State expectations clearly.
6. Define objectives and time frames.
7. Explain necessities when outlining responsibilities.
8. Encourage staff to go beyond their expected potential.
9. Provide guidance in times of uncertainty.
10. Give consistent, fair and timely feedback.
11. Listen to all sides and decide impartially.
12. Separate poor behaviour needing correction from the staff member responsible
13. Take a genuine interest in staff.

These were to be assessed by a battery of methods, including:

1. Six Sigma: Six Sigma is a disciplined and rigorous analytical approach to quality improvement.
2. Flawless Implementation model that draws shared lessons and best practices.
3. Tools for Innovation: a model with four phases: plan, brief, implement and debrief.
4. Trends and Convergences: a tool that helps staff recognize and take advantage of trend convergences.
5. Idea Generation: a tool that clusters related ideas, allowing larger opportunities to emerge.
6. Idea Elaboration: a tool that more clearly assesses the scope, risks and benefits of an idea before implementation.
7. Statistical Process Control and other time-sequence modelling and business evaluation tools.
8. Lean: a tool to eliminate waste and ensure all activities create value to the customer.

Implementation

Aurora Health Care's 2007 Strategic Plan focused on four areas of improvement.

### **Advance Care Management**

Aurora adopted:

1. Premier clinical performance measures, a database of the top performing hospitals in the country.
2. Tracking by a 'Care Management Impact Score' system.
3. A single accurate medication list to all Aurora care providers, improving patient safety and simplifying care.

### **Adoption of 'One Aurora' Outlook**

Specifically:

1. More integrated service: reducing differing prioritization by doctors and confusion for patients.
2. Streamline patient care through integrated registration, billing and length of stay for patients.
3. Provide more clinical innovation or advanced techniques.

### **Further development of the 'Patient Point of View'**

To be achieved by:

1. Adopting 'Planetree' (a philosophy of patient-centered care in a healing environment).
2. Providing care to a defined patient group in ways that more meet their needs.
3. Integrating retail into care delivery locations.
4. Increasing the system-wide 'Employee Engagement Index' by 5%.

### **Continued strengthening of Aurora's Financial Performance**

Specifically:

1. Increasing the operating margin by 0.1% in 2009.

Success Indicators

Three success indicators were singled out as most important:

1. Patient loyalty: not only retention of Aurora as the primary health care deliverer, but also referrals, increased use of other Aurora services, and donations.
2. Patient outcomes: monitored in some 27 care management initiatives, safety schemes and the quality improvement efforts.
3. Aurora Health Care profitability.

#### Outcome

The Aurora strategy was long-term, and the 2009 Ginter and Root study {2} does not extend to outcomes. Nonetheless, the Aurora Health Care site {1} provides an impressive list of statistics: awards won, extra services provided, increased net services revenues, and medical expense savings for communities.

#### **Points to Note**

1. Importance of business intelligence systems.
2. Focus on the customer.

#### Questions

1. What was Aurora Health Care set up to do, and what challenges was it facing by the twenty-first century?
2. Use a SWOT analysis to explain the workings of Aurora Health Care.
3. What areas did Aurora Health Care's 2007 Strategic Plan focus on?
4. What elements of Osterwalder and Pigneur's business model seem relevant, and why?

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Section Contents

### 9.13 CISCO SYSTEMS, INC.

Cisco Systems, Inc. is an American-based, multinational corporation that designs and sells consumer electronics, networking, voice, and communications technology and services. Cisco is headquartered in San Jose, California, employs more than 65,000 people, and had an annual revenue of US\$40 billion in 2010.

#### History

Cisco Systems was founded in 1984 by Len Bosack and Sandy Lerner, a married couple employed as computer operations staff members at Stanford University, later to be joined by Richard Troiano. Lerner moved to work full-time for Cisco in 1987 but his talents did not mesh with corporation life, and he was fired. Bosack then quit, receiving \$200 million. Much of this money was given to charities, and the couple later divorced. Cisco topped the Forbes list of the 20 best-performing IPOs of the 1990s, most spectacularly from the February 1998 startup to the height of the 2000 boom, when shares had appreciated by 60,614%. {2} Cisco's first product was a multiple-protocol router, whose program had been devised some years before by William Yeager, another Stanford employee who later joined Sun Microsystems.

Cisco was not the first company to sell routers, but it was the first to be commercially successful with types supporting multiple network protocols. When those protocols declined in importance, Cisco moved into the IP router market, which it now dominates. From the first, Cisco adopted an aggressive acquisition policy to bring talent and competing products into the company, often before those products were proven in the market place. In 1995-6, the company completed 11 acquisitions, several of them the largest in the industry to date. In 1999, Cisco acquired acquired Cerent Corporation, a start-up company located in Petaluma, California, for US\$7 billion, an acquisition only later exceeded by that Scientific-

Atlanta. The acquisitions paid off: several of the acquired companies have grown into \$1bn plus businesses, including LAN switching, Enterprise Voice over Internet Protocol (VOIP), and home networking company Linksys.

Managers enjoyed considerable freedom to acquire companies, but were judged on those acquisitions. More than in most US companies, Cisco staff were paid by results, and performance carefully monitored. Even in its early days (1995-7), Cisco compared favourably with competitors:

Company/Measure	Cisco	Bay/Nortel	3 Com
Annual Revenues/Employee	\$647,000	\$445,000	\$227,000
Reinvestment for Customer Satisfaction	21.2%	29.9%	23.8%
Revenue Growth	69.8%	69.8%	50.4%

Research and development investment also grew rapidly:

Year	1995	1996	1997
R & D Investment	\$399m	\$698m	\$955m
% of Revenues	9.7%	10.8%	11.8%

Research and development investment also grew rapidly:

In late March 2000, at the height of the dotcom boom, Cisco was the most valuable company in the world, with a market capitalization of more than US\$500 billion. That figure had shrunk by July 2009 to US\$108, but Cisco remains a major player in the telecommunications field.

## Threats

Problems that Cisco early identified and overcame set the company on a successful path after the dotcom downturn. The situation in 1998 was: {1}

## **New opportunities in the networking industry**

Solutions:

1. Acquire market dominance by aggressively acquiring talent and networking product developers: Cisco grew at 70% year on year.
2. Decentralize, allowing regional and divisional managers considerable freedom, but judging (and paying) them by results.

### **Aggressive Competition**

Solutions:

1. Continued investment in R & D. Cisco's annual IT spending grew by 68% in the 1996-8 period (compared to 40% in all other spending for the period.)

2. Develop various in-house systems.

- a. Cisco's intranet was used to electronically share common designs among various design centers. The system also allowed engineers to simulate products before committing to the design, thus i. improving design margins, ii. reducing the number of iterations required for new product design, iii. ensuring each sub-assembly was produced to the requisite level of quality, and iv. making data relevant to real-time situations.

- b. Decrease time to market: 20% productivity improvement. 45% of the products shipped were not handled by Cisco. *New Product* introduction time accelerated by 3 months due to the collaborative design tools used by Cisco and its suppliers, saving Cisco \$100 million annually. Lead times for build-to-order, custom-configured products reduced from 6-8 weeks to 1-3 weeks. *Engineering Change Notice* reduced times from almost 3 weeks to 10 days by collaboration tools ( *New Product Introduction*).

- c. Eliminating purchase orders, and the extra test. Engineers decreased manufacturing costs, and lowered annual operating costs by \$75 million.

3. Staff training. Cisco provided Stanford engineering courses online, promoted liaison with suppliers for product development, and facilitated company-wide meetings and broadcasts.

## Poor Levels of Customer Satisfaction

Solutions:

1. Track satisfaction with customer relationship management and other programs, rewarding sales staff accordingly.

2. Employ ecommerce extensively: website sales in 1997 were \$5 billion

a. Engage proactively with customers: 81% of customer enquiries were being handled online by December 1998, improving customer satisfaction by 25% and saving the company \$365 million/year. (Less than 10% of software is shipped on CDs or disks, moreover, the remainder being downloaded from the site.)

b. Eliminate 500 engineers through online self-help tools like *Bug Navigator* and *Troubleshooting Engine*. (In *Bug Navigator*, Cisco revealed all its bugs to customers, enabling them to take measures to identify, prevent, and repair them. CiscoWorks allowed customers to walk through a problem detection routine, and home in on the likely cause of a problem.)

c. Eliminate paper-based documentation, saving some \$40 million/year. A *Pricing and Configuration* suite program let over 10,000 authorized representatives of direct customers and partners configure and price Cisco products online. Users configured, priced, routed, and submitted electronic orders directly to Cisco. *Order Placement* let customers 'drop' their selections into a 'shopping cart' in Cisco's virtual *Marketplace*. Order status let users check on an order using a PO or sales order number, even monitoring progress through Federal Express's tracking services. *Service Order Agent* let users find information about specific service orders, including case and contact numbers, process date, ship dates, and carrier and tracking numbers. *Invoice Agent* provided controllers, finance officers, and accounts payable staff with rapid, easy, online access to track their invoices with Cisco.

d. Supply white paper and document support. Over 500 Cisco marketing documents were published per month on the web.

e. Offer training seminars. Seminar registration alone yielded close to \$100,000 in savings annually by avoiding 4000 calls per month at \$2 - 3/call. In a typical month, Cisco saw 10,000 products registered, 24,000 seminar registrations, 2,500 press releases, 20,000 partner and customer event registrations, and 25,000 training classes searched.

f. Adopt supply chain management. Cisco created a 'single enterprise' and enabled key suppliers to manage and operate major portions of its supply chain in 3 steps: extended ERP systems to suppliers, automated routing data transfer using EDI transactions, and cross-organizational processing that eliminated repetitive procedures.

### **Threatened Shareholder Value**

Solution:

1. Focus on the company's core competence of product design and innovation, building products to order whenever possible. Successful: see above.

Points to Note

1. Decentralized management
2. Staff remuneration by results
3. Early adoption of ebusiness technologies
4. Aggressive acquisition and merger policy

Questions

1. How did Cisco make a success of routers when other companies failed?
2. What threats was Cisco facing in the late 90s, and what measures were adopted?
3. Where did Cisco find the money to implement its innovative measures?
4. Apply the Osterwalder and Pigneur business model to Cisco Systems, Inc. What elements stand out as important?
5. Describe the Cisco management style. What were its pros and cons?

6. Study the Cisco website. How does it equate with the Cisco story?

	customer segments	key resources	value proposition	
	internet & telecomm companies	know how in-house & obtained in acquisitions	improved telecomm & internet communications	
customer channels	internet & customer-friendly applications	research establishments	radical efficiency improvements in all areas through new technologies	cost structure
	interaction & co-development with customers	router etc. development, sale & consultancy	sales & stock offerings	
	customer relationships	key activities	revenue streams	

### Useful Links

Cisco Systems

Cisco Acquisitions (company listing)

Wikipedia article

Yahoo finance

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## Section Contents

## 9.14 COMMERCE BANCORP

Commerce Bank, also known as Commerce Bancorp, and more familiarly as 'America's Most Convenient Bank', was a leading retailer of financial services with over 450 convenient stores in New Jersey, New York, Connecticut, Pennsylvania, Delaware, Washington, DC, Virginia, Maryland and Florida. Headquartered in Cherry Hill, NJ, Commerce Bancorp (NYSE: CBH) had \$50 billion in assets.

In October 2007, the TD Bank Financial Group acquired Commerce Bank in a 75% stock and 25% cash transaction valued at US\$8.5 billion. Under the agreement, Commerce shareholders received 0.4142 shares of a TD common share and US\$10.50 in cash in exchange for each common share of Commerce Bancorp Inc. The consideration was negotiated on the basis of US\$42.00 per share value for Commerce Bank.

{1}

### Background

US retail banking is a mature and highly competitive business where improvements in rate differentials or services are quickly matched. Many mid-tier banks were acquired or squeezed out in the 1980s and 1990s, leaving local communities with a restricted choice. To cover acquisition costs, the larger banks have generally displeased their retail customers by:

1. Targeting richer customers with bundled investment offerings.
2. Offering more basic and standardized service to other customers.
2. Replaced personal services by cheaper ATM and Internet services.

By 2001, surveys indicated that only 53% of retail customers were satisfied with their bank. Disaffected customers shopped

around, and the larger banks lost a third of customers each year.

#### America's Convenience Bank

Commerce Bancorp set out to counter this tendency by focusing on the customer. The bank: {1}

1. Thought like a retailer and designed banks with roaming tellers and children's play areas.
2. Built a 'customer first' approach into everything, from selection of front-line employees to staff training.
4. Opened at hours convenient to customers: weekends and evenings.
5. Offered the usual services but made them responsive: fees were reimbursed for out of network ATMs, for example.
6. Stayed close to parity on the price value vector (see below) but didn't attempt to match their lowest-priced rivals.

#### Value Vectors

When able to do so, customers opt for better value, but that better value can be price, performance, or relational value. {1}

Price value covers:

1. Best price for a standard product.
2. Acceptable quality.

Performance value covers:

1. Better functionality.
2. Innovative features.
3. Improved quality.
4. Superior design.

Relational value covers:

1. Personalized treatment.
2. Products tailored to the customer's needs.
3. Integrated solutions.
4. All-round service excellence.

Typically, as a product or service matures, its value vectors change in their importance.



## Outcomes

Until taken over by the TD Financial Group, Commerce Bancorp:

1. Expanded rapidly, from 150 branches to 450 over the 1999-2008 period.
2. Achieved an average annual revenue growth of 28% and annual asset growth of 36% over the 1999-2008 period.
3. Grew deposits from \$5.6 billion to \$27.7 billion over the 1999-2004 period.
4. Increased loans from \$3 billion to \$9.4 billion over the 1999-2004 period.
5. Grew deposits by nearly 40% in 2001, against a nationwide average of 5%.
6. Cut its customer defection rate to half that of its larger rivals.

## Questions

1. What has the banking sector generally done to cover acquisition costs? How was Commerce Bancorp different?
2. What are value vectors, and how do they generally evolve with market sector maturity?

3. Given that Commerce Bancorp was eventually taken over by another bank, in what sense was its business strategy successful?
4. What elements of Osterwalder and Pigneur's business model throw light on Commerce Bancorp's strategies?

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## 9.15 CRAIGSLIST

Craigslist is a network of online communities that offer online classified advertisements. Sections are devoted to jobs, housing, personals, for sale, services, community, gigs, résumés, and discussion forums.

The service was founded by Craig Newmark in 1995 as an email update for friends on local events in the San Francisco Bay Area. A year later it became a web-based service, and started covering other classified categories. In August 2004, eBay bought a 25% stake in the company from an original partner. Expansion to other US cities began in 2000, and today the classified listings serve most countries in the world. Spanish, French, Italian, German, and Portuguese language support was added in March 2008. {21}

Illegal and inappropriate postings are identified by a customer flagging system, and the *Flag Help Forum* is an unmoderated volunteer community, not affiliated to, and not staffed by, the company. The site has always posted help connections for lesbians and gay men, but its advertisements for erotic and adult services have been gradually phased out.

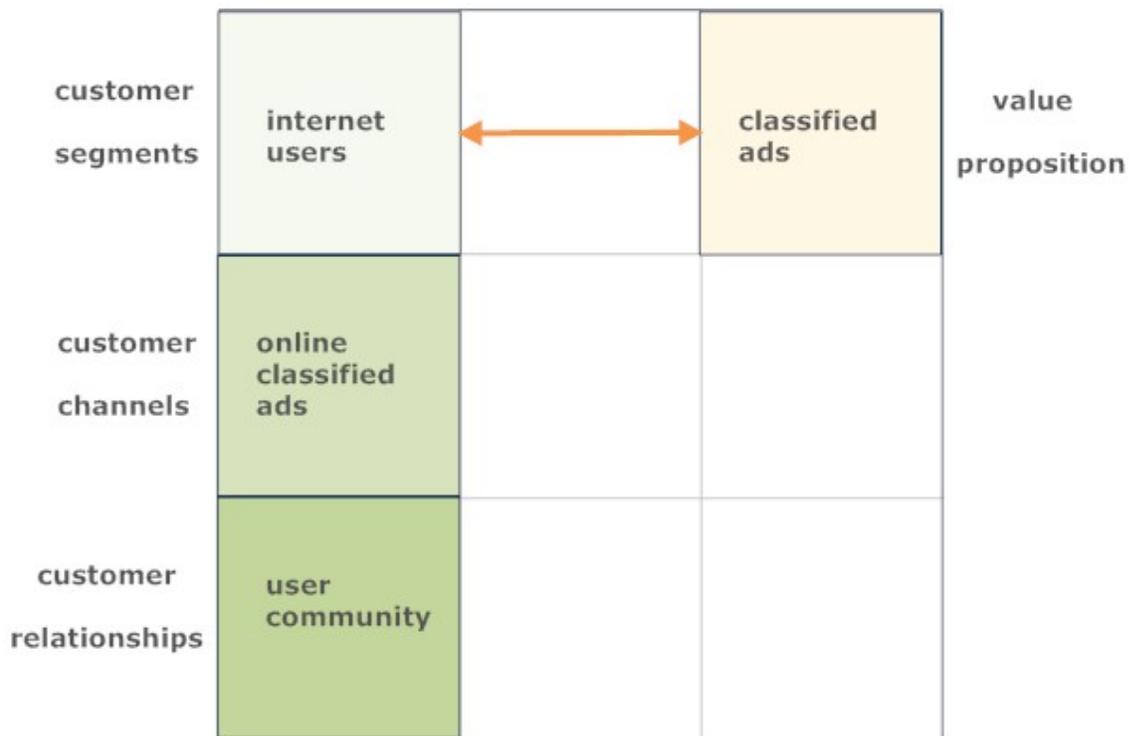
The site is immensely popular. Alexa figures for August 1<sup>st</sup> 2011 were: Alexa traffic rank 34, rank in USA 10<sup>th</sup> (behind Tencent and Twitter respectively), sites linking in: 10,622. Over 80 million new classified advertisements (over 20 billion pages) are viewed each month. {21}

Craigslist is a private company, but, as far as can be ascertained, has some 30 employees in the USA, three main owners (Craig Newmark, eBay and original partners), and pulls in about US\$ 100 million annually. {20}

### Business Model

The model is an extremely simple one. Craigslist charges for ads in selected cities: \$75 per ad for paid jobs the San Francisco Bay Area; \$25 per ad for paid jobs in New York

City, Los Angeles, San Diego, Boston, Seattle, Washington DC, Chicago, Philadelphia, Orange County (California) and Portland, Oregon, and \$10 per ad for apartment listings in New York City. Similar ads in other areas, and ads in other categories are free. No charge is made for a successful sale or contact.



## SWOT Analysis

### Strengths

1. A well-known and trusted brand.
2. Large revenues from a simple business model that clearly works.
3. Small, tightly-integrated company.

### Weaknesses

1. Not compatible with modern platforms (smart phones, iPads and other tablets.)
2. Usefulness declining with increasing spam.
3. Site is now cluttered and not easy to navigate.
4. Help forum is idiosyncratic and unhelpful.

### Opportunities

1. Craigslist could more effectively monetize their services, probably increasing revenue by an order of magnitude.

## Threats

1. Craigslist could be made liable for content. {15}
2. Google's many competitively-priced services (e.g. Google Base).
3. Integrated Apple services (iPod, iPhone, iPad, and their applications).
4. Look-alikes that improve on Craigslist's current weaknesses.

## Points to Note

1. A simple business model that has seen no need to evolve.
2. Successful models can be simple.
3. Craig Newmark apparently wants to remain in control, i.e. still 'own the company', rather than the 'company own him'. {17}
4. A 90s look to web pages: plainness equates with honesty.

## Questions

1. What is Craigslist, and why has it been successful?
2. Apply a SWOT analysis to Craigslist.
3. Do Craigslist sites need a facelift? What would you suggest?

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Section Contents

## 9.16 DELL, INC.

Dell's is a legendary business success story. A student who builds computers in his college dorm in 1984, invests \$300,000 supplied by his family to start selling his own line of computers direct to consumers, creating a company grossing over \$73 million in its first year of trading. Expansion to Ireland and elsewhere brings a market capitalization to \$80 million by 1988, with Fortune magazine including Dell Computer Corporation in its 1992 list of the world's 500 largest companies. By 2011, Michael Dell is the 44<sup>th</sup> richest person in the world, with a net worth of US\$14.6 billion.

Dell, Inc. today is an American multinational information technology corporation based in Texas that develops, sells and supports computers and related products and services. By organic growth and acquisitions ( notably Alienware in 2006 and Perot Systems in 2009) Dell has become one of the world's largest technological corporations, employing over 103,300 people. Dell sells personal computers, servers, data storage devices, network switches, software, computer peripherals, HDTVs, cameras, printers, MP3 players and electronics built by other manufacturers. From the first, the company was forward-looking, one of the first to sell computers over the Internet and invest heavily in supply chain management. {4} and IT technology. {1} {2}

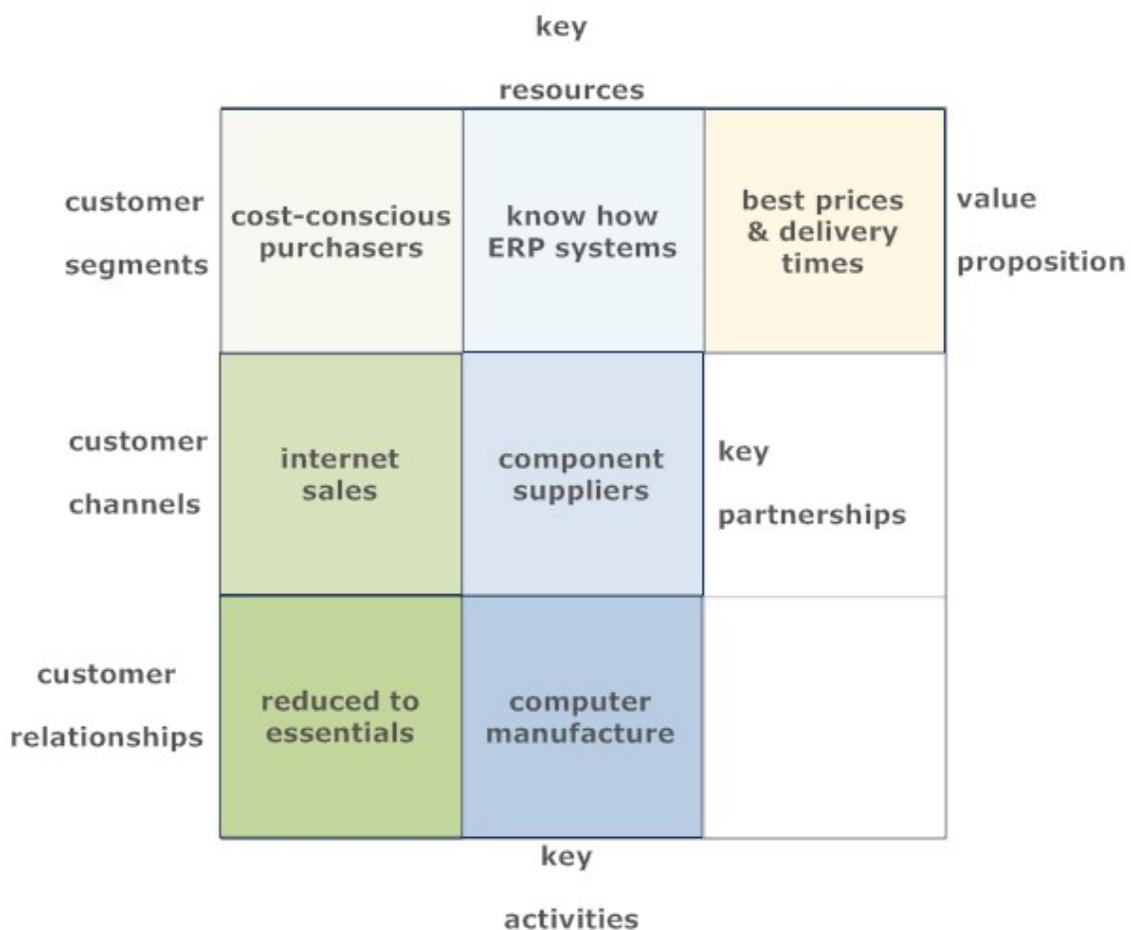
2005 to 2009

Dell was the worldwide market share leader by 2005, its mastery of logistics enabling the company to ship PCs, laptops and servers at delivery speeds and prices no rival could match. So successful was this business model that the company seemed unaware of changes in the market. As the computer market matured, relational value became more important, particularly as Dell customers could face overseas call centre support and an Internet ordering system that left them uncertain of what they'd purchased. The best price

became less important than the personalized service, as HP and Apple began to realize. Dell lost its market share leadership to HP in 2006, and its share of the US personal computer market fell from 31.4% to 26.3% between 2Q 2008 and 2Q 2009. {3}

2009 to Present

Michael Dell relinquished the helm in 2004, returned in 2007, but improvements were not immediate. Dell widened its marketing base, selling computers through Wal-mart in 2008. {5} Nonetheless, year on year, 2009 sales were down in most sectors: to large companies 23%, to SMEs 19%, and to government 7%. Innovation and efficiency were still Dell's prime concern: the CEO spoke of Windows 7 acceptance, and a commitment to a 4 billion reduction in operating expenses by 2011.



It was only a year later that there came a change, from an inside-out model to a more outside-in business model. Dell used Facebook, LinkedIn, Twitter {8} and its own Community to listen to customers and solve problems before they became critical. {9} The website featured a newsroom, case studies,

financial analyst's reports, webcasts, statements on corporate responsibilities and details on its directors.

Whether this change is more than skin-deep only results will tell, as more immediately important were: {7}

1. The \$3.9 billion purchase of Perot Systems, which made Dell the leading provider of IT services for health care.
2. Its investment in cloud computing technologies: Dell now counts 21 of the world's 25 biggest web-driven firms as its clients.

The company outlined its 2010 approach. It would: {7}

1. Fully leveraged enthusiasm for Microsoft Windows 7.
2. Continue maximizing overseas manufacturing and shipping efficiencies.
3. Populate the lower end of the catalog with cost-effective pre-configured products and bundles.
4. Develop new high-value client-focused software, peripherals and services.

Dell looked at new market sectors in Q4 2010, shifting from cost-cutting to 'high value' clients. In the financial downturn, Dell remains optimistic, however, expecting year on year improvements in 2011 revenues of 14-19% and non-GAAP 2011 operating income improvements of 18 to 23 percent. {7}

#### Points to Note

1. Innovative marketing, selling direct to customers over the Internet.
2. Investment in supply chain management (probably more a private industrial network) increases efficiencies.
3. Increasing focus on technology, speedy delivery and lowest prices to become market leader.
4. Creation of a more friendly, 'customer first' website to meet changing market expectations.

## Questions

1. Explain the early success of Dell, Inc.
2. How did HP and Apple computers erode Dell's market?
3. What new customer channels did Dell try after 2005, and with what success?
4. Imagine you were a potential computer purchaser visiting the Dell ordering site. What would you encourage you to make a purchase, and what would not?

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## 9.17 EARLY DOT COM FAILURES

The early dotcom years were hard for everyone, and it was some time before viable business models emerged.

Many ecommerce sites were amateur affairs, costing little money and effort to set up, and losing little when they were quietly dropped. But many of the larger sites, receiving outside funding and professional management, are still in business, though often under new owners.

Flouting sound business rules was the overall reason why the larger Internet companies failed. In the 'new economy', mundane matters like cash flow and long-term profitability were set aside for first-mover advantage, market position and brand identity. Here are a few stories from Sean Carton's *The Dot.Bomb Survival Guide: Surviving and Thriving in the Dot.Com Implosion*, though different conclusions are sometimes reached.

### AllAdvantage.Com

AllAdvantage paid surfers to look at adverts served up by a specially-installed browser bar, and gave them an extra 10 cents/hour for each new member they introduced. Income was to be generated by advertising revenues and by selling the information collected. A modest 30,000 members in the first quarter was the goal on launch in March 1999, and Softbank Capital Partners put up venture capital of \$135 million.

Like many pyramid selling schemes, the service was initially a great success. Membership soared to 2 million in the first 8 months — landing AllAdvantage with a monthly bill of \$40 million. Unfortunately, advertising revenues never met that figure, indeed amounted to only \$10 million at the end of the first quarter. The company considered an IPO in February 2000, but the dotcom bubble had burst. The IPO was pulled, the payments cut, and a sweepstakes model introduced. But

by December the company had cut 300 from its workforce, seen its membership fall to 547,000, and in February 2001 was forced to close.

Was AllAdvantage a victim of timing and its own success? To some extent. Few foresaw the Spring 2000 crash, and the sweepstakes model was viable, though the switch came far too late. But the real problem was the advertising. Adverts work when targeted properly: at the right people in the right way. That was something AllAdvantage couldn't offer, and advertisers understandably held back.

### **Implications:**

1. Be commercially viable, and don't count on cash injections or share flotations.
2. Remain in control, of both income and expenditures.
3. Test your assumptions carefully.
4. Research key aspects, taking expert advice where necessary.

Eve.Com

Backed by Idealab! (see below), and launched in June 1999, Eve.com was an ecommerce site offering 50 exclusive brands of cosmetics, backed with makeup advice and fashion information. The selection was later expanded to 120 brands, but Eve.Com didn't come good, and was closed in October 2000 with the loss of 164 jobs. What went wrong?

The first problem was the size. Sales of \$1 million/month in a \$30 billion/year market could not attract funding in the difficult 2000 climate. The competition was fierce, with over 100 online cosmetic retailers, including some big names — Glass.com (Estée Lauder) and Reflect.com (LVMH, Moët Hennessy, and Louis Vuitton with \$80 million venture capital). The second problem was the nature of the product. Customers need to feel and smell cosmetics, but by not stocking the leading brands that could be tried out in the shops, Eve.com denied customers this essential experience.

## **Implications:**

1. Either be largely self-funding like FragranceNet, or incorporate the competition in the the 'one stop' shop.
2. Understand the customer: retail is detail.

### BizBuyer.Com

BizBuyer was a portal site aimed at the small and medium sized business. Buyers {3} posted their needs in an online reverse auction. Vendors bid for the business, paying a \$3-\$10 fee to BizBuyer, which then posted the bids on to the customer. BizBuyer started in September 1988, raised \$69 million, but closed in December 2000, returning \$35 million {4} to investors. Why the poor performance?

B2B exchanges were a good idea.{5} It made commercial sense, and commentators were correct in thinking the idea would become increasingly important. But exchanges are still not the way most procurement is done, and attitudes change slowly. Equally important was the need to focus on small market sectors, particularly if advertising revenues are sought.

## **Implications:**

1. Plan for the long term, even for the very long term.
2. Keep improving the technology, but remember that customer attitudes change slowly.
3. Target market niches rather than 'offer everything'.
4. Improve advertising revenues by refining target audiences.

### Priceline.Com

Many companies have excess supplies or capacity: unrented cars, airline seats, theater tickets. Why not post details of these and other (unwanted) items and get customers to bid? That was the idea behind Priceline, where customers named their price, and the seller had to accept or reject that offer, either within a certain time frame, or as initially agreed with Priceline.

The concept was initially popular. Venture capitalists poured in \$100 million, and the \$16 shares soared to \$80 on the IPO of March 1999. Priceline branched out to groceries with WebHouseClub, which signed up 15,000 customers in its first week. Nonetheless, Priceline's share value had fallen 42% by September 2000, and the company posted \$100 million losses over that quarter. Losses mounted to \$192 million in the third quarter of 2000, though a small profit was returned at the end of June 2001, and something more appreciable in 2002 and 2003. {9} The company remains in business, with 30% owned by Cheung Kong (Holdings) Ltd. Why the early difficulties?

A heavy drain was WebHouseClub, where the manufacturer refunded the difference between what a store charged and the customer paid — rather like coupons, but with shorter lead times. Not many manufacturers signed up to WebHouseClub, but the company still had to provide discounts on a wide range of items to keep the site popular. Customers saved some \$4 to \$6 per order, but those savings cost WebHouseClub over \$1 million a week, which proved unsustainable: the company closed.

Then there was the hassle of booking a car or airline seat with Priceline. Not everyone wanted to hang around waiting to see if their 'bid' had been accepted (usually after several adjustments to preferred time and date), particularly after competitors like Hotwire.com and Orbitz.com had simplified the process. Nor was Priceline always the cheapest, {6} or innocent of 'hidden extras'.

### **Implications:**

1. Online commerce has to add value. Customers will suffer to save some tens of dollars on a flight, but not cents on a bottle of ketchup.
2. Better technology was waiting in the wings — which Priceline had not the time or financial resources to implement: look at the larger picture.

3. Americans are not used to haggling, and found the process irritating once the novelty wore off: know your customer.

SixDegrees.Com

SixDegrees seemed hardly a business at first, more an extended network {7} of friends. With over 1 million members by September 1998, and supporting itself by selling its accumulated demographic data to advertisers, the site went on to offer expert services and the chance to build online shops with the shopnow.com software. By December 1999, the company had spent only \$150,000 on promoting itself, but was the acquired for \$125 million in stock by YouthStream, getting major investment from News Corp and 3 million members.

Youthstream marketed to college and high school students, and attempted to expand its small mybytes.com teen community through sixdegree's user base and by offering better membership features. Other deals with teen-orientated websites followed, but the business wasn't prospering. Youthstream tried a B2B model, selling the software as connection technology, but marketing and software development created losses amounting to \$28 million on revenues of \$11 million in the quarter ending September 2000. A quarter later the stock had dropped from \$32 in January to around \$2, and Youthstream closed both SixDegrees and its application software provider company Sodalis. Youthstream itself was acquired by Alloy Inc for \$7 million in August 2002.

Online communities are fragile things, and prosper only when there's common purpose and trust. SixDegrees extended membership by asking members to sign up their friends, who were in turn contacted. YouthStream had more bills to meet, however, and increasingly indulged in hard sell and spam, which only alienated people. Kids are not easy to sell to, moreover, and perhaps only 10% will use chat boards. A community service got hijacked by hard-nosed business.

## Implications:

1. Business and sentiment don't mix: a wholly free service is not a business.
2. Respect your customers' intelligence: spam is seen for what it is.
3. Too much competition: members simply switched to other online communities.

### Furniture.Com

Furniture.com began life in June 1998 as furnituresite.com, one of the many furniture stores online, in this case the shopwindow of the 50-year-old Empire Furniture Showroom company owned by Steve Rothschild. Six months later the high-flying Andrew Brooks had taken over, raising \$13 million in funding, moving the company to plusher surroundings, purchasing the furniture.com domain for \$1 million and launching a \$5 million advertising campaign. Sales rocketed. CMGI added another \$35 million of funding, and by the end of 1999, Furniture.com had achieved net sales of nearly \$11 million from 2 million visitors.

The IPO filed in January 2000 was expected to bring in \$50 million, but Goldman Sachs pulled out when another IPO seemed risky in the overcrowded Internet marketplace. The company was now low on funds, and the dotcom crash of April 2000 didn't help. The \$11 million sales of the previous year had been against losses of \$43 million, and the company posted losses of \$3.1 million the next quarter. In April the company laid off 12% of its workforce, and in May stopped payment to some of its creditors. More staff were laid off in June, and though CMGI injected another \$27 in cash, and the company had achieved \$22 million in sales by September, the losses continued. On November 6 the company closed down — to be bought out by former employees and resurrected in April 2002: as a smaller, leaner company. {13}

What had gone wrong? Almost everything imaginable. The order tracking software didn't work, and neither customer nor

rep knew the status of orders. Some deliveries took 8 months to arrive. There were over 200 different furniture suppliers, with no way of managing them. Finally the company, desperate for business, offered free shipping, which only hastened bankruptcy.

### **Implications:**

1. Construct a proper plan: if sales don't exceed costs there is no business.
2. Ensure the technology works before you go live.
3. Market position is not a substitute for profitability.
4. Start small and expand as the market allows.

Pointcast.Com

PointCast was going to take the Internet to new levels. Instead of surfing for information, users would have their own selected channels of news and information automatically pushed to them. The 1992 software that allowed CompuServe members to create their own newspapers from multiple sources was redesigned in February 1996 into PointCast Network (PCN), a development that received the enthusiastic backing of Netscape and industry pundits {8}everywhere. By August 1996, PCN users totaled 1 million, \$36 million financing had been found, and advertising revenues of \$2.5/month were being talked about. Competitors were frantically developing their own brand of push technology. {9} PCN had its problems — it was slow, overburdening the many corporate networks that had installed it — but PointCast rejected an offer of \$400-450 million from NewsCorp in 1977 and filed an IPO in May 1998. Other Internet IPOs were phenomenally successful at this time, and PointCast expected to raise \$235 million. In July 1998, however, PointCast was obliged to pull its IPO. The technology didn't really work, and the company had lost \$58 million.

A letter of intent to purchase for \$100 million was signed by a consortium of telephone companies in December 1998, but PointCast laid off 220 employees in March. Eventually,

PointCast was purchased for \$7 million {10} by Idealab! (see below) and the technology developed into a EntryPoint, a 700K, well-behaved toolbar that delivered news, stock and weather information. The toolbar itself mutated into Infogate delivering personalized news and stock information, when EntryPoint merged with Internet Financial Network in October 2000.

**Implications:**

1. Don't fall victim to your own rhetoric when better technologies exist.
2. Be realistic and accept generous settlement when offered.
3. Think more towards applications, {11} as Backweb did with McAfee.

Volatile Media

Rather than suffer the inconvenience of downloading music from the Internet, customers of EZCD could get CDs individually filled with their recordings of their choice. A similar service for games was offered by the co-owned EZGamer.{12} Deals were made with all the large record companies, and the 24 hour shipping service was faster than downloads over a normal modem. EZGamer partnered with GameSpot. Yet neither service prospered, and both were shut down in August 2000.

'Technology' is the one-word reason. Customers could afford to create their own CDs when prices fell for both blank CDs (from \$10 to 10 cents) and CD burners (to little more than \$100). Broadband Internet access also became more generally available, and many obtained free downloads through Napster.

**Implications:**

1. Look ahead: if a digital product can be made faster and cheaper, then the history of computing and the Internet suggests it will be.

ClickMango.Com

Everything about Clickmango was something of a record. Launched in April 2000, the online health and beauty site had raised \$4.4 million in 8 days. The media darling Joanna Lumley {13} helped as promoter and site guide. The site was favorably received, and page impressions reached 750,000/month. Yet the company couldn't raise more money in the difficult trading conditions of 2000, {14} and closed in September, four months after opening.

Bad timing? Not entirely: customer acquisition costs were the real problem. At its worst, ClickMango got through some \$730,000 per month. Supposing that the site received 250,000 visitors/month (3 page impressions per visitor), and 2% of these (the norm) purchased something, then an average purchase of \$146 would have balanced the books. But sales in fact were only \$12,000/month, or \$2.40 per average purchase on these calculations, showing the large reality gap that confronted investors.

**Implications:**

1. Do your sums properly, employing industry averages.
2. Plan for the long term.

QuePasa

Niche marketing is often the clue to ecommerce, and the QuePasa portal site — with free email, auctions, chat rooms and ecommerce — focused on the under-represented Hispanic community. Gloria Estefan kicked off the high-profile advertising launch in 1998, and the offering share price of \$12 reached \$113 on its IPO in June 1999. Unfortunately, in line with increasing losses (\$6.4 million in 1998, \$29.3 million in 1999) the share price price fell to a dollar in April 2000, and the company came close to liquidation in December 2000. {15} Most staff were laid off the following year, but the site was reactivated in 2002 and acquired the search and retrieval technology of Vayala Corporation.

Three things caused the hiccup. First was the assumption that Hispanics would prefer Spanish to English language sites. They don't: a study by Espanol.com {16} found that only 8% preferred content in Spanish. Second was the digital divide: comparative fewer Hispanics were online, or inclined to purchase computers. And third was the view of the Hispanics as a monolithic community. It actually consists of various subgroups, each with very different cultures.

### **Implications:**

1. Market research is critical.

Idealab!

Where venture capitalists waited for business opportunities to come to them, incubators started with the good idea and built it into a viable business through know-how, premises, money and financial contacts, often taking a stake in the company it nurtured. Business incubators allowed MBSs to spread their wings in the 'new economy', and were popular until the 2000 Internet crash.

Among the best known was Idealab!, launched in 1995, and the source of many household names: eToys, CitySearch, FreePC, CardsDirect, Commission Junction and Goto.com/Overture. {17} Its founder, Bill Gross, had created the multimedia company Knowledge Adventure, and in 1995 produced CitySearch, which was sold to Ticketmaster for \$260 million. The Idealab! model was simple and successful. Each venture got an initial \$250,000, and Gross was paid handsomely for his money, time and expertise when the venture went public. When eToys was floated in May 1999, Idealab! had a capitalization of \$1.5 billion, which jumped to \$5 billion when Goto.com went public.

Unfortunately, not all ventures were successful, or stayed so. Gross lost serious money when share prices declined sharply, and investors soon worked out that Idealab! products were not always a long term investment. In an effort to raise \$1 billion in early 2000, Gross guaranteed 50% of Idealab! if the future

IPO of Idealab! didn't go well, but pulled the IPO in December 2000. He also embarked on a spending spree: \$200 million on CarsDirect, \$60 million on Homepage.com, \$20 million on Goto.com to a total of \$800 million by August 2000. By December, Idealab! had only \$50 million in cash {18} and the following year started laying off staff.

The difficulties centered on the US Company Act of 1940, by which Idealab! was obliged to take a stake in its offspring to avoid being classified as an investment company and so subject to restrictive regulation and reporting standards.

### **Implications:**

1. Restrictive regulation has its value in a volatile market
2. Take cash when you can.

### General Conclusions

The dotcom bubble was like all such flights from reason that periodically excite the business community. What led this one was the spectacular fortunes of Yahoo and Netscape. If a couple of Stanford students could make themselves billionaires, and a group of software developers create something in the big league, then the way was open to everyone. And hadn't Amazon shown that you didn't need profits? Just keep expanding and the stockmarket would do the rest.

So, in general:

1. Internet companies were not reckless but got locked into the logic of the market and their business goals.
2. Advertising spend was the great killer, followed by software development costs. Both were unavoidable once the business was launched.
3. The pressure of the market (i.e. investors) caused most problems: the land rush mentality, dreams of instant fortunes and the slack accounting.

### Questions

1. Give a brief history of the early dot com failures.
2. First-mover advantage can be overated. Discuss.
3. Describe in some detail the history of two failed early ecommerce ventures. With the benefit of hindsight, how would you have saved the companies?
4. Take one of the companies and replace its operations with current technology, including marketing techniques. What would the estimated profit and loss accounts look like?

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## Section Contents

## 9.18 EASYDIAGNOSIS

EasyDiagnosis is an automatic online medical diagnosis expert system freely available to consumers and health care professionals. {1}

The system uses artificial intelligence to suggest a diagnosis ranked by probability according to the symptoms presented, supposing those symptoms all arise from a single condition. Some 99 conditions are covered at present, including the most life-threatening. The service is not offered as an alternative to a professional examination by a physician, but as a useful adjunct or introductory screening.

Medical Expert Online is similar, but is an online model for demonstration purposes only. {2}

EasyDiagnosis employs an expert system (indeed MathMedics markets its AI software through this application) and therefore differs from sites like Symptom Diagnosis, {3} which offers a summary compilation of symptoms for each of more than 210 medical conditions, or Just Answer. Doctors, {4} which has actual online doctors answering health queries.

### Technology

Easy Diagnosis has been built by MathMedics, {5} who do not disclose details of their proprietary software. Expert systems tend to be built in an artificial intelligence language, however, of which there are many. {6} The usual requirements are:

1. Language suits the particular domain of AI,
2. Coding can be done quickly, with a minimum of errors,
3. Resulting program runs at an acceptable speed, and (sometimes)
4. Code and data have similar structures.

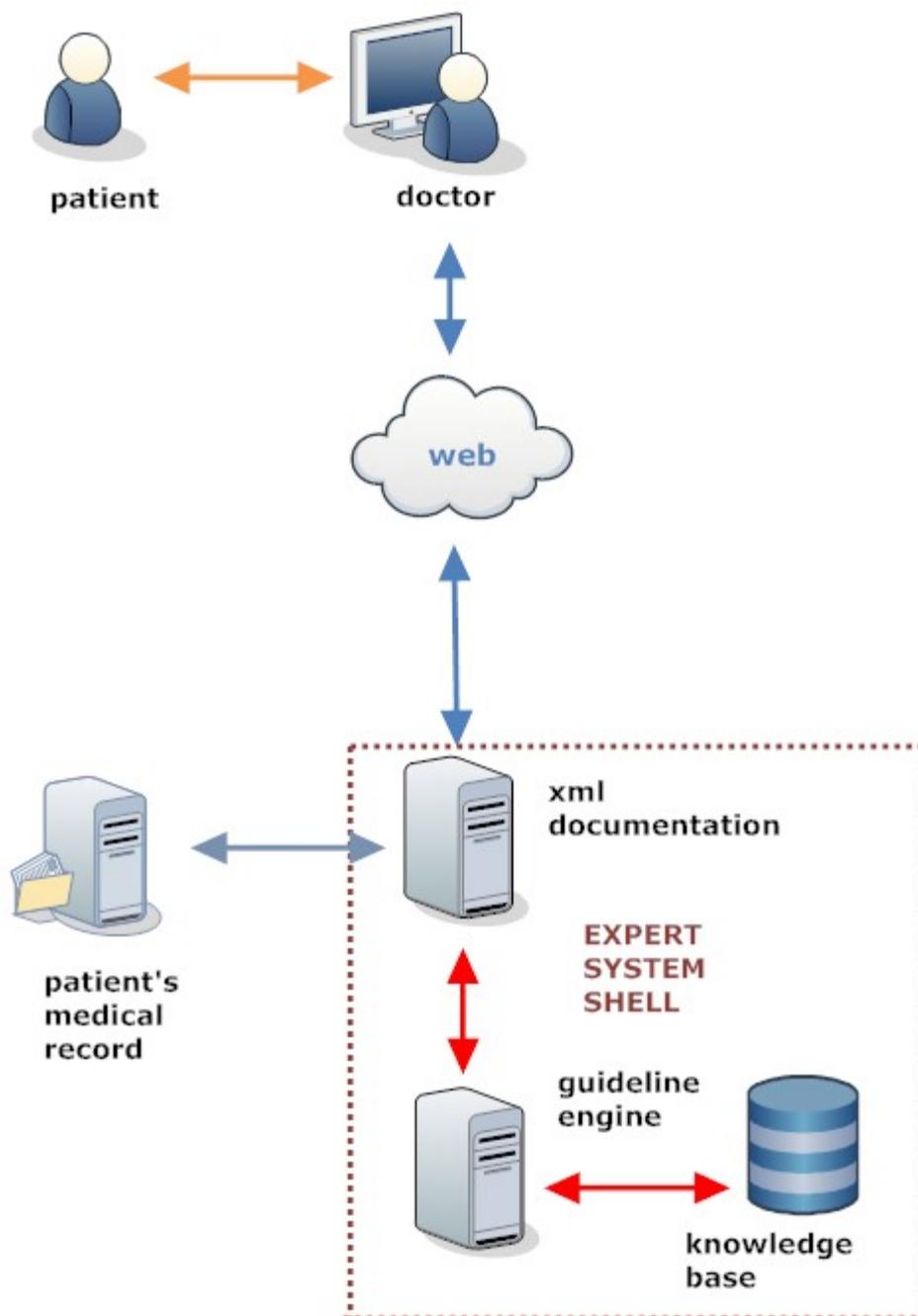
A paper describing an asthma diagnosis expert system by Lee {7} integrates three units:

1. Guideline engine that supplies the physician with consistent treatment strategies.

2. Clinical knowledge base.

3. Patient's clinical record:

The workflow description language adopted was BPEL, {8} a web-based Business Executive Language which allows data to flow independently of function if recorded in XML format.



Typically, the service would start with a physical examination of the patient, the salient findings being stored and compared with previous information on the patient's record. The doctor would then consult the treatment strategies suggested by the expert system, decide to what extent these were applicable, and discuss options with the patient. Once agreed, the option would be added to the patient's record, and any prescribed medication printed out.

## Smartphone Applications

Billed as a ‘doctor in your pocket’, Afridoctor is a free add-on for Nokia phones that provides basic, health-related information.

{9} Though more intended for minor ailments, Afridoctor features:

1. ‘Find a doctor’ service uses Google Maps to locate local health services: doctors, hospitals and emergency clinics.
2. ‘Distress’ service that enables users to quickly contact a family member or friend.
3. First aid tips.
4. Symptom checker.
5. ‘Snapdiagnosis’, where patients send pictures of their ailments to a panel of doctors who reply with a diagnosis within 48 hours.

Probably as an indication of things to come, most downloads of the application were from outside Africa: over 20,000 by June 2010. {10}

## Points to Note

1. Internet technology creates new services, sometimes unimaginable a decade ago.

## Questions

1. Explain how Easy Diagnosis works.
2. What is the business model for the service?
3. Your company offers financial services. How would you persuade your boss to adopt the Easy Diagnosis model? Provide a cost benefit study.
4. You’re a busy local health authority facing staff cutbacks. How could something like Easy Diagnosis help, in what areas, and how would you start such a project?

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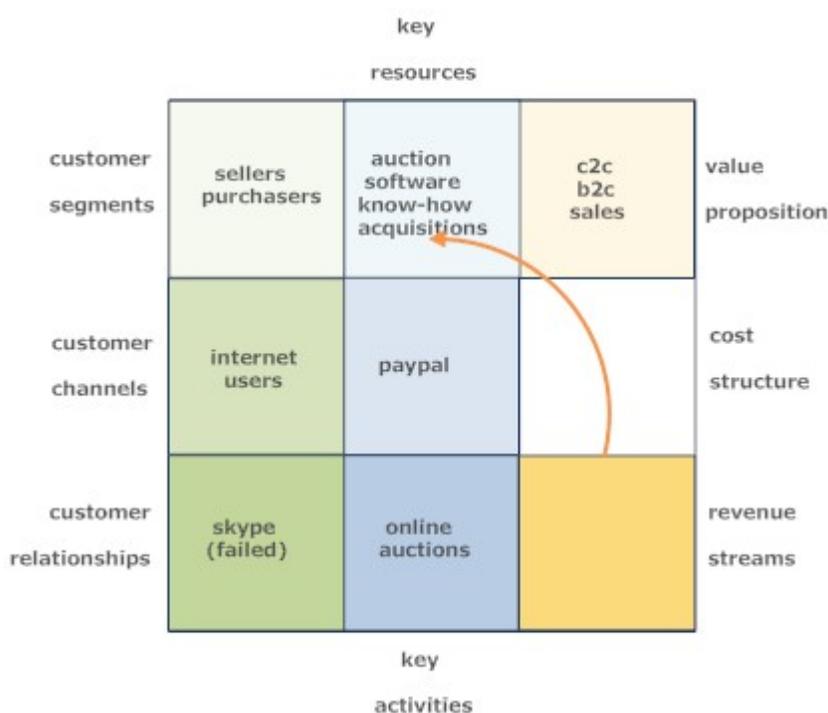
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Section Contents

## 9.19 EBAY INC.

eBay Inc., an online auction and shopping website in which individuals and businesses buy and sell a broad variety of goods and services, is the world's largest online marketplace. The company went public in 1998 at \$18/share, and was trading at \$282/share by March 1999. {2}

Initially intended as marketplace for individuals, eBay was started by Pierre Omidyar and Jeff Skoll in September 1995, but three years later brought in Meg Whitman, who had studied at the Harvard Business School and possessed practical experience of branding. Whitman in turn brought in staff from companies such as PepsiCo and Disney, and turned eBay more into the business of connecting people than simply selling things. Her team forged partnerships with GM, Disney, Sun, IBM, Dell, Sony, Sotheby's and other large companies, increasing the average sale price (ASP) and therefore eBay's commissions. An important acquisition was PayPal, in 2002, which today serves millions of small merchants in 190 markets and 24 currencies.



eBay Business Model

eBay has been successful by:

1. Meeting an existing need, an online auction, particularly for secondhand goods, {9} in which: {1} {16}
  - a. Sellers are charged a non-refundable insertion fee: US\$ 0.10 to \$2.00, depending on the opening bid.
  - b. Browsing, bidding and buying are free of charge.
  - c. Sellers are charged a final fee: 9 % of closing price (up to \$100).
  - d. eBay acts only as a third party, does not take possession of sales items, or guarantee them.
  - e. eBay does offer forums, however, a dispute settlement system {9} and a star rating of sellers based on purchaser feedback.
2. Creating a large customer base by: {2}
  - a. Forging relationships with over 60 websites, including AOL.
  - b. Preventing those companies from competing by contractual arrangements.
  - c. Setting up 'business exchanges' where new and existing businesses, merchandise and equipment could be bought and sold.
3. Expanding operations on national and international levels: the company trades in 190 markets today, and 24 currencies {2}
4. Depending on viral marketing to create a strong brand. {2}
5. Seeing off the early competition by: {2}
  - a. Acquisitions: the auction house Butterfield and Butterfield, half.com
  - b. Expansion into market niches.
6. Fostering a sense of community among buyers and sellers. {2}
7. Making the process easy: sellers need only write a compelling description and add a photo. {2}

## Performance

eBay weathered the dotcom crash and expanded rapidly: {15}  
{16}

Year	Sales (US\$ million)	Net Income (US\$ million)	Operating Margin
1997	44.4	7.1	26.3%
1998	86.1	7.3	12.9%
1999	125	9.5	9.9%
2000	431	48.3	18.9%
2002	1,214	250	32.9%
2004	3,271	778	34.8%
2006	5,970	1,126	26.0%
2008	8,541	1,779	23.5%
2010	9,156	2,299	23.7%

Also important is the so-called Motley Fools' Flow Ratio, defined as  $(\text{Current assets} - \text{Cash}) / (\text{Current liabilities} - \text{Short term debt})$ , which measures the performance of working capital on a day-to-day basis. A Flow Ratio below 1.25 is thought attractive, but eBay did better with a Flow Ratio around 0.90 for the first three quarters of 2000 and 0.76 in the fourth. {1}

## Acquisitions

eBay has acquired companies to: {13}

1. Protect its position: half.com, Butterfield and Butterfield (later sold to Bonhams), Rent, Markplaats, etc.
2. Extend its market segments: Skype (also bought to enable potential customers to call sellers, but didn't mesh sufficiently and was sold).
3. Improve customer relations: cheap and easy ways to pay for purchases: Billpoint (shut down) and PayPal (still part of eBay) and GSI Commerce.

## Threats

1. In the higher ticket bracket, eBay faces competition from specialist auction houses that appraise items and guarantee quality. {11}

2. Fraud remains a serious concern, for eBay and PayPal. {9}  
{10}

#### Points to Note

1. First mover advantage applies, since competitors have difficulties in building up a rival customer base and/or offering appreciably lower selling fees.
2. eBay has extended its market segments and improved its customer relations by organic growth and acquisition.

#### Questions

1. Briefly describe the seven strategies that have made eBay successful.
2. Which eBay acquisitions were beneficial, and which not?
3. What threats to its business does eBay currently face, and what countermeasures is it taking?

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Section Contents

## 9.20. ENECO ENERGIE

Eneco is one of the top three energy companies in the Netherlands, and specializes in the production, trading, transmission and supply of gas, electricity and heat and related services. Eneco was founded in 1995 from a merger of the energy companies of Rotterdam, The Hague and Dordrecht, and today serves two million business and domestic customers. The company is headquartered in Rotterdam and employs some 3,500 people.

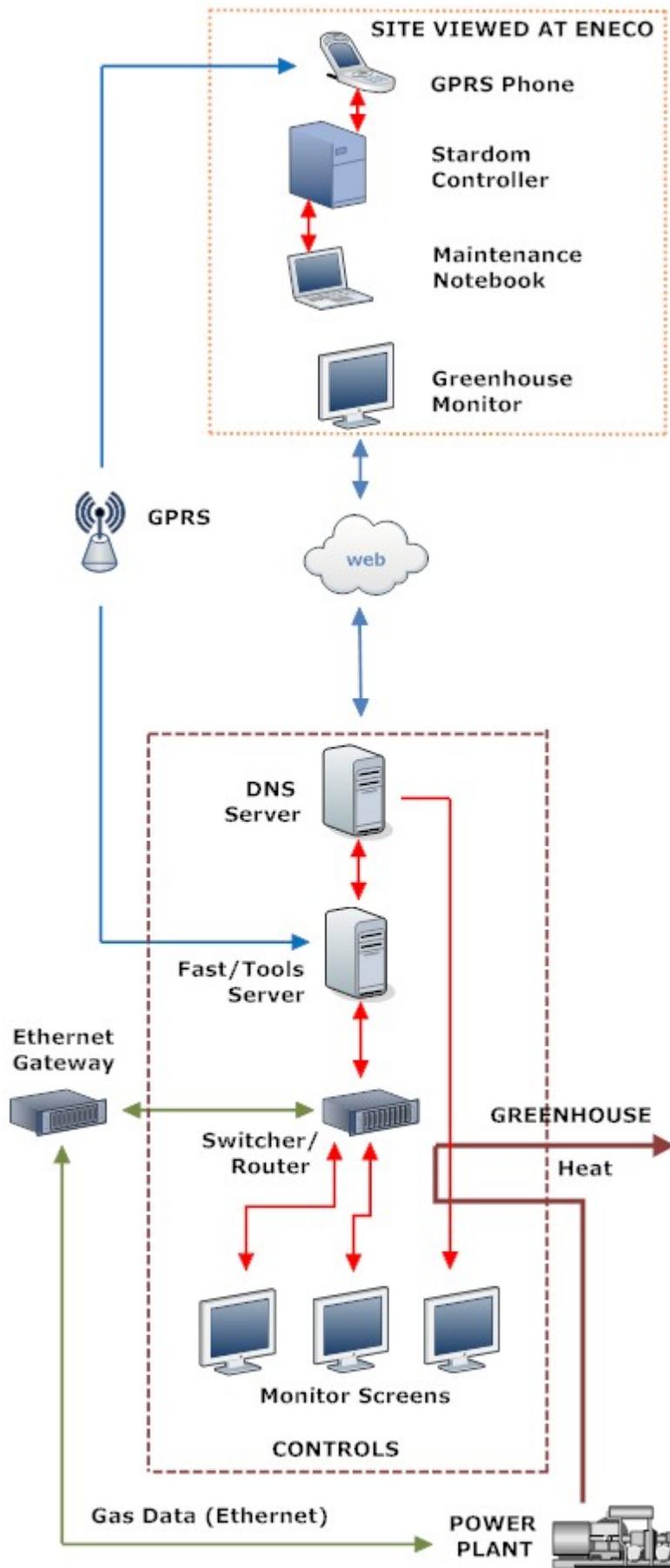
The company is moving from fossil fuels to alternative and sustainable energy sources, and is active in the trading of sustainable energy products and CO2 certificates. {5} {6} {7}

### Flower-Producing Greenhouses

Important customers of natural gas are the flower-producing greenhouses of the Netherlands, and Eneco was able to break the intense price competition by offering flower-growing companies a complete service. After studying customer requirements, Eneco commissioned a system that monitored and controlled the carbon dioxide levels and greenhouse temperatures. The system's more efficient use of gas allowed Eneco to sell a commodity as a premium-price service. {1}

The software was designed by Yokogawa, and the key factors of the system were: {2}

1. A General Packet Radio Service {3} in place of a traditional IP/TCP network to reduce cable costs.
2. Adaptation of existing components (notably temperature monitors and CO2 meters).
3. Fast/Tools software package that monitored and set the required greenhouse conditions, and which could be viewed on the Eneco website.
4. An off-the-shelf system, modified by Yokogawa, quickly installed and backed by a long-term service contract to each customer.



Points to System Configuration (adapted from Yokogawa 2005)

1. Outside-in, customer-first approach.
2. Selling of a commodity under severe price competition as a premium service.
3. Advantages of Internet technologies.

## Questions

1. How did Eneco Energie break into the intense price competition of natural gas sales?
2. Describe the Yokogawa control system.
3. What Internet technologies are employed by the Yokogawa system, and what is the mutual gain to the parties concerned?

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Section Contents

## 9.21. FIAT GROUP AUTOMOBILES S.P.A.

In 2004, despite a hundred years' experience of car-making, Fiat was facing bankruptcy. The design of its Panda model hadn't basically changed in twenty years, market share was being eroded by European and Japanese models, and losses in the preceding five years amounted to \$12 billion. Even the attempt to sell the car business to General Motors had stalled: GM had bought 10% of Fiat stock but its put (buying) option for the remaining 90% remained in abeyance while GM itself faced falling sales. Fiat meanwhile had diversified into banking and insurance, making uncertain its commitment to car-making — which was again reflected in car sales and relationships with its workforce.

### First Steps

Share holders first appointed a new CEO, Sergio Marchionne, who had no car manufacturing experience but did have good track record of bringing faltering companies back to profitability. He conceived a twofold plan:

1. Solve the put issue with GM, and buy time from creditors.
2. Leverage the key assets of Fiat design and engineering.

Step 1 was accomplished in February 2005 when:

1. Marchionne got GM to pay \$2 billion for their put option.
2. Banking creditors were shown a credible business plan, which made car manufacturing the key business again.
3. Banking and insurance holdings were reduced or sold off to provide cash flows for new business development.
4. Focus was again placed on Fiat core skills: innovative cars, user-friendly and with a distinctive Italian design.

### Assessment

Marchionne started by replacing several top managers by younger, more dynamic and market-attuned managers, often in their thirties or forties. He set clear goals for growth and

profitability, and monitored their implementation by management. He looked at Fiat core skills and found that innovative design and engineering were still very much alive, but undervalued. Fiat Engineering in the 1990s, for example, had developed the jet-stream turbo-diesel system (JTD) that made diesel engines more flexible, powerful and fuel efficient than traditional engines, but had sold the technology to Bosch and so to Fiat rivals. Cash flow problems had made the sale necessary, but the move lowered staff moral and jeopardized relations with factory workers and unions.

### New Models

Focusing on design, Marchionne hired Frank Stephenson from Ferrari, and initiated the production of new (small sized) Punto and (mid-sized) Bravo models: completely redesigned, but retaining 60% of the components of previously unsuccessful models. Manufacturing costs were reduced by sharing components with other car manufactures (Ford, Suzuki, Tata) through private industrial networks. Engineering was brought closer to Marketing, and users were invited to share ideas through customized web sites. Campaigns were launched to understand what drivers and passengers really wanted, and new dealerships were opened all over Europe charged with supplying customer feedback through a customer relationship management system.

### New Relationships

With these changes, improved working conditions in factories, and better relations with unions that saw the company was again committed to producing world-class cars, Fiat fortunes significantly improved. Profits were made in 2006, and financial results the following year were among the very best of its hundred years' history. The Fiat 500 was awarded the '2008 Car of the Year' Award in Europe, and demand exceeded company expectations by 70,000 units.

Industrial relations had improved sufficiently for Fiat to introduce part-time working in 2008, when oil price hikes and the economic downturn hit most car manufacturers. Fiat prestige allowed Marchionne to sign a Memorandum of Understanding with BMW for the manufacture and sale of the Mini (owned by BMW) and Alfa Romeo (owned by Fiat) brands in the profitable market of compact fashionable cars, his 35<sup>th</sup> strategic and operational alliance with other car makers. In 2010, Fiat bought 28% of Chrysler stock value in exchange for their access to Fiat design knowledge and Fiat's access to the American market.

#### Points to Note

1. Leadership is a key (and scarce) resource.
2. Key resources (design skills) can be hired or bought in.
3. Importance of Internet technology.

#### Questions

1. Explain the situation at Fiat S.p.A. when Sergio Marchionne took over.
2. What was Marchionne's two step approach, and what were the key factors to the success of the first step?
3. Why was Marchionne able to forge better relationships with the trades unions?
4. What Internet technologies contributed to Fiat's recovery?

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Section Contents

## 9.22 GLAXOSMITHKLINE

GlaxoSmithKline plc, a British pharmaceutical, biological, and healthcare company, is the world's fourth largest pharmaceutical company (by revenue) after Johnson & Johnson, Pfizer, and Roche. GSK was formed in 2000 by the merger of GlaxoWellcome plc with SmithKline Beecham plc, and today markets a wide range of pharmaceutical products (anti-infectives, vaccines, central nervous system, respiratory, gastro-intestinal/metabolic and oncology drugs), healthcare products, nutritional drinks, and over-the-counter medicines. The companies have grown organically and by a complex series of mergers and takeovers, but Glaxo started as a baby food manufacturer in 1904, and Beechams with laxative pills in 1843. {1} {2}

### Big Pharma

Drugs are the mainstay of modern medicine, and the pharmaceutical industry employs legions of entirely reputable scientists to improve the range and effectiveness of its many thousand of products. {2} The industry has an unattractive public image, however, and the list of its alleged sins is a long one. Big pharma is accused of exerting excessive lobbying power, {3} of a 'revolving door' association with the FDA, {4} of colluding with psychiatrist to invent disorders, {5} {7} of keeping prices unreasonably high by preventing Medicare buying at bulk discounts, {6} of preventing US citizens from purchasing at Canadian prices, {6} of preventing licenses lapsing by insignificant patent modification, {6} of accepting heavy fines for malpractice as part of business, {9} of promoting favorable articles in academic journals, {13} of buying influence among doctors, hospitals and research laboratories {14} and of confusing the public generally. {8} {15} Supporters of the FDA do not deny its close association with pharmaceutical companies, {11} nor its war on natural health food and product claims, {12} but argue that the

authority does its best with a near-impossible agenda. {10}  
{11}

## Zantac

Glaxo overcame the market dominance of Tagamet, the leading ulcer drug developed SmithKline Beecham, with their 1981 Zantac drug. Though the FDA rated Zantac as making 'little or no' contribution to existing drug therapies, Glaxo promoted Zantac to the number one pharmaceutical product in the world by:

1. Quickly introducing the drug worldwide.
2. Extensive partnerships with distributors.
3. Articles in medical journals on the negative effects of Tagamet and potential for Zantac.
4. Simplifying the dosage, from 4 to 2 pills a day.
5. Marketing as 'fast, simple and specific' (which doctors interpreted as 'faster, simpler and safe')
6. Pricing Zantac at a slight premium over Tagamet.

SmithKline did not properly defend its product, and Zantac achieved a 42% global market share, with sales amounting to US\$1 billion by 1989. {16}

The example proved a turning point for big pharma, which cut back on research to make higher profits through advertising. Though reputation was something big pharma could largely ignore, being protected by the FDA, by campaign contributions and by lobbying against overseas sources of drugs, research cutbacks are beginning to impact profits as patents expire and 'me too' modifications become less affordable to recession-hit families. {23}

## Patent Pools

At least from big pharma's own perspective, reputation is still seen as vital to marketing, and to this end GSK originated a patents pool for neglected tropical diseases, aggregating intellectual property rights to avoid R&D advances being blocked by a single rights holder. These patents were not

likely to lead to blockbuster drugs that make big profits for pharmaceutical companies, but could facilitate the development of drugs vital to the world's poorest countries. {17} The pool currently contains over 2,300 patents accessible to industry, research and funding agencies.{18}

In business model terms, this represents an inside-out approach, monetizing unused internal assets, and was recognized as such. Knowledge Ecology International {19} point out that:

1. GSK were simply seeking to benefit from the new interest in Type III disease research.
2. More general and disinterested patent pools are being developed by the priority review voucher (PRV), by UNITAID and the new WHO Global Strategy And Plan Of Action On Public Health, Innovation And Intellectual Property.
3. Philanthropy is simply another pharma-friendly approach being developed to head off the more fundamental and transformative reforms needed in the industry, particularly by the developing world. (Others approaches include the Advanced Marketing Commitment R&D subsidies, the Pogge/Hollis effort, and the Barton/Pfizer proposal to regulate drug prices in middle income countries.)

Requip

Ropinirole (sold as Requip, Ropark or Adartrel) is a non-ergoline dopamine agonist manufactured by SGK and used in the treatment of Parkinson's disease and (latterly) restless legs syndrome (RLS). {20}

Because Ropinirole's use for Parkinson's disease had already passed the toxicity and other tests that cause over 90% of drugs to fail during development, GSK were able to reposition Ropinirole for RLS, receiving FDA approval and so considerably extend its market.

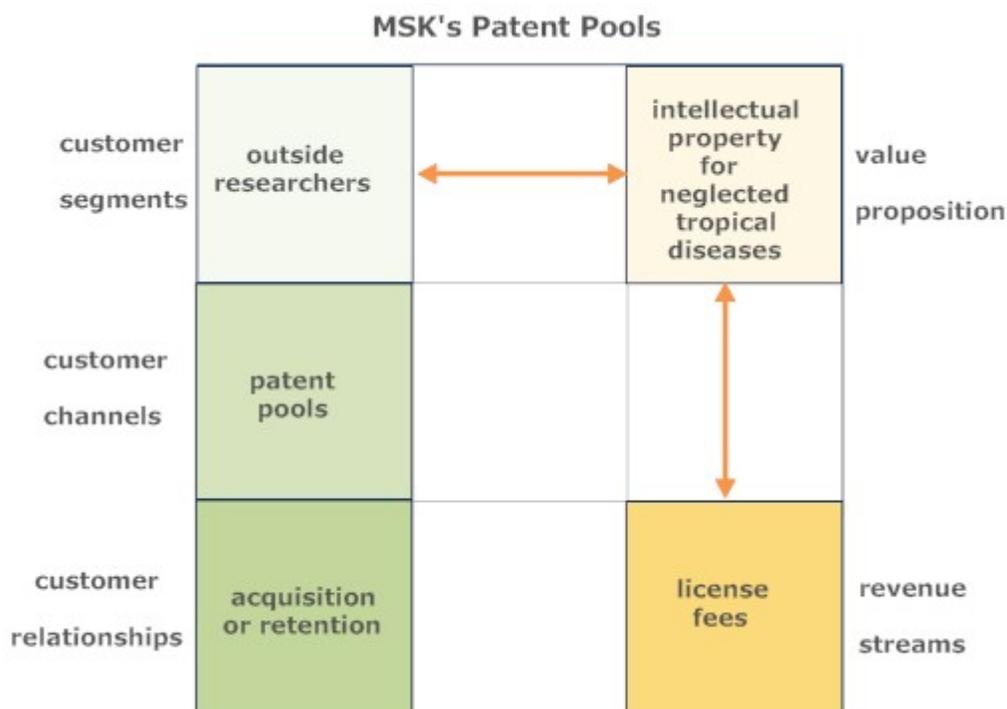
RLS was a relatively unknown disorder until SGK mounted an intensive marketing campaign, in stages:

### **1. USA: Prior to FDA approval (March 2003 to May 2005)**

1. RLS awareness campaign: presentations at conferences and numerous articles in medical journals. Some appeared in the mainstream press.

## 2. USA: After FDA approval (from May 2005)

1. Multi-million dollar, direct to consumer, TV advertising: first creating interest in the condition, and then promoting Requip. Sales of Requip, which had been steady from its launch in 1997, grew rapidly: \$156 million in 2005, \$268 million in 2006, an expected \$1,700 million in 2015.



## 3. Marketed as Adratrel in Europe (from June 2004)

1. Adratel had been accepted in France (June 2004) and the UK (April 2005).

2. Lobbying of the European Commission got general EMEA approval in September 2005 and Adratel accepted in Spain and the Netherlands (both in April 2006).

3. Acceptance was delayed by tactics disliked in Europe, e.g. ads in medical journals and direct selling to doctors. {20}

GSK used the best of marketing techniques: TV, web pages and CD presentational aids combining video, audio and graphical display tools.

## Controversies

Opinion was split, between those (patients, some doctors) who thought GSK were to be commended for raising

awareness of RLS, and those (mostly doctors) who thought the condition was over-hyped in prevalence and gravity. Professionals were generally unhappy to see a medical matter captured by commerce, accusing GSK of 'disease mongering' and placing RLS with other concocted maladies like erectile dysfunction, social anxiety disorder, etc. GSK donations to the Restless Leg Sufferers' Foundation and Sleptionary (a website created by the National Sleep Foundation) were also criticized. Patients retorted that RLS was real enough to its sufferers, and that disorder trailblazing was far from new, Listerine having coined the condition 'halitosis' back in the 1930s. Advertisers were generally impressed by the effectiveness of the Requip campaign and its success in making RLS a household term. Awards were given to GSK for excellence in advertising, and other pharmaceutical companies took note of the approach and developed their own remedies for RLS. {20}

#### Current Threats

1. None of the pharmaceutical companies is at risk from US government regulation while the FDA and lobbying industries continue to exert influence.
2. China, India and other countries have shown less willingness to be bound by international patents. {21}
3. Many pharmaceutical companies face ageing patents and lack of obvious replacements: profits are declining. {22} {23} {24}

#### Points to Note

1. Successful marketing campaigns need not be truthful.
2. Key partners can be vital, here Congress and the FDA.

#### Questions

1. Is Big Pharma's public image as here portrayed either accurate or justified? Would it matter anyway — i.e. does ethics enter into business, and can 'value to customers' become simply 'perceived value'?

2. How did GlaxoSmithKline market their Zantac drug? Why was the marketing important, and what lessons can be learned?
3. Describe GlaxoSmithKline's Patent Pool, and the business model that applies.
4. Give a marketer's view of the Ropinirole promotion.
5. Outline the difficulties currently faced by the pharmaceutical industries, and suggest some remedies.

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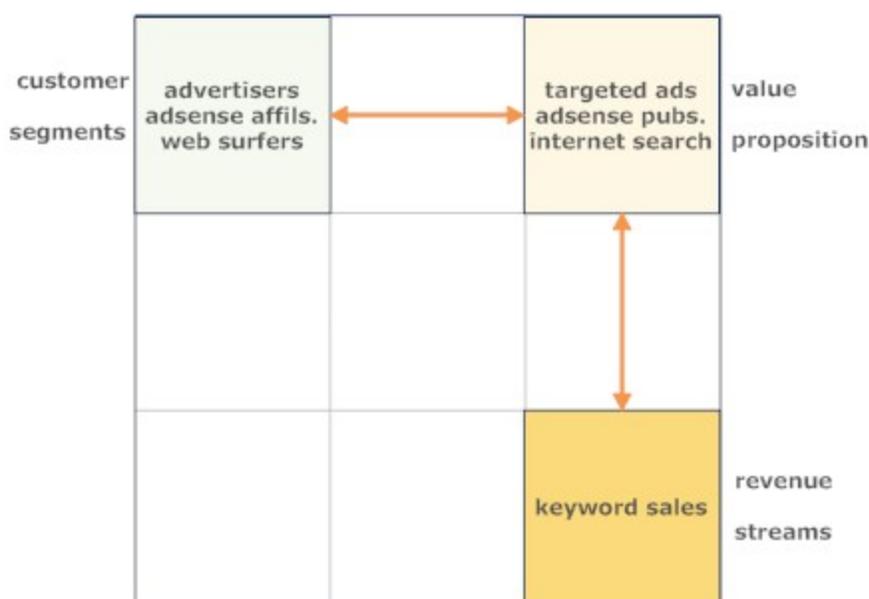
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## 9.23 GOOGLE ADS

Google Inc. is an American multinational public corporation offering Internet search, cloud computing, and advertising services. The company processes over a billion searches a day, and operates more than one million servers in data centers round the world. Google has grown organically and by acquisition of varied companies, but still earns over 95% of its revenues from advertising {1}

AdWords allow advertisers to publish advertisements on Google search pages and on the websites of Google affiliates (AdSense publishers). Advertisers pay per advert clicked (pay per click marketing), the amount paid (bid price) being determined by the demand for the particular keyword, and the value to advertisers of that keyword — ‘investment services’ being more valuable than ‘gardening tips’, for example. The Value Proposition is attractive to advertisers for two reasons: because Google’s search engine is popular and efficient, and because advertisers can tailor their campaigns to specific searches and demographics. {3}



Google’s search engine is thus an essential part of Google’s business model, and most surfers know that Google lists sites on its search engine according to 1. the relevance of the site to a searcher’s keyword phrase, and 2. the number and quality of incoming links. Precisely how that works in practice

is a trade secret, of course, and no doubt the algorithm can be adjusted to meet Google's AdWord/AdSense requirements, {6} which in turn is governed by the percentage clicking on a particular AdWord and the percentage of clicks converting to sales. Involved as that sounds, the reality is a good deal more complicated. {4}

As first set up by Larry Page and Sergey Brin in 1998, Google's assumption was that revenue would come primarily from licensing the search technology and selling Internet servers. It was Google's ninth employee, a 22-year-old Stanford graduate named Salar Kamangar, who concentrated on ad revenue, which was initially offered in two varieties. Ads at the top of the search page were sold the traditional way, by NY sales folk wooing wealthy clients over dinner, these clients being billed by the number of user views, or impressions, regardless of whether anyone clicked on the ad. Down the right side of the search page were a second variety of ads, aimed at smaller companies, and these could be bought online.

Then came an important change. As business developed, Google decided to market the right side ads by auction. Advertisers would bid on search terms ( keywords), but instead of bidding on the price per impression, they bid on a price they were willing to pay each time a user clicked on the ad. In effect these were sealed bids where winners were selected algorithmically in fractions of a second. As a safeguard, to protect both Google and advertiser, each bid would be accompanied by a budget of how many clicks the advertiser was willing to buy each month. This new system was called AdWords Select, and the ads at the top of the search page, their prices still set by agreement, were renamed AdWords Premium.

Two further innovations appeared. First, AdWord slots were sold off in a single auction. Second, to prevent advertisers lowballing their bids, Google decided that the winner of each auction would pay the amount (plus one cent) of the bid from the advertiser with the next-highest offer. So if A bid \$5, B bid

\$4 and C bid \$3, A would get the top slot and pay \$4.01 per click, B would get the second and pay 3.01, and so on.

Revenues from AdWords Select soon dwarfed those from AdWords Premium, and it dawned on Google theoreticians that Adword Select was a case of what is called 'two-sided matching market', which can be understood mathematically, is indeed a branch of game theory. Crunching the numbers carefully, Google then decided to make all Ads of the Adword Select type, though only succeeding in bringing over some of its previous AdWords Premium customers (whose revenues had been hard-negotiated and brought in hundreds of thousands yearly). Nonetheless, so successful were AdWords Select (now simply called AdWords) that Google decided to allow ads to be placed on other, third party, web sites, which were termed Google Affiliates (the Google AdSense program). Again Google used its auction technology to allocate ads, as it did to allocate servers among business units.

To level the playing field between small advertisers and large, Google used a variety of the Dutch auction model, (as do airline companies when they oversell a flight, offering vouchers till enough customers give up their seats). To make sure that Google users could have faith in their searches, however, the company added a further criterion: quality. A quality score was based on several factors, including the relevance of the ad to the specific keyword, the quality of the landing page the ad is linked to, the frequency with which users actually click on a given ad, and finally the frequency with which the click-through converts to a sale — plus other factors Google won't discuss. If the quality score falls below a certain value, Google slaps a minimum bid on the advertiser. To properly quantify a quality score, however, Google needs to estimate in advance how many users will click on an ad, which it does through a 'Keyword Pricing Index', a statistically-derived function that Google also uses to prevent click fraud. Categories are ranked by the cost per click that advertisers generally have to pay, weighted by distribution, and then separated into three bundles: high cap, mid cap, and low cap.

High caps are ‘hotels’ and ‘financial services’, mid caps are ‘gardening supplies’ and the like, and low caps are the stuff of long tails.

It is these algorithms, run as real-time auctions, that allow Google to police its ad services, ensure that advertisers’ monthly budgets are met, and that AdSense revenues are kept within some ambit thought reasonable by Google.

#### Points to Note

1. Evolution of an advertising model.

#### Questions

1. Describe in detail how Google Ads now works.
2. How and why did the Google Ads model evolve?
3. What additional features did Google employ to make their service attractive?
4. How does Google Ads tie in with Google AdSense?

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## Section Contents

## 9.24 GOOGLE SERVICES

Google Inc. is an American multinational public corporation offering Internet search, cloud computing, and advertising services. Becoming equally well known are the many services Google provides — maps, tools, — many of them free. Why does it pay Google to provide these services, and what is Google's long-term policy?

### Value of Networks

Google seems to increase its network partners as though its global value depended on the volume traffic between all those partners. {3} A little theory.

By Metcalfe's Law, the value or utility of a network is held to be proportional to the square of the number of its members: an approximate, empirical law that was much invoked during the Internet boom by companies going all out for market share. (Metcalfe's intention was to find a cost-value crossover point or 'critical mass', beyond which networks start to pay. Robert Metcalfe, incidentally, was well-qualified in networks: he developed the Ethernet protocol, founded the networking company 3Com Corp., and became in turn publisher of the trade periodical InfoWorld, an influential high-tech columnist and venture capitalist.)

Consider a network with 10 members ( $n=10$ ): there are 90 different possible connections that one member can make to another. Double the membership to 20, and the number of connections grows to 380, i.e. roughly quadruple. Suppose further that, once the network reaches 100,000 members, it generates one dollar per member. If that network now doubles in membership, the total value of the network will be worth \$4 million.

But Metcalfe's Law is a rule of thumb, and the value may increase by some other expression, say  $n \log(n)$ . If that were the case, the value increase of 200,000 member network

would be much more modest, only to \$2,100,000. In fact the value of a broadcast network is believed to grow linearly, a relationship called Sarnoff's Law after the pioneering RCA television executive and entrepreneur David Sarnoff. An important point made by Briscoe, Odlyzko and Tilly {4} is that members are not all equal, and that traffic between some members will be much heavier than traffic between others. Metcalfe's Law also flies in the face of experience. A network with 50 010 members is not made a thousand times more valuable than a network with 50 000 members by the simple acquisition of another ten members. Moreover, were Metcalfe's Law correct, telecoms companies would be rapidly merging, and they're not.

So what's the truth of the matter? Google, employing some of the best minds in the business, is not likely to be following a flawed model.

An answer may lie in a paper by Tongia and Tilley, {5} who turn the problem round and look at the *costs of exclusion from* a network. The treatment is too detailed to be summarized here, but their conclusions are that:

1. Costs of exclusion become exponential in time.
2. Costs are imposed on those *within* the network as well as those excluded.
3. Those excluded will resort to alternative, parallel networking.
4. These conclusions apply to all networks: populations, transportation, healthcare provision, etc.

Google are therefore not pursuing advantage so much as seeking to avoid disadvantage: they are expanding their services before some other company does. With that in mind we can look at Google services, which are very extensive.

#### Google Services

Google currently provides some 50 tools or services. Some of the more important, and the advantages to Google ( besides simply increasing the size of their network):

Service	Nature	Pricing	Advantage to Google
Internet Search	Internet search engine	free	Other side of 'two-sided matching market' for Google Ads.
Google Analytics	analysis of website traffic	free	Better understanding of potential customers.
Google Apps	business services	commercial	Part of cloud computing service and increasing source of revenue.
Google Earth	global topographic 3-d coverage	free	Loss-leader for commercial service.
Gmail	email service	free	Increases market for Google Ads.
Google Books	access to sections of in-print books and entire out-of-print books	free	Paid \$125 million for rights to sell out-of-print books and place ads. Probably commissions to booksellers & publishers. {13}
Google Translate	view a web page in any language	free	None
Google Cloud	cloud computer services	commercial	Increasing source of revenue.
Google AdWords	advertising	commercial	Google's prime source of income.
AdSense	affiliate advertising	google takes share	Increases market for Google Ads: second most important source of income.
Google Mobile	provides add-ons for Android smartphones	free	Access into mobile phone market
Orkut	social media platform	free	Competition to Facebook and MySpace
Blogger	blogging platform	free	Increases market for Google Ads
Google Scholar	locates paper or article fast	search free	None
Google News	news summary and mash-up	free	None
Google Youtube	photo-sharing service	free	Increases market for Google Ads
Google Patents	access to 7 million US patents	free	None
Google Chrome	browser	free	Improves Google services.
Google Plus	google's Facebook	free	Increases market for Google Ads.
Google Checkout	ecommerce tool	from 1.9% + \$0.30	Sales commissions

## Google Acquisitions

Google is often seen as an innovative company, but its skills lie in search engine technology. Expansion into other markets has been by aggressive acquisition. The larger/more significant acquisitions: {8}

Acquisition & Date	Acquired Company Business	Price (US\$ million)	Merged with/became
Applied Semantics. April 2003	Online advertising	102	Adwords & AdSense
Current Communications Group. July 2005	Broadband Internet access	100	Internet Backbone
5% AOL	Broadband Internet access	1000	AOL's White Label search engine
dMarc Broadcasting. January 2007	Advertising	102	AdSense
YouTube. October 2006	Video sharing	1,650	YouTube
Endoxon. December 2006.	Mapping	28	Google Earth
Marratech. April 2007	Video Conferencing	15	Google Talk
DoubleClick. April 2007	Online advertising	3,100	AdSense
FeedBurner. June 2007	Web feed	100	FeedBurner
Grand Central. July 2007	Voice over Internet Protocol	45	Google Voice
Postini. July 2007	Communications security	625	Gmail
On2. August 2009	Video compression	107	WebM & YouTube
Admob. November 2009	Mobile advertising	750	-
Picnik. March 2010	Photo editing	5	Picasa
BumpTop. April 2010.	Desktop Environment	30	Android
Invite Media. June 2010	Advertising	81	DoubleClick
TA Software. July 2010	Travel technology	700	-
Slide. August 2010	Social gaming	182	-
Jambol. August 2010.	Social gold payment	70	-
Like. August 2010	Visual Search Engine	100	Boutiques.com
BeatThatQuote. March 2011	Price comparison service	38	Google Adviser
PushLife. April 2011	Service provider	25	-
Admeld. June 2011	Online advertising	400	DoubleClick, Invite Media

## Google Traffic

Similarly, contrary to appearances, Google buys in much of its traffic. {3}

**Firefox.** Google finances 85% of Firefox in exchange for having its search engine embedded in its browser. (60 million users in 2006.)

**Dell.** By a 2006 partnership agreement, the Google search engine appears by default on Dell computers.

**iPhones.** By a 2008 partnership agreement, the Google search engine appears by default on Apple iPhones. (13 million units sold by October 2008).

**Adobe.** By a 2006 agreement, the Google toolbar is installed as part of Adobe's Shockwave package.

**Sun.** Sun have been installing the Google toolbar on Java packages since 2005. (20 million downloads monthly.)

**AOL.** Google acquired 5% of AOL in 2005. Google became AOL's White Label search engine. (20 million subscribers at time of purchase.)

## Threats to Google

Threats to Google lie in: {9}

### Antitrust suits

1. In 2007 Microsoft called for regulator action to stop Google acquiring DoubleClick
2. In November 2008 regulator action stopped negotiations between Google and Yahoo.
3. In February 2009, Sourcetool, a B2B search engine, filed an antitrust suit against Google, accusing it of unfair pricing.

### Copyright infringement suits

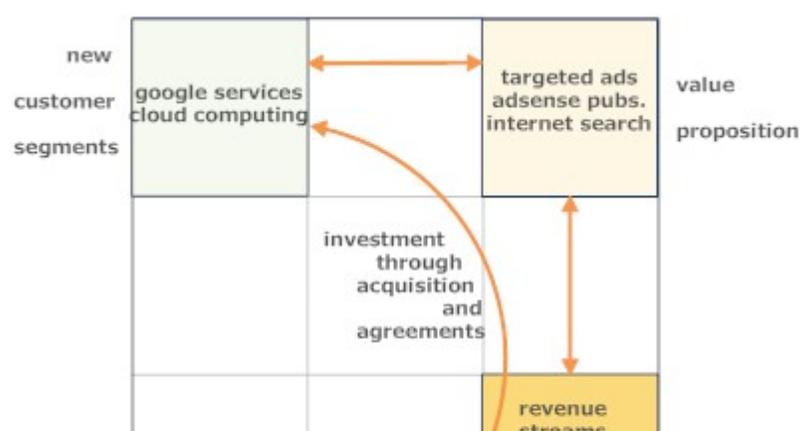
1. In May 2007, Viacom sued Google for 'intentional copyright infringement', demanding US\$1 billion.
2. In May 2008 a group of Belgian newspapers sued Google for making copyrighted material available free: they demanded €49 million.
3. In October 2008, Google paid US\$125 million to settle various publishers suits arising out of its Google Books service.

### Privacy concerns

1. Google's widespread acquisition of data on all Internet users is raising concern in libertarian groups.

## Points to Note

1. Google's dominance in the search engine and online advertising markets.
2. Large advertising profits invested to a. expand networks and b. diversify into other markets.
3. Increasing concern about Google's antitrust and privacy violations.



## Questions

1. What is Metcalfe's Law, and what has it been superseded by? What is their importance to Google services?
2. Briefly describe ten Google services and explain how Google benefits from them.
3. How does Google get its traffic?
4. Give a reasoned history of Google acquisitions, suggesting the underlying strategy and commenting on the acquisition price.
5. What are the current threats to Google, and how seriously should the company take them?
6. Do you agree with Google's Library Project? Who are the main beneficiaries?

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Section Contents

## 9.25 INTEL CORPORATION

Intel Corporation is an American multinational technology corporation founded in July 1968 and headquartered in Santa Clara, California, United States. Intel makes motherboard chipsets, network interface controllers and integrated circuits, flash memories, graphic chips, embedded processors and other devices, but is best known as a semiconductor chip maker, where it now, based on revenues, is the world's largest.

Intel manufactured the first commercial chip in 1971, but it was the success of the personal computer (PC) that turned this division into its primary business. The company invested heavily in research throughout the 1990s and created successively faster chips, which fostered the rapid growth of the computer industry and gave Intel a dominating position in the industry. The market is fiercely competitive, and Intel has fought actions for illegal conduct brought by Advanced Micro Devices, and even in 1997 spent \$750 million for control of the PC industry. {6} In 2005 Intel had 82% of the PC microprocessor market. {6} The company also conducted research into electrical generation and transmission, and has recently introduced a 3D transistor promising enhanced performance and energy efficiency.

Acquisitions made over the 2010-11 period show that Intel is again attempting to diversify away from chip manufacturing: McAfee (computer security technology for US\$ \$7.68 billion), Infineon Technologies' Wireless Solutions (laptop, smart phones, etc. technology) and Fulcrum Microsystems Inc. (network switches).

A 1990s 'Intel Inside' marketing campaign of the 1990s made its Pentium processor a household name. In the 2010 rankings of the world's 100 most powerful brands Millward Brown Optimor placed the company's brand at 48. {1}

This case study concentrates on two aspects of Intel's business, the development of semiconductor chips, and its 'Intel Inside' marketing campaign.

### Chip Making

Intel started with memory chips, becoming the leading manufacturer of RAM and ROM chips in the later 1970s. The microprocessor (almost simultaneously invented by Intel and Texas Instruments) allowed Intel to mass manufacture its Intel 4004 microprocessor for calculating machines in 1971, which it followed by the 8008 and the 8080 microprocessors, though none were great revenue earners. With IBM's PC, introduced in 1981, rapidly becoming successful, Intel created the 80286 microprocessor in 1982, and the 80386 microprocessor in 1986, outdistancing IBM and making Intel a key supplier of reliable microprocessor chips. Intel invested \$200 million in design and \$800 million in production facilities for the 80386 microprocessor. {6} Memory chip production was phased out, and Intel ceased licensing the design to AMD and other companies. Intel set up exclusive supply from three of its own factories, and this control of the market, and increasingly advanced design, made Intel the unquestioned market leader by the early 1990s.

Intel introduced the 486 microprocessor in 1989, the Intel Pentium in 1993, and the Pentium II in 1997. After much trial and error, Intel created the Pentium 4 in 2001, and in 2011 the first Pentium mobile processor. {8}

Intel were slow to react when a floating point error was discovered in their Pentium microprocessor in 1994, but though the recall cost \$500 million, the adverse publicity coincided with their 'Intel Inside' marketing drive, and perversely proved helpful.

Intel research has now diversified into solid state (flash) memories, and the company shipped its first solid state drive in October 2008, rapidly expanding capacity and efficiencies in the years following. Their 'Ramsdale' flash memory,

shipped in 2011, has 40 GB memory and an interface speed of 220 Mbytes/second.

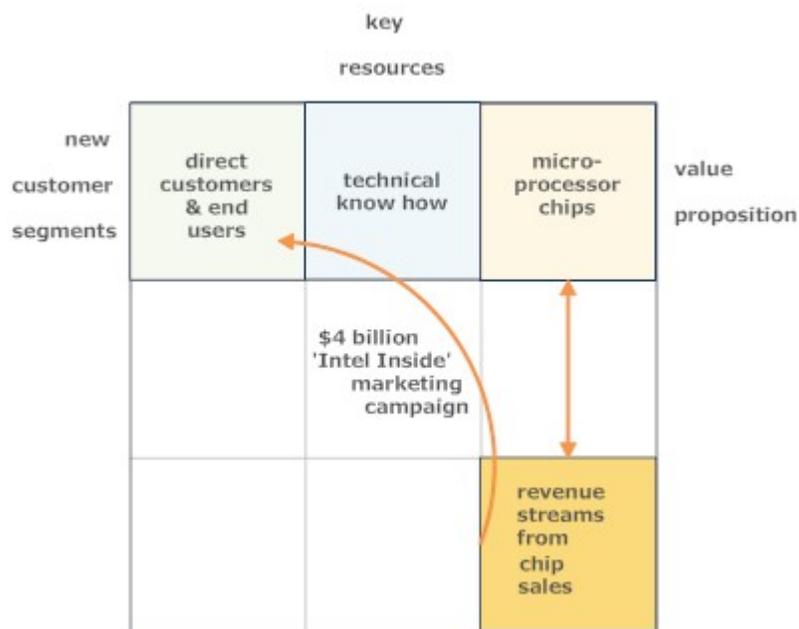
In common with its competitors, {4} Intel set up manufacturing centres abroad (Ireland, Israel, China, Costa Rica, Malaysia and Vietnam) {5}, after careful evaluation of all relevant factors. {3}

Intel have sold chips to many PC manufacturers, but in February 2009 their biggest customers were Hewlett-Packard and Dell. {1}

### 'Intel Inside' Campaign

Other companies manufactured microprocessors, and when Intel could no longer call the 386 brand its own, the company set up the 'Intel Inside' marketing campaign with nearly 200 OEM (Other Equipment Manufacturers) partners in 1991. The object was to create from what before had been of interest only to PC manufacturers: a brand memorable to Intel's direct customers (dealers) and the end-users (consumers and business purchasers). Such a brand strategy was a fairly new approach, but aimed to make customers confident of their computer's inner workings. Intel had spent \$4 billion on marketing its logo by 1997, but results were striking.

Intel research indicated that only 24% of European PC buyers were familiar with the 'Intel Inside' logos in 1991, but that figure had grown to nearly 80% by 1992, and to 94% by 1995, a recognition Intel continues to enjoy, helped by social media marketing. {10} Intel licensed the logo to some 1,000 PC makers, and found that some 70% of home PC buyers and 85% of business buyers stated a preference for Intel, saying they would pay a premium for the security and peace of mind offered by the brand. {9}



## Threats to Intel

Most threats come from alleged abuse of its market position. {1}

1. The European Commission accused Intel of anti-competitive practices, mostly against AMD in July 200, and after extensive investigations, fined the corporation US\$ 1.44 billion in May 2009.
2. South Korean regulators accused Intel of breaking antitrust law, and the Fair Trade Commission ordered Intel to pay a fine of US\$ 25.5 million in June 2008.
3. Intel agreed to a settlement with the US Securities and Exchange Commission (SEC) in July 2010 to pay US\$ 100 million in penalties for not accurately disclosing accounting information to investors.

Intel has also fought expensive lawsuits, particularly against Amdel, paying that company \$1.25 billion in November 2009 to not progress its charges. {1}

## Points to Note

1. Scale of spending required, for R&D and protection of market position.
2. Marketing spend required for 'Intel Inside' campaign, recouped by charging a premium for its products.
3. Punitive scale of fines and damages that can be awarded for unfair practices.

## Questions

1. Provide a short history of Intel's chip-making activities.
2. How has Intel tried to make the process more efficient?
3. What was the 'Intel Inside' campaign, and how did Intel recoup its expenses? Quantify your answer by looking at microprocessor prices on specialist sites.
4. What legal challenges has Intel faced, and what seems to be its policy here?

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## 9.26 LIQUIDATION.COM

Liquidity Services, Inc. is an online auction company providing manufacturers, retailers and governments with an electronic marketplace to dispose of, liquidate, and track goods in a reverse supply chain. The company also offers valuation, appraisal, inventory, marketing, sale, and logistical management of assets, warehousing and inspection of inventory, plus collection and dispute mediation. The company has over 700 employees and is headquartered in Washington, DC. {15}

The company was founded in 1997, was profitable from the 2002 fiscal year, seeing revenue grow at a compound rate of 27% since fiscal year 2002. The economic downturn helped its fortunes. {12} Over a million professional buyers are currently registered on the firm's online marketplaces, and financial data on the year ending September 2010 were: Sales: \$286.8 million, Net Income \$12 million, Sales growth: 21.4%, Net Income growth: 110.1% {15}

### Business Model

Liquidity Services offers a reverse supply chain — i.e. instead of a supply chain efficiently pulling together all the components of a manufacturing process, the reverse chain finds the best market for items surplus to demand, be they overstocked, customer-returned or salvaged items. The market is surprising large, perhaps \$58 billion in 2004 in the US alone {2}, and Liquidation operates three online marketplaces: Liquidation.com, Govliquidation.com and GoWholesale.com. A fourth, Liquibiz.com, a UK marketplace, has recently closed.

Sellers tend to be government departments (especially US Defense Department), manufacturers, distributor and large retailers (the latter commonly experience customer returns around 7% {3} {9}).

Purchasers tend to be leading manufacturers, distributors and e-tailers (especially eBay merchants). {16}

Online auctioning allows sellers to realize prices twice what would have been achievable, and some 80% of goods offered are sold. Liquidation commonly take a 20% commission. {16}

Challenges

Liquidation initially faced several problems:

### **Marketing**

Liquidity initially had no brand name, but sales grew steadily through:

1. Organic search engine optimization, and then ppc marketing through Google and Overture (now Yahoo) ads.
2. Design of clear, easy-to-use and informative websites. {5}
3. Ads placed in trade periodicals to emphasize the professionalism and trustworthiness of the company.
4. Opt-in email marketing of addresses collected from their sites, often accompanied by simple questionnaires used to target customer interests more closely.
5. PR campaigns to get the company noticed by the mainstream press. {16}
6. Tracking customer behaviour and refined the registration process.

### **Company Size**

An important step was the acquisition in December 2007 of Information Management Specialists, Inc. and its GovDeals, Inc. subsidiary for approximately \$10 million in cash.

Liquidation became an exclusive partner of the US Department of Defense for the sale of all usable US military surplus. {6}

### **Trust**

Liquidation offered a range of essential services, including collection, asset lotting, accurate description, invoicing, tracking and payment collection.

## Points to Note

1. Slow growth of a company through progressive Internet marketing.
2. Range of services (and expertise) needed to gain customer confidence.

## Questions

1. Explain the Liquidation.Com business model.
2. What Internet marketing techniques did Liquidation employ?
3. How did Liquidation build its brand name?
4. Who are Liquidation's important customers, and how are they secured?

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Section Contents

## 9.27 LOTUS NOTES

*Lotus Notes* is less an email client than a desktop client program with email, appointments calendar, personal information manager and other applications working on an IBM Lotus Domino server. Lotus Notes was developed as a collaborative application for big companies needing emails, calendars, instant messaging and web browsing, but can now provide blogs, wikis, RSS aggregators, CRM and Help Desk systems, plus applications built to third-party specifications. Its long history illustrates the resources needed to keep a major product viable.

### History

*Lotus Notes* predates the Internet, and began in 1973 as IBM's *PLATO* notes, which could tag a bug report with the user's ID and the date, and ensure the report couldn't be easily overwritten. By 1976 the program could:

Create private notes files organized by subject.

Create access lists.

Access all notes and responses written since a certain date.

Create anonymous notes.

Create director message flags.

Mark comments in a document.

Link notes files with other *PLATO* systems.

Allow multiplayer access.

Protect a file against deletion by others.

As a basic but useful program in busy computing environments, *Lotus Notes* remained popular into the eighties.

In 1984, Ray Ozzie founded Iris Associates Inc., and, joined by Tim Halvorsen and Len Kawell, developed and repositioned *Notes* as a PIM (Personal Information Manager) permitting communication, collaboration, and coordination among groups of people. The product was flexible and offered a client/server system of PCs connected to a Local Area

Network: a familiar concept today but then ahead of its time. When Apple Computer released the Macintosh with its easy-to-use graphical user interface, Iris Associates also gave *Lotus Notes* a graphical user interface and rewrote it to work on the Apple operating system OS/2. Lotus then purchased the rights to *Notes*, and such was its promise that, even before its official release in 1989, Price Waterhouse made a single purchase of 10,000 copies, realizing the product would change the nature of business.

The **1989 program** offered:

Encryption, signing, and authentication with RSA public-key technology.

Dial-up server access.

Import/export of data in various formats.

Easy set up of new users.

Advanced email services.

Online help.

Formula language, making the programming of applications easier.

'Hotlink' connections between Notes documents.

Keyword features.

Regulated control to database access.

Central administration of remote database replicas.

**Release 2**, shipped in 1991, was scaled up to support 10,000 users, the product still being aimed at the larger company and carrying a minimum price-tag of \$62,000. When **Version 3** was released in 1993, *Lotus Notes* was in use by some 500,000 people in over 2,000 companies: clearly a most successful product. Version 3, however, was aimed at a larger market (companies with a 200-strong work), and the price reduced accordingly.

Notwithstanding these improvements, Lotus stock had fallen by 1995 from \$80 to \$30, and in July 1995 IBM acquired Lotus for US\$3.5 billion. **Version 4**, released in 1996, was a faster and more scalable product, offering a simpler-to-use interface and was better support — for emerging POP, IMAP, LDAP,

NNTP, HTTP protocols and the UNIX, iSeries, Novel platforms. The next few years saw an explosion in Internet products and services, however, and Lotus suddenly seemed dead. Lotus countered with major improvements, massive advertising and a 1999 change in brand name: **Version 4.5** was called *Domino 4.5, Powered by Notes*. *Notes/Domino* became a competitive product, offering:

Messaging with a wide variety of protocols.

Internet server with full-text search of multiple databases.

Personal Web Navigator with HTML, database and Java applet support.

Good scaling and manageability.

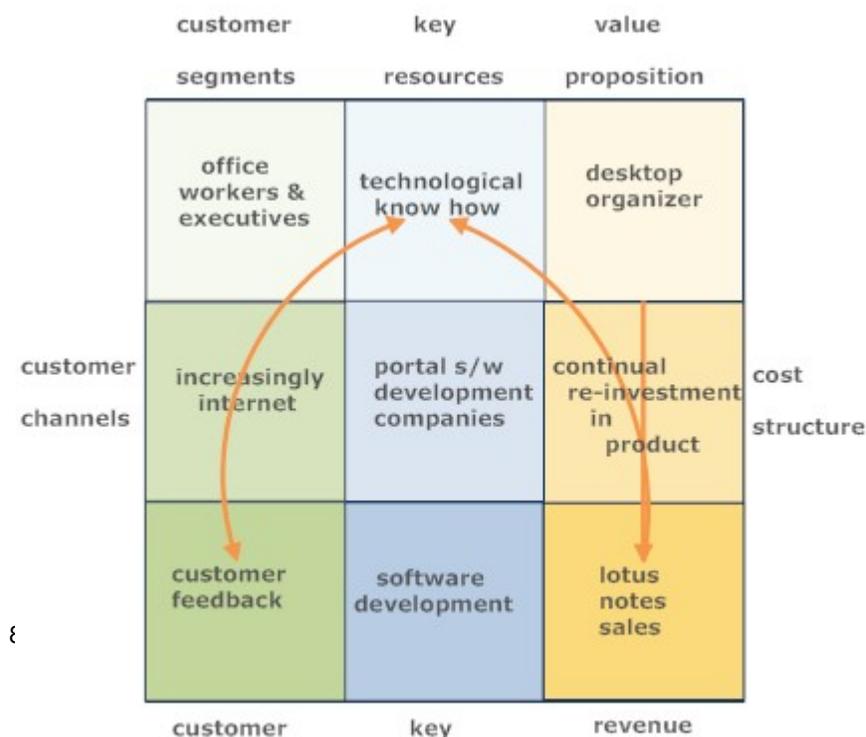
Advanced security.

Programming ability with script libraries and various operating systems support.

Seamless web access from the Notes client.

Ability to hide design elements from a Web browser or a Notes client if necessary.

**Version 5** (1999) was further integrated with the Internet. *Lotus Notes 6* and *Lotus Domino 6* (2002) were slimmer, faster systems, and **Version 6.5** (2003) took the process further, adding new functionality. **Version 7** (2005) offered better integration with the IBM WebSphere Application Server and WebSphere Portal, and made many technical improvements to the server. **Release 8** (2007) was rebuilt around the Eclipse framework, and turned the product into an advanced, open-source, Java-based platform. Features included:



Fast access to the applications used most often.

Sidebar displays of alerts and critical information, including RSS, and ATOM feeds.

Word processing, spreadsheet, and presentation applications supporting the Open Document Format (ODF), Microsoft Office, and Lotus SmartSuite file formats.

Comprehensive search by person and topic

#### Points to Note

1. IBM protected its investment by a fundamental commitment to a. improving the product and b. making new releases work with earlier ones (backward compatibility).
2. Functionality was added as competing Internet services became available.
3. Move from proprietary to open source standards.

Version	Year	Important New Features
Release 2	1991	Forms, views, formulae
Release 3	1993	ODBC database access
Release 4	1996	Lotus script, SMTP
Release 4.5	1999	POP/IMAP protocols, HTML pages
Release 5	1999	CORBS, Java and Javascript languages
Release 6	2002	Servlets, JSP, XML
Release 6.5	2003	DB2, web services, open standards
Release 7	2005	WebSphere Application Server and WebSphere Portal integration
Release 8	2007	Office suite, support for Open Document, Microsoft Office, and Lotus SmartSuite file formats
Release 8.5	2009	Open standards

#### Questions

1. What is Lotus Notes? How did the program originate?
2. How did the Internet change its fortunes?
3. Outline the versions. What do they show?

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Section Contents

## 9.28 LULU (LULU ENTERPRISES, INC. & LULU PRESS)

Lulu provides PoD (print on demand) services and is headquartered at Raleigh, North Carolina, United States. The company also has staff in 12 countries, and offices in Raleigh, London, Toronto and Bangalore.

The company also provides online order fulfillment, ISBN assignment, and distribution of books to retailers requesting specific titles (returns not being accepted).

Lulu Enterprises was started by Red Hat co-founder Bob Young in early 2002. OpenMind Publishing was started by Bradley Schultz and Paul Elliot to publish college texts. The two merged in the second half of 2002, with Bob Young as CEO.

### Business Model

Lulu is one of the better-known PoD publishers, and (with CreateSpace) offers the cheapest rate for simple conversion of manuscript into PoD form. {9}

The company has grown rapidly through: {1}

1. New technology that can print books one copy at a time. {10}
2. Online marketing: everything is done through the Internet.
3. A simple-to-use but complete service: just email the manuscript and the company will do the rest: proofing, typesetting, cover, conversion, marketing and distribution.
4. Competitive rates for the simple conversion (around \$100).
5. Much control left in hands of author.
6. Promotion as a creative community, with over 1.8 million members in 80 countries, and 12 thousand new members (i.e. clients) added every week.
7. Use of social media: Facebook, MySpace, and Twitter.

### Threats

1. PoD technology, improving and becoming more affordable, is expected to become available in High Street print shops in the next ten years.
2. General decline of publishing industry, and of reading as a preferred activity. {4}
3. Growth of blogs and social media platforms as popular means of expression, possibly moving publishing towards a community model with increased opportunities for feedback and marketing.

#### PoD Generally

On-demand-publishing, also known as print-on-demand, PoD, or publish-on-demand, allows details of a book to be stored electronically for later printing on a one-off basis. The advantages: are:

1. Costs start somewhere around \$100, compared with the \$1000+ for conventional printing.
2. Turnaround is a few weeks rather than the customary 18 months.
3. Content can be sent by e-mail, ftp or on a floppy through the post, and the PoD company does the rest.
4. The book can feature on Amazon and other on-line bookshops.
5. On-demand-publishing can produce books of a specialist nature that would otherwise never see the light of day.

Equally important are the disadvantages:

1. Authors are giving up their copyright, often for a smaller return in product quality and guarantees.
2. Some of the cheaper versions look poor: garish covers and fuzzy pages.
3. No quality controls exist, unless the author specifies and pays for them.
4. Editing, proofing, typesetting, illustration, warehousing, marketing and reviewing can all be skimped, which impacts on sales figures.
5. Formats tend to be standardized, which may not suit all

publications.

6. Publishing rights stay with the PoD publisher, rather than with the author, at least for a period.

7. Bookshops may refuse to stock these products because they are not generally returnable on a sale-or-return basis, and discounts offered are less attractive.

8. The books themselves are more expensive than their conventional counterpart, sometimes 50% more.

9. Sales are often disappointing. Publishers Weekly found that of 17,000 titles produced by iUniverse, only 83 had sold more than 500 copies.

10. PoD does not lead necessarily to recognition. A 2004 NYT article reported that only 20 of the 10,000 titles published by Xlibris had been picked up by commercial publishers.

11. Royalties are generally based on net revenues and not the cover price. \$1.00 per copy is a fairly typical figure. {8}

#### Points to Note

1. Coming together of Internet, digital and printing technology to meet a need imperfectly addressed by the traditional printing model.

2. PoD is an example of the Long Tail model, with small numbers of copies sold into increasingly diverse market segments.

3. Speed at which the Pod market has grown, and the speed at which it is changing into a creative community.

#### Questions

1. What are the advantages of Print on Demand?

2. Why has Lulu been more successful than many in this field?

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Section Contents

## 9.29 NETFLIX, INC.

Netflix, Inc. provides on-demand Internet streaming video in the United States and Canada, and flat rate DVD-by-mail in the United States.

The company was established in 1997, started its subscription service in 1999 and by 2009 was offering a collection of 100,000 titles on DVD to over 10 million subscribers. In April 2011, Netflix had 23.6 million subscribers, and a few months later announced an expansion into the European market, beginning with Spain by 2012.

### Business Model

Netflix began as web-based catalogue service that rented older movies in DVD format and delivered them by mail. Subscribers created a wants list on the Netflix web site, and for \$19.95 per month received three DVDs by mail from the top of their list, with no return deadline or late charges. They kept the movies for as long as they wished, and then sent them back in postage-paid envelopes before receiving the next titles on their list. By 2003, Netflix had a 2% share of the market with 1 million subscribers and 15,000 titles in its library {1}

Competition came from Blockbuster and Wal-mart, who both introduced similar rental services, but Netflix focused on rental alone, and in 2005 accommodated the Wal-mart threat with a partnership arrangement whereby Wal-mart referred DVD rental customers to Netflix. {3} {4}

In 2007, Netflix introduced a service to deliver movies and television shows directly to users' PCs, not as downloads but as streaming video, which cannot be saved to memory. In doing so, Netflix entered a competitive marketplace crowded with a. large companies like Apple and Amazon, b. specific on-demand services like MovieLink, CinemaNow, and c. facilities increasingly provided by cable companies. The

'Watch Instantly' service nonetheless proved successful because Netflix: {11} {12}

1. Made deals with Disney, CBS and Epix for TV content, and with Relativity Media and others for movies. {14}
2. Introduced an 'all-you-can-watch' service for as little as \$8.99 a month.
3. Introduced an 'unlimited TV and movies streaming' service to computer or TV for \$7.99 a month in November 2010.
4. Separated the online streaming and DVD by mail services, pricing the first at \$9.99/month, and the second at \$7.99/month (for one out at a time).

Netflix is today the world's largest video and television-episode rental subscription service, operating 50 regional shipping centers across the US. The 2010 fiscal year saw revenues of \$2.1 billion and a net income of \$161 million. {16}

#### Points to Note

1. Exclusive focus on a small segment of the entertainment market.
2. Slim but improving net margins: 5.5% in 2007, 6.1% in 2008, 6.9% in 2009 and 7.4% in 2010. {16}
3. Increasing competition from Blockbuster, Amazon and iTunes.
4. Importance of key partnerships with media companies.

#### Questions

1. What is streaming video, and what is its appeal?
2. How has Netflix grown its business?
3. What does Netflix tell us about ecommerce generally?
4. Analyze Netflix with the Osterwalder and Pigneur business model.

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### 9.30 NESPRESSO.SA

Nespresso, a dedicated espresso machine and coffee pod system, is now an important part of the Nestlé empire, {10} with sales around US\$ 1.7 billion. {7}

It was not always so, and indeed Nespresso's history is one of sustained and often unsuccessful marketing over many years. Eric Favre at the Nestlé research lab filed the first patent in 1976, when Nestlé dominated the instant coffee market with Nescafé but was weak in the roast and ground coffee sectors. Favre overcame various technical problems, but attempts to enter the restaurant and office market were unsuccessful. In 1986, Nestlé set up Nespress SA, an independent company, but sales were still disappointing until Jean-Paul Gaillard was appointed CEO and changed the business model:

1. Focus was shifted from offices to affluent households.
2. Coffee was sold by direct mail as 'pods', capsules that could be inserted into the coffee machines with a minimum of fuss and coffee wastage.

When that proved successful, Nespresso:

1. Started selling online.
2. Built coffee dispensing stores at prime locations.
3. Launched its own 'boutiques' in up-market departmental stores.
4. Established a Nespresso community through an Internet club and then Facebook, MySpace and Twitter.

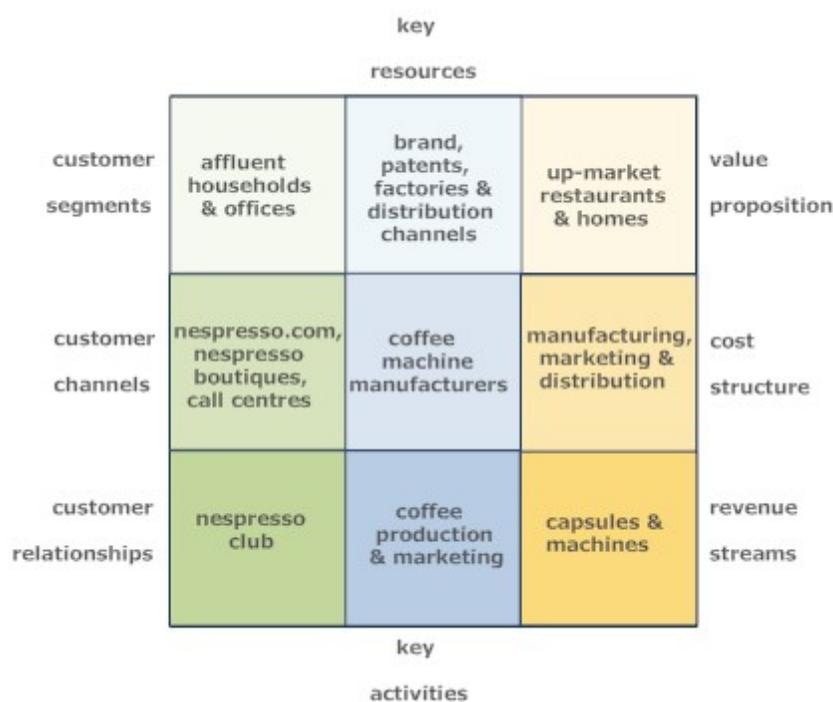
Finally, in 2004, Nestlé created a second product, Nescafé Dolce Gusto, for the mid-tier mass market.

#### The Long Haul

Nespresso was for long a considerable drain on Nestlé resources, and would have probably been closed down if not separate from its parent. The milestones were:

1976: Nespresso system patent filed.

1982: Focus on restaurant and office market.  
 1986: Separate Nespresso SA company formed.  
 1988: New CEO overhauls marketing strategy.  
 1991: Nespresso launched internationally.  
 1997: First advertising campaigns started.  
 1998: Focus on ecommerce with web site redesign  
 2006: George Clooney retained as spokesperson.  
 2008. Sales 2000-8 average 35% yearly and attain \$1.9 billion.



#### Points to Note

1. Importance of identifying the proper market segment.
2. New ideas that came with unbundling Nespresso SA from Nestlé.
3. Large markup: 7-8 times the price of Columbian ground coffee in French supermarkets. {6} Or more {12}
4. Closed system: machines only take Nespresso pods; exclusive Nespresso boutiques. {11}

#### Questions

1. Give a short history of Nespresso.
2. What suggested that Nespresso would be more appropriately marketed to affluent households?
3. What Internet marketing techniques proved successful?

4. What enabled Nespresso to survive so long as a struggling part of the Nestlé empire?
5. Construct a Osterwalder and Pigneur model for the current Nespresso business.

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## 9.31 NETSCAPE

Netscape is now part of AOL (America Online), a global Internet services and media company. The company was founded in 1983, and once numbered some 30 million users of its Internet suite. AOL was acquired by Time Warner, but then spun off as a separate company in May 2009.

### History

Netscape was a small but highly innovative company that developed a popular web browser, a web server, the still-used Secure Sockets Layer Protocol (SSL) for safe online communication, and JavaScript, the most widely-used language for client-side scripting of web pages. Unable to beat competition from the free Apache web server, however, and the marketing muscle of Microsoft, the company merged with AOL in 1998.

It was Netscape's web browser Mosaic that popularized the Internet. When Mosaic Communications Corporation changed its name to Netscape Communications, the browser was renamed Netscape Navigator, and a first version launched in late 1994. The browser immediately became popular: there was little competition and the program was free, intuitive, modest in memory requirements and produced excellent page displays. Netscape made a successful IPO in August, 1995. Though a last-minute decision doubled the initial offering to \$28, the soared to \$75 on the first day of trading, and the company's revenues doubled every quarter in 1995.

Netscape, experimented with prototypes of a web-based system which would enable users to access and edit their files anywhere across a network, a system that Microsoft saw as a threat to their operating system monopoly. Finally waking up to the importance of the Internet, Microsoft released version 1.0 of Internet Explorer with its operating system in 1995, rapidly developing new versions until by Version 4 it had a browser considered more stable than Netscape on the

Macintosh platform. Microsoft also targeted the Netscape server with its own Internet Information Server (IIS), which was bundled free with Windows NT. On November 24, 1998, AOL announced it would acquire Netscape Communications in a tax-free stock-swap valued at US\$4.2 billion, an acquisition that enabled AOL to become less dependent on the Internet Explorer web browser. Netscape's server products and its Professional Services group became part of iPlanet, a joint marketing and development alliance between AOL and Sun Microsystems.

### Challenges

Netscape's demise in 2008, when AOL withdrew support, is often placed at Microsoft's door — the company's deeper development pockets and unfair marketing tactics — but the fault was more Netscape's unsatisfactory revenue model and bad business decisions. {1} {4}

Netscape was a small company, and drew its revenues from

1. Software sales of the Netscape server, and
2. Licensing of its browser code to add-on developers.

Though somewhat overpriced, the Netscape server was popular with companies wanting an alternative to Microsoft products, but when the open source (i.e. free) Apache server appeared on the scene, that source of revenue quickly dried up. Apache was the superior server, and when supplied with the cPanel interface (as it commonly is today), even non-technical staff had ready access to web traffic statistics, scripts, database links and a host of other functions. Microsoft servers continue to be used by corporate America, but the worldwide breakdown in June 2010 was 54% to Apache and 24% to Microsoft.

Among Netscape's licensees was Spyglass, which in turn licensed the code to Microsoft, which then used it as a base for its own Internet Explorer. Microsoft's browser was not particularly good ( patchy support for browser standards, and repeated security lapses) but by being bundled free with

Microsoft operating systems, it soon became the de factor interface for the general public. Microsoft also made a licensing agreement with AOL to edge out Netscape, and released a web authoring tool, FrontPage, to create pages looking better in Internet Explorer.

Netscape was acquired by AOL, and the browser further developed, but the result was a bloated program that took too long to download and install. Usage share fell from 90% in the mid 1990s to under 1% by 2006.

Finally, as a result of an agreement between Microsoft and Apple, which required that Internet Explorer be the default browser on the Mac OS, Netscape lost another major market share.

### Browser Revenues

For comparison, browsers developers earn their revenues as follows: {3} {6} {7} {8}

Browser	Revenue Sources
Internet Explorer	1. Other Microsoft software sales
FireFox	1. Search engine royalties (95%) and 2. Fees from Google (toolbar) and other application developers (5%)
Chrome	1. Google advertising revenues
Safari	1. Apple hardware sales
Opera	1. Engineering fees, maintenance fees and shares of sales income and 2. Search engine royalties.
Netscape	1. Server sales and 2. license of browser code to application developers.

### Threats

Threats to Netscape came from:

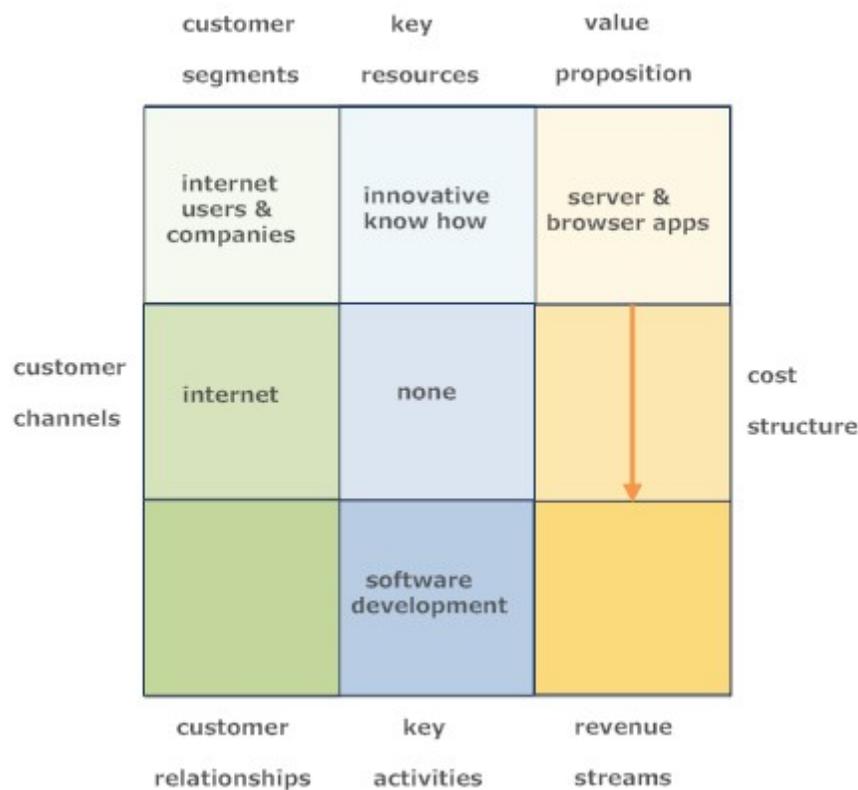
1. Replacement of Netscape server by free Apache server.
2. Under-capitalization.
3. Lack of strong partnerships.
4. Marketing resources of Microsoft.

### Points to Note

1. Rapid development of innovative products.
2. Vulnerable business model.

### Questions

1. Explain the single, most important conclusion to be drawn from the Netscape story?
2. What were the main threats to Netscape, and which proved fatal?
3. Looking at Mozilla successors, what could management have done to better ensure the survival of Netscape?



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## 9.32 NITENDO WII

Nintendo Co., Ltd. is a multinational corporation located in Kyoto, Japan.

The company started in 1889 as the maker of hanafuda cards, developed various niche businesses, and in 1963 turned to video games. Today the company is Japan's third most valuable listed company, with a market value of over US\$85 billion, and has sold over 565 million hardware units and 3.4 billion software units. {13}

### Business Model

Video games are examples of double-sided platforms. Consoles will only be built if there are sufficient players to justify development and marketing expenses. Players will only buy the console if it hosts sufficiently good games. Both are needed, and the costs are considerable, leading to intense competition between Sony, Microsoft and Nitendo. Sony's Playstation and Microsoft's Xbox came to dominate the market by targeting avid gamers with increasingly sophisticated (and expensive) consoles that were sold at a loss {8} ( to be recouped from higher software prices, {4} but possibly also to see off the competition. {1} {2} {3}) Sony and Microsoft's business model was:

1. Develop and sell games for their own consoles/PCs.
2. Sell better (faster CPUs and graphics cards, larger RAMs) consoles/PCs to avid, hard-core gamers.
3. Earn royalties from third party games developers.

Nitendo could not compete with these giants and was approaching bankruptcy {4} when they introduced their own, new business model, which targeted family players who wanted entertainment rather than the latest in technology. Nitendo's business model was:

1. Produce and sell a remote control device at modest cost.
2. Target customer segments looking for entertainment.
3. Earn royalties from third party games developers. {1}

#### Development of the Wii

Nintendo's fortunes started to turn round in 2002, when the company identified two trends. The first was that young consumers reduced gaming time when they started careers and families. The second was that, as consoles became more powerful, making games for them got more expensive. The response, which was to make companies more conservative in the games they developed, increasingly put Nintendo at a disadvantage.

Nintendo's first move was to improve the game controllers, whose basic design had hardly changed since the first paddles. Nintendo: {4}

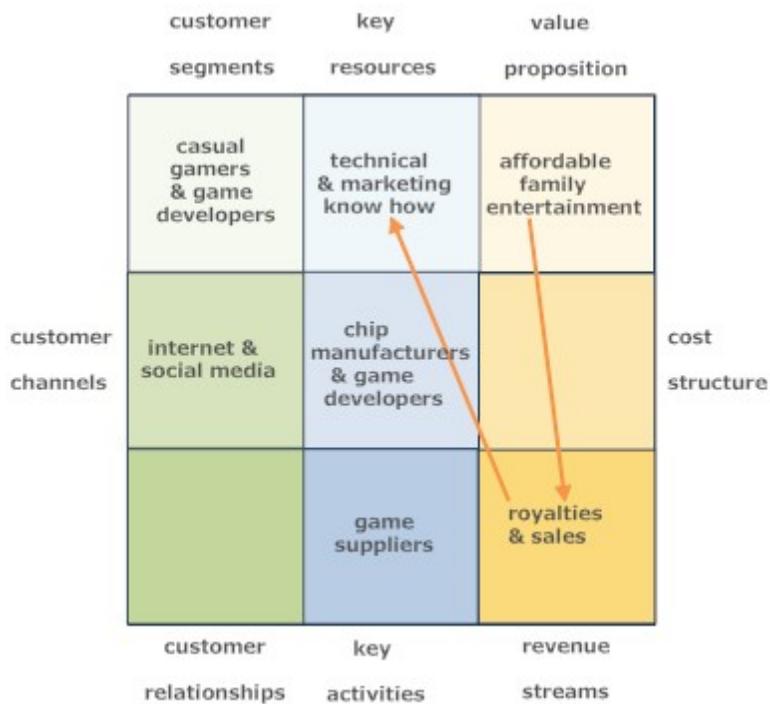
1. Introduced the \$150 DS handheld game system in 2004.
2. Broadened its appeal by replacing its kid-friendly Game Boy by Nintendogs and then Brain Age, a game designed for more mature players. Sales were initially slow to take off, but eventually achieved 5.6 million units during first holiday season.
3. Developed the wii game controller, sleek-looking and boasting Wi-Fi networking and voice recognition, but powered by a relatively slow (and cheap) CPU chip.
4. Designed impressive 'sports match' games to make full use of wii's powers.

In 2006 Nintendo marketed its wii game controller by: {4} {10}

1. TV campaigns targeting school kids and 25-49 year olds.
2. Ads in grey-haired publications like AARP and Reader's Digest.
3. Campaigns in social-media platforms, including MySpace.
4. Giving away its killer application, Wii Sports, with every \$250 console.

The DS and Wii systems boosted shares to make Nintendo's 2007 market capitalisation almost twice that of Sony (whose total revenue is more than eight times as big as Nintendo's).

The DS and Wii systems boosted shares to make Nintendo's 2007 market capitalisation almost twice that of Sony (whose total revenue is more than eight times as big as Nintendo's).



{5} Nintendo exploited its new customer segments by increasing the software available for the wii with: {5}

1. A wider range of games generally (though fewer than the competition). {7}
2. Help programs like home budgeting, recipes and health care. {9}
3. Home fitness programs introduced by game stars like Mario and Zelda. {9}
4. 'Wii Sports' software that exploited the motion-sensing controller.
5. Games like 'Tennis', which actually provides physical exercise.
6. Brain training programs that appeal to the young and may ward off Alzheimer's in later life. {6}

Points to Note

1. Double-sided platform that earns from both sides.
2. Nintendo's focus on casual gamers.
3. Low-cost differentiation of the product (game controller).
4. Rapid exploitation of a new customer segment.

#### Questions

1. What is meant by double-sided platforms? How did this place Nintendo at a disadvantage?
2. Explain how competition forced Nintendo to change its market segments. How did it later exploit the new market segments?
3. Describe the evolution of the wii system.
4. Explore the current marketing efforts of Nintendo. Are they succeeding?

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### 9.33 OPEN TABLE.COM, INC.

OpenTable is the US's largest online restaurant reservation booking service, allowing customers to instantly find open tables at restaurants and to book them. The company was incorporated in San Francisco in 1998, changed its name to OpenTable.com, Inc, went public in 2009, and is still trading well above its \$17 IPO price (\$100/share in March 2011 {10}).

OpenTable acquired Toptable.com, a UK-based reservation website, for an estimated \$55 million in 2010. Toptable.com's network included 3,000 restaurants in the UK and 2,000 in Europe. {9}

Headquarters are in San Francisco, California. With more than 20,000 restaurant members, OpenTable currently seats 5 million diners monthly. {12}

#### Marketing the Concept

Marketing was tough. To get into 50 cities, the company originally paid online restaurant reviewers for links to its website, but the strategy was costing \$1 million a month for \$100,000 in revenue. {11} Management changes followed, and the company created the user-friendly ERB booking service and sold it through a door-to-door sales force that targeted expensive restaurants. The strategy worked, and OpenTable spread to 50 states and over 1,000 restaurants overseas. {6}

#### How It Works

OpenTable provides its proprietary ERB (Electronic Reservation Book) touchscreen software that: {12}

1. Provides a real-time map of free tables on each restaurant floor.
2. Keeps meal patterns for all parties.
3. Helps to maximize guest seating.
4. Saves time with automated reservations.

5. Keeps a database of diners.
6. Attracts repeat business with email marketing.
7. Offers a loyalty rewards point system. {5}

Fees are apparently tailored to the individual restaurant, {12}  
but were: {10}

1. A one-off \$600-700 fee for onsite installation and training.
2. Monthly fees of \$199 for hard- and software use.
3. Further add-on licenses and modules are priced from \$25 to \$89 per month. {9}
4. Transaction charges of \$1/guest seated through the OpenTable website.
5. Transaction charges of \$0.25/guest seated through the restaurant's own website. {9}

The system is free to diners.

## SWOT Analysis

### **Strengths**

1. OpenTable struggled to get its IPO priced, but the stock has since appreciated considerably, making takeovers expensive. {8}
2. Already well-known and becoming increasingly so. {11}
3. Covers most large US cities, and has expanded to Canada, Mexico, UK, Germany, France, Spain and Japan.
4. Operates a mobile service.
5. Features a set of 'best of' lists based on user feedback. {1}
6. The system is easy to use, and makes booking more efficient and less error-prone: realtime cancellations free up tables.
7. Not dependent on advertising revenues, which have suffered in the downturn. {4}
8. Grows by viral marketing: diners who find the service helpful recommend it to others.

### **Weaknesses**

1. OpenTable does not properly grade restaurants.
2. System is relatively expensive for smaller restaurants where profit margins are traditionally slim (5-7%). {7} {10}

3. Though OpenTable has only some 1.45% of the country's restaurants, its US growth opportunities may have been overestimated. {8} {10}
4. OpenTable is not always accurate, being dependent on correct restaurant maintenance. {7}

### **Opportunities**

1. Expansion through applications for tablets and mobiles: Palm, Blackberry, iPhone. {11}
2. Exportation of a successful model to other countries.

### **Threats**

1. Many sites more usefully assess restaurants (food, service, value for money, etc.): Yelp and ChowHound.
2. Competition from similar services, e.g. Menupage, Urbanspoon and SavvyDiner. {8}
3. Competition from search engines, online yellow pages and travel agencies. {2}

### Points to Note

1. Cost of initial marketing.
2. Mix of new and traditional marketing techniques.
3. Growth as an exponential network of satisfied restaurants and diners.

### Questions

1. Provide an account of Open Table.Com, Inc. How does it work?
2. Explain the difficulties in marketing the idea, and how they were solved.
3. Provide a SWOT analysis for Open Table.Com, Inc.

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## 9.34 PAYPAL

PayPal is the largest and most popular of online payment systems, currently holding more than 100 million active accounts in 25 currencies. {7} The payment system was conceived in 1998 and the company launched as Confinity. Its electronic payments system was first offered in 1999, and in 2000 the company was acquired by X.com Corporation. The corporation renamed Confinity as PayPal, and made an initial stock offering on Nasdaq in 2001. {6} Failing to make its own electronic payments system pay, {3} eBay acquired PayPal in 2002 for US\$1.5 billion. {1}

PayPal headquarters are located in San Jose, California, USA, but the company also has operations in India, Ireland, Germany, Israel and China.

PayPal provides a secure wallet system of transferring funds for both senders and receivers. Both must open an account with PayPal and provide details of a credit, debit or bank account, which is drawn on if insufficient funds remain in the PayPal wallet ('float') to honour a transaction. Access to the account is through email address and password. {1}

PayPal is one of the great success stories of the web, and an example of first-mover advantage. In the face of stiff competition, and despite many websites set up to complain of PayPal practices, the company's net total payment volume has grown steadily, particularly from eBay purchases: US\$30 billion from that source in 2008, for example, 51% of total revenues. {3} PayPal's net total payment volume for 2010 was nearly \$92 billion, up 28% year over year. {6}

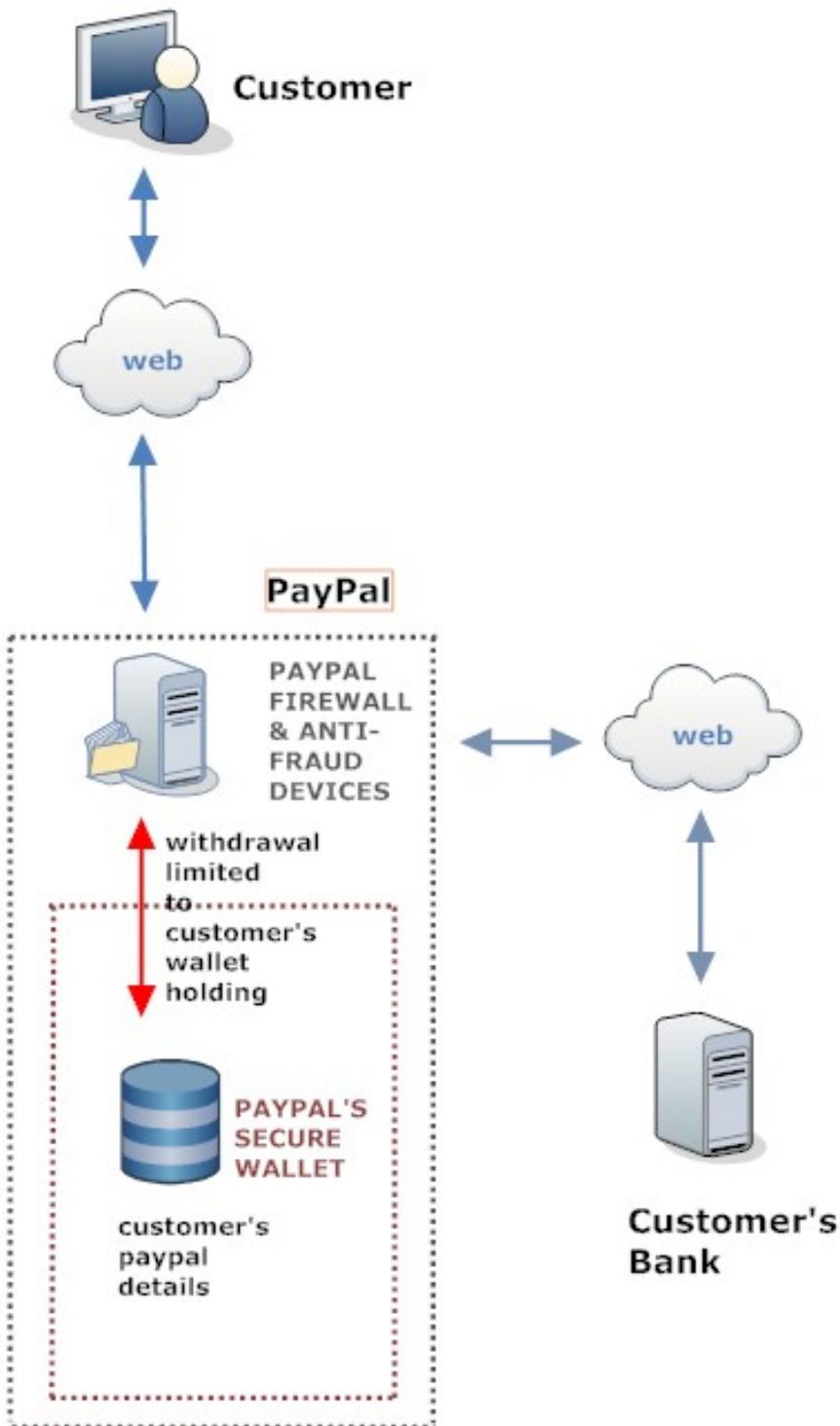
Evolution of PayPal's Business Model

PayPal's business model went through three phases. {1}

### **Phase One: 1999-2000**

PayPal received the bulk of its revenues from eBay purchasers who needed a cheap and easy way of making

payment. Since growth was sluggish, PayPal adopted an aggressive marketing campaign, depositing \$10 in new users' PayPal accounts and another \$10 for each new user they recruited.



## Phase Two: 2000-2002

That marketing campaign was unsustainable in the long term, and PayPal adopted the following:

1. Lowering transaction charges to zero, hoping to earn interest on customers' floats. It failed because customers promptly drew down their floats.
2. Bearing more of the cost of litigation and fraud. eBay

buyers using PayPal got up to \$1,000 in fraud protection, and e-merchants more protection from chargebacks.

### **Phase Three: 2002 Onwards**

After its acquisition by eBay, Paypal turned its attention to the non-eBay market, offering these terms:

1. Lowered transaction fees for high-volume merchants.
2. Recruitment of non-eBay merchants won an increased bonus (to US\$1000, up from the previous US\$100 cap).
3. Persuaded credit card gateway providers to include PayPal.
4. Reduced fees for online music purchases and other 'micropayments'.
5. Payment via text messages on cell phones

PayPal also hired a special sales force to persuade leading brands to accept PayPal: successful. {9}

Swot Analysis

### **Strengths**

PayPal has proved popular because of its:

1. Simplicity: opening an account can be accomplished in a few minutes (though PayPal approval takes longer).
2. Commission charges are modest, comparable to other Internet Payment Service providers (IPSPs) at low transaction volumes.
3. Online merchants do not need an Online Merchant Account, which can be difficult and/or expensive to acquire.
4. Though still carrying the stigma of small business, PayPal is now accepted by larger companies. {9}
5. Viral marketing: anyone receiving PayPal cash has to open an account.

### **Weaknesses**

Loss of confidence by e-merchants, who allege:

1. Being the target of many scams, PayPal's fraud detection can be heavy-handed, freezing accounts for long periods.
2. PayPal's arbitration system is not always adhered to, hitting the e-merchant with unwarranted charge-backs.

3. Support is rudimentary: telephone, no emails, rapid turnover in poorly-trained staff.
4. Funds drawn from a bank account cannot be recovered (unlike credit card transactions).
5. No limit to the funds that can be misappropriated by a PayPal transaction (again unlike credit card transactions, which is generally restricted to \$50).
6. Primitive download of e-goods: system doesn't always work.

## **Opportunities**

PayPal is expanding to:

1. Accept payment via mobile text messages.
2. Be accepted in more markets: 190 in 2011.
3. Allow software companies develop applications.
4. Operate outside the USA, notably Asia.

## **Threats**

Threats come from increasingly sophisticated scams, litigation, and competition from other Internet Payment Service Providers.

1. PayPal has been forced to install costly anti-fraud software (e.g. acquisition of Fraud Sciences for \$169 million in 2008), though these have proved worthwhile: losses were \$171 million in 2008, only 0.29% of total payment volume. {2}
2. Competition comes from:
  - a. Google checkout.
  - b. Mobile payment with Netbanx, etc.
  - c. Yahoo small business.
  - d. Facebook credits system.
  - e. Amazon payment services.
  - f. Other IPSPs.
3. Litigation: PayPal has had to settle many claims, generally out of court. A few sums that were disclosed: {1}
  - a. Alleged violations of the Electronic Funds Transfer Act in May 2002: US\$ 9.25 million
  - b. Failure to show clients' rights and liabilities more accurately: US\$150,000 in March 2004 to the state of New

York.

c. Illegal charging for currency conversion: PayPal and Israel Credit Cards-Cal Ltd. paid NIS16 million in June 2011.

#### Points to Note

1. Success was not immediate, but required costly marketing campaigns.
2. PayPal has continued to see off the competition: many 'PayPal alternatives' exist, but they have not made significant inroads.
3. PayPal held on to its first mover advantage, but not without a struggle.

#### Questions

1. What is PayPal, and how does it work?
2. Describe the three phases of PayPal growth
3. Provide a SWOT analysis for PayPal.
4. How has first mover advantage worked for PayPal?

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### 9.35 PROCTOR & GAMBLE Co.

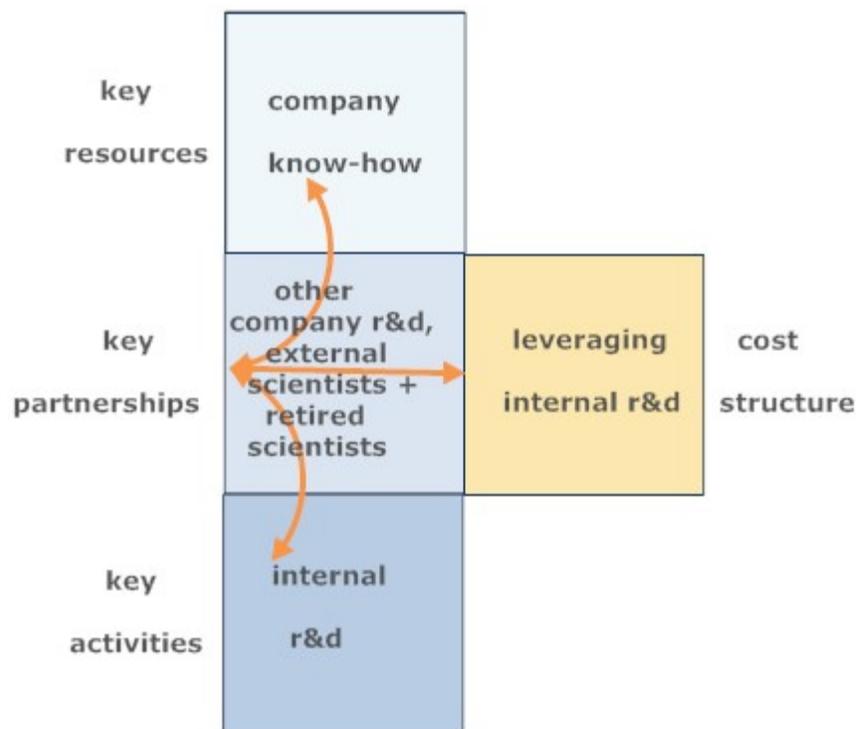
Procter & Gamble is a Fortune 500 American multinational corporation that provides consumer products in the areas of pharmaceuticals, cleaning supplies, personal care, and pet supplies. P&G brands are sold in 180 countries, to some 4.2 billion of the 7 billion people in the world.

Currently investing \$400 million in over 20,000 research studies a year, P&G has become a recognized innovator, and over the last 16 years the company succeeded in placing 132 products on the top 25 Pacesetters list — more than their six largest competitors combined. In 2007, P&G was the 25<sup>th</sup> largest US Company by revenue, 18<sup>th</sup> largest by profit, and 10<sup>th</sup> in Fortune's Most Admired Companies list. Some 23 of P&G's brands aggregate over a billion dollars in annual sales, and another 18 aggregate \$500 million to \$1 billion. In 2009, SymphonyIRI recognized P&G as the most innovative manufacturer in the consumer packaged goods industry for the last decade, and in 2010 alone, the company launched 4 of the top 10 most successful nonfood products. {5} {13}

P&G is a forward-looking company that makes much use of Internet technologies, including social media, {3} {14} blogs, {4} business intelligence systems {7}, e-document management systems {9} and private industrial networks. {6}

#### Connect and Develop

After a continued slide in P&G's share price, A.G. Lafley took the helm in 2000, adopting a new approach to Research and Development. Instead of simply pumping money into the division, his 'Connect & Develop' policy expanded internal research by outside partnerships. From 15% of such ventures, the company was to develop 50% of its innovations by this route, a goal reached in 2007, when R&D productivity had risen 85% for a very small increase in spending. 'Connect & Develop' had a three-pronged approach: {1}



1. Senior scientists from P&G business units were to develop individual relationships with researchers at universities and other companies.
2. Put problem-solvers in touch with each other through the Internet, enabling solutions to win cash prizes from \$5,000 to \$1 million Some of these connections were through 'Innocentive', originally set up by the drug maker Eli Lilly but developed into an independent intermediary linking government, nonprofit, companies like P&G and Solvay and the Rockefeller Foundation.
3. Knowledge was also drawn from retirees through YourEncore.Com, which was to act as innovation bridge to the outside world.

What's in a Name?

### **Crest**

P&G entered the Chinese oral care market with two versions of Crest. The premium brand, Ku Bai, targeted urban consumers wanting teeth whitening and breath freshening. Marketing was through ads and Crest's Chinese website, which featured Li Yuchan, a popular singer voted 'Super Girl'

in an American Idol-type contest in 2007. Ku Bai retails for US 95 cents per 5 ounce tube.

The green brand, Cha Shuang, targets rural customers, and has a tea flavour. It retails for US 88 cents per 5 ounce tube.

In brief, P&G leveraged the Crest brand across two market segments by making the distinction clear to customers. {2}

### **Clorox**

P&G market Clorox, a strong cleaning agent, associated in the popular mind with bleach and industrial chemicals.

Research showed that American customers were attracted to more natural products, but did not want those products to be ineffective or only available at separate stores. The company therefore re-introduced the product as part of its Green Works line, emphasizing both its effectiveness and natural affiliations. The Sierra Club endorsed the product, and sales were five times those expected by eleven months into the campaign. {2}

### Brand Awareness

Tremor, the P&G social networking site launched in 2001, enlists teenagers to pitch brands to their friends. Vocalpoint is P&G's social network involving mothers and women generally. Both have armies of 'connectors' numbering hundreds of thousands. {3}

Pampers Village is P&G Internet community providing information on parenting, baby care products and blogs from moms and pediatricians. {4}

Pur is a P&G water purifier made freely available to third-world countries lacking clean water supplies, {8} an example of cause-related marketing. {15}

### Points to Note

1. Importance of social media to branding.
2. Forging new relationships with companies and individuals.
3. Search for markets outside middle America. {16}

## Questions

1. Give a brief description of Procter & Gamble.
2. Describe the Internet technologies P&G employ.
3. What is P&G's 'Connect and Develop'. How does it compare with GlaxoSmithKline's 'Patent Pool'?
4. How does P&G relate to its customers? Give an analysis in terms of the Osterwalder and Pigneur business model
5. How does P&G use social media to strengthen brand awareness?

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## 9.36 SIS DATENVERARBEITUNG GMBH

SIS-Datenverarbeitung GmbH was established in 1976, and provides information technology products and services to medium-sized and large companies in Austria and Germany. In 2008, SIS was tasked by a global manufacturing company to migrate its enterprise resource planning (ERP: early supply management) system, built in Visual Basic, to a language that was still being supported.

Background: Visual Basic

Microsoft's Visual Basic was probably the most popular programming language ever devised. At one time it was being used by some 6 million programmers, {1} and countless programs still exist, ranging from applications of a few dozen lines to major applications with hundreds of thousands of lines of code. VB was the brainchild of Alan Cooper and his company Tripod, with whom Microsoft collaborated to produce Version 1 in 1991. VB's popularity was well deserved. A GUI (graphic user interface) made the program easy to learn and use. Event handlers were built in, and database access was a breeze. VB was extended and improved through to Version 6, released in 1998, which allowed the creation of web-based applications. {2}

Then came bad news for the thriving VB community. Microsoft announced that support for VB would end in March 2005, and extended support in March 2008, meaning that VB6 applications might not run in later operating systems (in fact not beyond Windows 7). {7} {9} Developers were urged to move to an upgraded but rather different version of VB: Visual Basic.NET. Some new functions were added and existing ones better supported, but others were dropped. To put it more technically: the move was from an object-based programming language running on a deterministic, reference-counted engine based on COM to a fully object-oriented language backed by the .NET Framework, the last consisting

of a combination of the Common Language Runtime and a far larger class library.

Appeals to Microsoft were unavailing, and Microsoft in fact renamed Visual Basic.NET as plain Visual Basic and brought out improved versions from VB7 to VB10, the last being released in 2010. Many programmers accepted that the newer (NET) versions were more powerful, incorporating modern object oriented programming in a more natural, coherent and complete manner than was possible with earlier versions, but did not think the advantages were worth the upheaval, since old VB applications were not readily converted to VB.NET. {3}

To bridge the gap appeared several third-party developers ('Microsoft Visual Studio Industry Partner Code Architects') who built applications to minimize the effort involved in converting old VB programs to new VB.NET. One such was employed SIS Datenverarbeitung, a company that forms the subject of this case study. {5} {6}

Microsoft naturally supported these Industry Partners, and eventually collaborated to create ArtinSoft's Visual Basic Upgrade Companion (VBUC), which was free to use for up to 10,000 lines of code. {6}

### The Problem

The manufacturing company had built their own ERP system in-house over the preceding ten years, employing 15 developers to create 950,000 lines of (old) VB code in 33 modules, a detailed system on which the company was wholly dependent. Three options presented themselves:

1. Rewrite the system in supported VB.NET code.
2. Convert an 'off the peg' commercial ERP system, or
3. Migrate the system from old VB to VB.NET.

The first was unthinkable: too costly and time-consuming. The second was little better: ERP Vendors estimated costs at 3 to 5 million euros over at least a two-year time frame, and could not guarantee that all the old functionality would be retained. The company turned to SIS, who estimated that use of

conversion software would reduce the migration time to a year.

### The Upgrade

SIS's step-wise approach demonstrates how IT problems are typically addressed. The steps were.

1. Evaluate existing software conversion software.
2. Select the best for the task in hand. SIS chose VB Migration Partner, as converting a 25K section of the original code took only 2.5 hours, compared to 13 hours with its closest competitor.
3. Examine all existing functions to ensure their VB.NET conversions would be equivalent.
4. Draw up a detailed migration plan, which included specific tasks, restrictions, and risk analysis.
5. Validate the tools and processes, assessing results and likely costs.
6. Migrate/upgrade the code, adding references and testing as required.
7. Employ a 'configuration management' tool to track the status of code upgrade.
8. Devise checklists for any manual optimization needed during the migration.
9. Build a knowledge base for future reference and system maintenance
10. Instigate a five-step quality check:
  - a. carefully review all code.
  - b. check the function and performance of individual units.
  - c. check the function and performance of modules.
  - d. trial run the whole system to check its function and performance.
  - e. profile the performance of the migrated system.

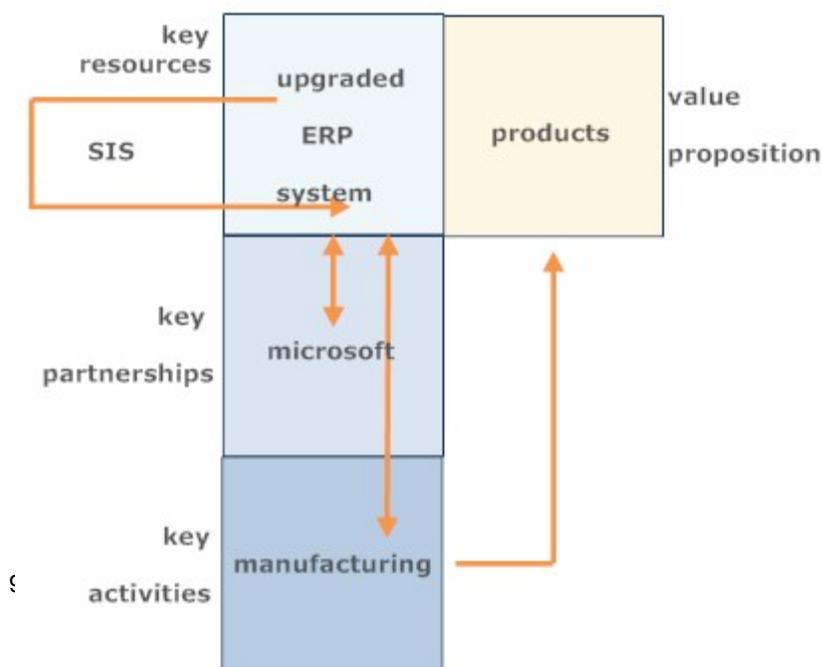
Some 650,000 lines of code were migrated over 6 months for a total effort of 18 man-months (excluding code review and

refactoring). Another set of 300,000 lines of code were migrated over 3 months, with all code checked.

In all, some 3,650 developer-hours were needed to migrate the code, some 3,400 hours for code review and refactoring, and some 1,300 hours for testing. The manufacturing company intends to use the migrated code for future enhancements, which are estimated at 2,000+ developer hours over each of the next 3 to 5 years.

#### Points to Note

1. Though probably not apparent at the time, Microsoft was a key partner in the manufacturing company's business.
2. Companies need to look some decades ahead.
3. The final product was still in a Microsoft proprietary language.
4. An open-source language/standard would have been safer: perhaps C (though more difficult to write) or Perl (though slow and can be difficult to debug). Another possibility would have been Real Basic running on a Linux/Unix platform. {10} Alternatively, the manufacturing company could have opted not to upgrade to later Windows versions, an option more companies are exercising when faced with mounting soft- and hardware costs.
5. The effort that goes into building ERP and similar systems, which places them beyond the resources of small companies.
6. Simply to continue to provide a value proposition to customers, the manufacturing company had to buy expertise to retain its key resources (ERP system).



## Questions

1. Explain the problem SIS Datenverarbeitung GmbH was called upon to solve.
2. Why did Microsoft stop supporting Visual Basic, and what does 'stopped supporting' mean?
3. Describe the steps SIS Datenverarbeitung took in upgrading the ERP system.
4. What lessons can be learned from this case study?

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## 9.37 SKYPE COMMUNICATIONS

Skype is a software application allowing users to make voice and video calls over the Internet. Calls to other users within the Skype network are free. Calls that combine traditional landline telephones and mobile phones (Skypeout) are charged at low rates, undercutting telecom charges.

Additional features include instant messaging, file transfer, and video conferencing. {1}

Skype is the world's largest provider of cross-border communication services, with 663 million registered users in 2010. {1} Skype's revenue have grown steadily, {2} and are expected to exceed US \$1 billion in 2011 {9}

eBay purchased Skype for \$2.6 billion in October 2005.

Microsoft Corporation subsequently acquired Skype Communications in May 2011 for US\$8.5 billion, again still keeping the service largely unchanged. {1} {13}

### Skype Business Model

Skype employs a cost structure quite different to that of its telecom rivals. Free calls are routed through the Internet, generally with peer-to-peer technology. Skype does not manage its own network, therefore, and incurs only minor costs for client software and the hosting accounts. SkypeOut charges are only slightly higher than those Skype itself incurs for calls routed through wholesale carriers. Skype also earns licensing revenues from brand partners, such as Mobile Operator 3 in the UK, with devices from Logitech, and from a number of plug-in services they co-market. {6}

In summary, Skype makes its money: {9}

#### 1. From user services:

a. Free services (that cost Skype little or nothing) Skype-to-Skype calling, video calling, Chat/IM, Multi-Party calling, File Transfer.

b. By subscription: SkypeOut (pay-as-you-go), Online Numbers, Voicemail, SMS

2. From licensing opportunities, e.g.

a. Skype-Nokia and Skype-MySpace relationships

b. Hardware royalties

c. Carrier relationships, such as the 3 Skypephone example noted below.

3. Advertising opportunities, yet to be properly developed.

The model is successful, with impressive statistics:

1. Skype adds over 350,000 new account registrations every day.

2. Users are spread across the world.

3. Skype has now achieved over 100 billion cumulative calling minutes.

4. Over 8% of the world's international calling minutes are on Skype.

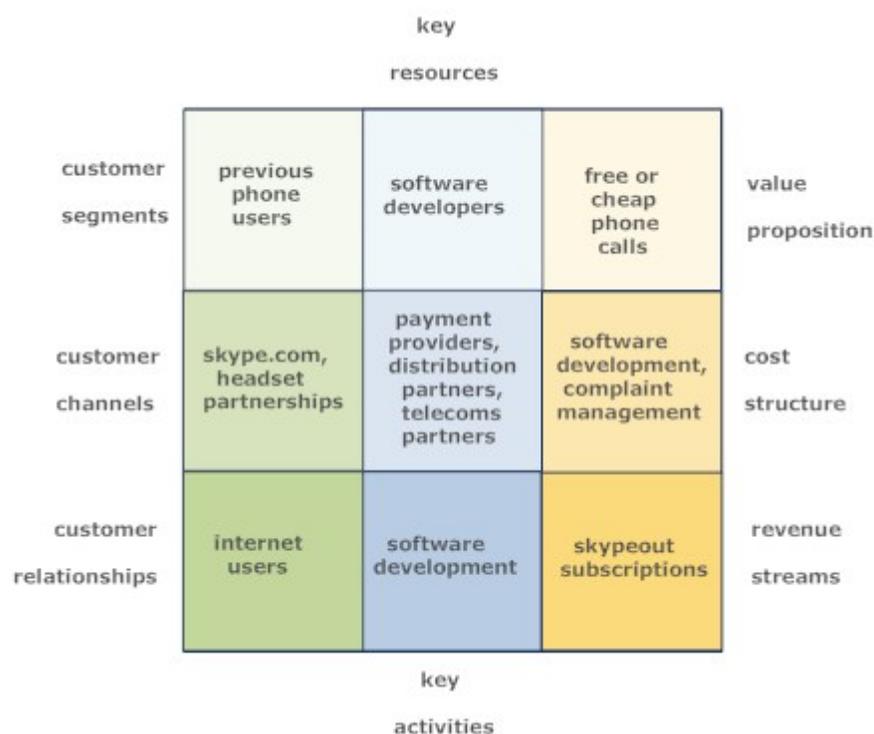
5. Skype delivers free video, these increasing from 27% to 34% of call time from December 2007 to December 2008.

6. Steady increase in call lengths.

8. Skype now only needs its users to make one more call per day to be a billion dollar business.

9. 35% of users use Skype primarily, or often, for business.

10. Three markets remain largely untapped: core consumer (size: \$240B), mobile (size: \$603B), and business (size: \$203B).



Skypephone on 3

Skype's mobile service {11} again looks profitable. Note: {9}

1. Over 500,000 units have been sold.
2. Skype 3's margin on Skype phone is 20% higher than their average margin on handsets.
3. 79% of Skypephone customers are new 3 customers.

Sale of Skype

eBay bought Skype in 2005 for its potential in lead generation and access to new markets: new cars, travel, real estate, and personal and business services, {11} selling the company a few years later to private investors because its business model did not fit with eBay's: there was no mutual benefit or synergy between them. {4} {5} Equally important, Skype did not take advantage of new needs and technologies. Most notably, users couldn't make or pay for an eBay purchase with Skype. {6}

Nonetheless, Skype was considering selling time to Yellow Pages companies that would charge businesses to list their numbers in its directory and/or charge on some click-to-call basis. {7}{8}

Microsoft probably acquired Skype to:

1. Acquire its technology.
2. Extend its marketing base.
3. Access its growing revenue streams.

Points to Note

1. Skype turned largely free resources (Internet) into revenue streams.
2. The free service acted as a loss-leader to its subscription services.
3. eBay unbundled Skype when there was no synergy between the companies.

## Questions

1. What is Skype? How, briefly, does it work?
2. Explain the eBay and Microsoft acquisitions.
3. Provide an appropriate business model for Skype.
4. Where do further opportunities lie for Skype?

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## 9.38 TESCO PLC

Tesco was founded in 1919 and launched its first store in Edgware, London, UK in 1929. Today, Tesco is the world's third-largest retailer (after Wal-mart and Carrefour) {10} with 2011 figures as follows: revenues £67.6 billion, of which £3.7 billion was trading profit (68% UK, 25% Europe, Asia & USA, 7% Tesco Bank. ). The company employed 492,714 staff in 14 countries and operated 5,380 stores. The UK Tesco Bank has 6.5 million customer accounts, and generated £264 million in profits. Tesco Mobile, a telecoms business, had 2.5 million customers. {13} {14}

Though still essentially UK-based, Tesco has diversified geographically and into widely-separated market sectors: retailing books, clothing, electronics, furniture, petrol and software, financial services, telecoms and Internet services, DVD rental, and music downloads.{10}

Tesco's entry into the enormous but difficult US market with 'Fresh & Easy' convenience stores is being watched with some skepticism. {4} {6} Unlike operations elsewhere, the US division posted a £186 million loss in 2010-11.

### Competition

Tesco is an aggressive company benefiting from Internet technologies, as indeed are its main UK rivals. {9} Sainsbury's and Morrisons cater for more affluent customers, and Asda focuses on the more cost-conscious. Market share as of 2008 was: Tesco 30.5%, Asda 16.9%, Sainsbury's 16.3, and Morrisons 12.3%.{10} A cost breakdown is given below. {9}

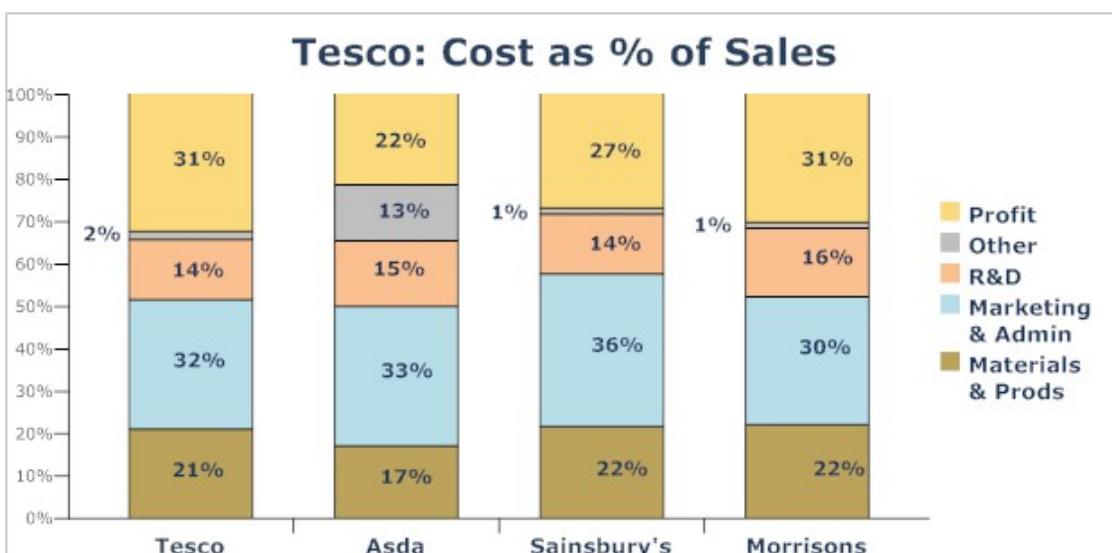
### Strategy

Tesco has built its fortune on two business elements: an unrelenting drive to provide value to customers, and continued investment in the latest technologies — today customer relationship management, Internet and mobile phone

shopping, and supply chain management (probably a private industrial network, though details are not available).

Back in 1995, however, Tesco was losing market share, causing Terry Leahy, the new CMO, to reexamine its market position and propose a three-pronged solution: {11}

1. Stop copying Sainsbury's and develop its own strategy.
2. Listen to customers throughout the company, at every level.
3. Offer goods and services as the customer valued, not what Tesco could do (i.e. adopt an outside-in strategy).



## Customer Relationship Management

Tesco went to extraordinary lengths to understand its customers and add value to their lives.

1. Marketing was aimed at sensible, middle-class families, from its slogan 'Every little helps' to its no-frills website. {11} {14}
2. A loyalty card ('Clubcard') was introduced in 1995, and data subsequently fed into Customer Management Systems. {10}
3. American preferences were studied by embedding staff with US families prior to launching its USA operation in 2007. {11}

## Internet Technology

Tesco has been particularly forward-looking. It was one of the first to: {10}

1. Use self-service tills and cameras to reduce queues. {10}
2. Offer Internet shopping (1994), and a robust home shopping service (1996).
3. Use CRM and supply chain management, extending these when entering new markets. {4}
4. Use private industrial networks. {4}

Outlook: Pestel Analysis

A Pestel analysis identifies the forces with most impact on Tesco performance. {9}

### **Political**

Tesco benefited from access to the world's most profitable market of 1.3 billion people, notably by:

1. Britains' joining the European Union, and the inclusion of 10 more countries in 2004.
2. China's entry into the WTO.

### **Economic**

The continuing recession has made supermarket customers:

1. More cautious and cost-conscious.
2. More inclined to eat in that go out to restaurants.

### **Social**

As the UK's population changes (especially ages), customers:

1. Tend to buy and eat less food.
2. Have become more health conscious, met by Tesco's increased stocking of organic foods.
3. Have been retained by Tesco loyalty programs.

### **Technological**

Tesco were early leaders in Internet shopping, supply chain management and customer relationship management. These continue to be vital today with:

1. Customer loyalty cards and Internet shopping records providing CRM information.
2. Growth of Internet use and broadband access fuelling growth in Tesco online shopping.

3. Mobile phone shopping: introduced with Cortexica Vision Systems for Tesco Wines, etc.

4. Supply chain management: rumoured to be world's best, still being extended. {4}

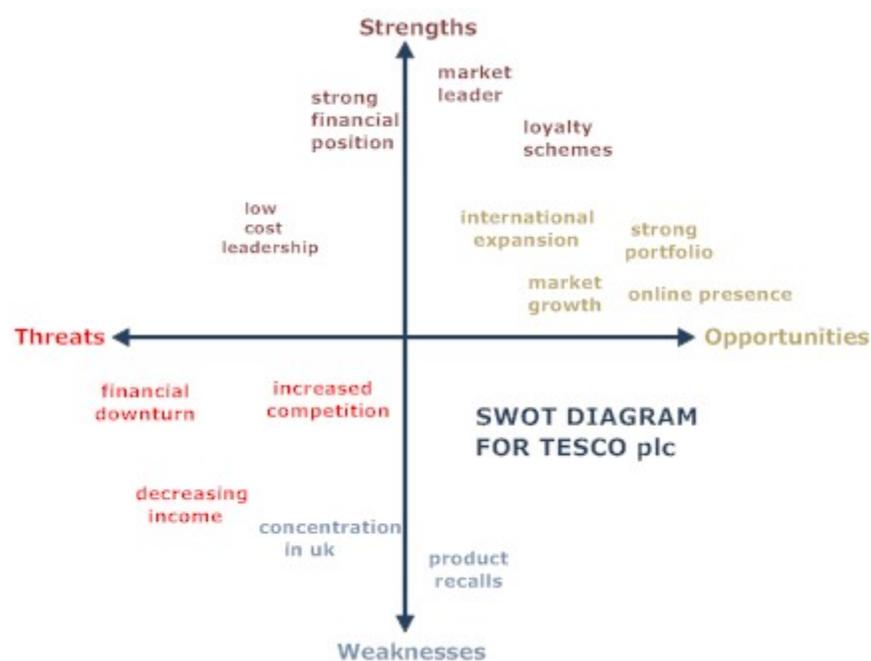
## Environmental

Tesco has responded to Government environmental initiatives by:

1. Encouraging reuse of plastic bags.
2. Rewarding bagless deliveries with Tesco's green Clubcard points.
3. Providing practical advice of environmental issues.
4. Adding carbon footprint data to its products.

## Legal

1. European VAT increases will affect nonfood sectors like clothing.
2. Increase in the UK's minimum wage will increase Tesco operating costs.



Outlook: Swot Analysis

The SWOT {9} analysis portrays the UK concentration of business as a weakness, though this is a market Tesco knows well, and which saw further expansion in 2011. {13}

Outlook: Value Chain Analysis

As defined by Lynch (2006), {19} the value chain is the value added at each link in a company's key activities. For Tesco, the values are: {9}

### **Inbound Logistics: 20%**

Key elements:

1. Use of leading market position and economies of scale to achieve low costs from its suppliers.
2. Constant upgrading of their ordering system, approved vendor lists, and in-store processes.

### **Operations Management: 30%**

Key elements:

1. Supply chain management: £76 million investment brought £550 million in increased profitability during 2009 alone.

### **Outbound Logistics: 15%**

Key elements:

1. Standardize store formats (including Express, Metro, Superstores, Extra and Homeplus).
2. Strategic positioning of stores for maximum customer exposure.

### **Marketing and Sales: 10%**

Key elements:

1. Loyalty programs like Tesco Clubcard.
2. Greener Living Scheme to give consumers advice on environmental issues.

### **Services: 5%**

Key elements:

1. A dual strategy of cost leadership and differentiation, increasing the importance placed on customer service.
2. Development of self-service kiosks, financial services.
3. Focused direct marketing and promotions.

### **Margin: 20%**

Questions

1. Give a brief description of Tesco plc, and how it compares to other leading supermarket chains.
2. What are the two business elements on which Tesco has built its fortune? Provide some details.
3. Provide a Pestel analysis of Tesco plc. What does it show?
4. Give a SWOT analysis of Tesco plc.
5. What does a value chain analysis applied to Tesco show?
6. How has Tesco plc fared outside the UK, and why?

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### 9.39 TWITTER INC.

Twitter Inc., founded by Jack Dorsey, Biz Stone, and Evan Williams in March 2006 (launched publicly in July 2006), is a social networking and micro-blogging service that allows users to post their latest updates. An update is limited to 140 characters and can be posted through three methods: web form, text message, or instant message. The service has become immensely popular worldwide, has been used to give live reportage of civil unrest in Egypt, Iran and elsewhere, and has been intermittently blocked by the Chinese government and others.

According to *Alexa*, Twitter is one of the ten most-visited websites worldwide. Estimates of users vary as the company does not publish statistics, but is reputed to be generating over 200 million tweets a day and handling over 1.6 billion search queries per day. {11} Inside sources suggest there were 119 million Twitter accounts in 2011, this statistic breaking down to (an overlapping): 85 million accounts with one or more followers, 56 million Twitter accounts following zero other accounts, and 90 million Twitter accounts with zero followers. {12}

According to Quancast, some 27 million people in the US had used Twitter by September 3, 2009. Analysis of 2,000 tweets by Pear Analytics over a two-week period in August 2009 identified 6 categories: pointless babble ( 40% ) conversation ( 38%), 'pass-along value' (9%), self-promotion ( 6%), spam ( 4%) and news ( 4%). {11} Half the activity centered on some 20,000 'celebrities'. {13}

Twitter Inc. is based in San Francisco, California, but has additional servers and offices in other US cities.

#### Business Model

To date, Twitter has been very successful in promoting its potential, and in obtaining significant funding. Twitter first

raised over US\$57 million from venture capitalist funding in three tranches: \$1-5million in 2006, \$22 million in 2008, and \$35 million in 2009. Another \$200 million was raised in December 2010, valuing the company at some \$3.7 billion. The March 2011 sale of 35,000 Twitter shares at \$34.50 each on Sharespost valued the company at \$7.8 billion. An investment of \$400 million was made by Digital Sky Technology in August 2010, {14} and a possible IPO in 2013 has been announced. {10}

Twitter announced plans in April 2010 to offer paid advertising in the form of 'promoted tweets' on selected search results on the Twitter website, and some presales may have been achieved as 2010 annual revenues are reported at \$45 million (though the company operated at a loss overall). Annual forecasts for 2011 were also put at \$100-110 million, but again cannot be verified. Much has been rumoured, but Twitter at present keeps the market guessing.

Several ways of monetizing Twitter have been suggested: {10}

1. Subscription fee: possibly difficult now users are used to a free service.
2. Display ads: being tested in Japan, but conversion rates are generally low on social media sites.
3. Include local ads relevant to tweeters' messages and locations: may be seen as intrusive.
4. Sale of accumulated users' response data to web services and company websites. Already the case with Facebook, but not popular with all. {2}
5. Sale of licenses to application developers. {2}{3}
6. Advertising on Twitter geographical accounts. {6}

Threats

Threats come from:

1. Alternatives, e.g. Sina Weibo (China's more popular answer), Tweetree, Tweetvisor, iTweet, Hootsuite, etc.
2. Twitter being made responsible for content in libel actions,

etc.

3. Takeovers from Google, Microsoft and Apple, who recognize the competition. {2}

4. Anti-trust infringement. {8}

#### Points to Note

1. Great potential, but no proved business model in sight.

#### Questions

1. Explain the current interest in Twitter.

2. How does Twitter compare with other social media sites?

3. Where does Twitter funding come from, and is the model sustainable?

4. Discuss ways of monetizing Twitter.

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Section Contents

#### 9.40 WAL-MART STORES, INC.

Wal-mart Stores, Inc. is the world's largest retailer with \$419 billion in sales for the 2010 fiscal year. Wal-mart Stores, Inc. includes Wal-mart Supercenters, discount stores, Neighborhood Markets and SAM'S Club warehouses. Wal-mart employs more than 2.1 million associates from 9230 retail units under 60 different banners in the United States, Argentina, Brazil, Canada, China, Costa Rica, El Salvador, Guatemala, Honduras, Japan, Mexico, Nicaragua, Puerto Rico and the UK. In 2007, Wal-mart became No. 1 on the Fortune 500 List and in 2003 and 2004 Wal-mart was named 'Most Admired Company in America' by Fortune Magazine. {13}

Wal-mart grew from quiet beginnings in Sam M. Walton's Ben Franklin variety store in Newport, Arkansas in 1945 and brother James L. Walton's similar store in Versailles, Missouri in 1946. In 1962, Sam Walton started Wal-mart's first discount store, but faced stiff competition from Kmart and Target, opening only another 14 stores by the close of the decade. Expansion became rapid in the 70s, however, to 276 stores in 11 states, when a public offering provided the necessary capital infusion. By the 80s Wal-mart was one of the most successful retailers in America. Annual sales grew from \$1 billion in 1980 to \$26 billion by 1989. The company acquired 122 Woolco stores from Woolworth, Canada in 1994, to become, three years later, the largest volume discount retailer in Canada and Mexico. By 2002, acquisitions in Germany, Brazil and South Korea had enabled Wal-mart to become the world's largest company in revenue terms. Not all ventures were successful, however: the UK, south America and China operations continue to be rewarding but Walmart-mart pulled out of Germany and South Korea with heavy losses. {1} {13}

Walmart's Supply Chain Management

Wal-mart is often credited with starting the practice of digitally sharing sales data with major suppliers, allowing the company to supply a wide range of products at the lowest cost and shortest delivery times. Wal-mart's supply chain management was not simply an IT system, however, but involved company control and efficiencies in every aspect of its operations. {2}

### **Pricing and Procurement Strategy**

Bulk purchasing allows Wal-mart to:

1. Negotiate large discounts with suppliers.
2. Enter into long-term agreements.
3. Deal directly with manufacturers, eliminating middlemen markups.
4. Insist on agreements prohibiting suppliers from underpricing to other customers.
5. Achieve economies of scale.

### **Product/Process Knowledge Sharing**

1. Wal-mart's policy was a virtuous circle for customers: low prices increased sales and so allowed Wal-mart to negotiate ever-increasing discounts from suppliers.
2. Wal-mart suppliers' access to Wal-mart sales figures (and to its technology) encouraged openness of the part of suppliers too: both Wal-mart and suppliers benefited.

### **Supply Chain Partnerships**

1. Partnerships with companies like Proctor & Gamble became mutually beneficial, allowing both partners to plan ahead efficiently.
2. Wal-mart could require timesaving devices from supplies, e.g. RFID tags with Electronic Product Codes on pallets and cases by the end of 2006.

### **Distribution**

1. Wal-mart has centralized its distribution, shipping 80% of merchandise from 121 US distribution centres. The remaining 20% is shipped direct from suppliers.
2. Wal-mart owns 40 general merchandise distribution centers, 38 grocery distribution centers, 7 apparel and shoes

distribution centers, 12 professional services and specialty distribution centers, 2 import distribution centers and 3 distribution centers that support Walmart.com. Wal-mart also has 126 distribution facilities outside the US that serve its international stores.

3. Wal-mart distributes more of its (80,000) item products from its own warehouses than do its competitors, allowing replenishment in 2 days (on average) rather than the usual 5 days of competitors.

4. Wal-mart delivery to warehouses is in standardized containers or pallets.

5. Wal-mart employs advanced barcode technology. Hand-held devices allow employees to identify the contents of pallet/container, the quantities, location of storage in the warehouse and where picked up from. The devices feed that information into the central supply chain management system.

6. The system is quicker, less open to error and eliminates unnecessary paperwork. .

### **Logistics Management**

1. Wal-mart runs its own fleet of delivery vehicles (3,500 trucks at one time).

2. Distribution centres has food, sleeping and recreation areas for drivers.

3. Drivers are subject to strict control and qualifications: e.g. 300,000 accident-free miles and no major traffic violations.

### **Cross Docking**

1. Cross-docking ensures that orders placed at Wal-mart stores are monitored throughout their passage from warehouse to customer.

2. The system triggers automatic warehouse replenishment and so orders with suppliers. The whole process is customer led.

### **Inventory Management**

1. Wal-mart standardizes space and layout in its stores and warehouses.

2. Warehouse are automatically replenished to optimal levels

through continuous cooperation with suppliers.

3. Sums spent on these systems are considerable: Wal-mart's own satellite communication system set up in 1983, US\$ 4 billion investment into a retail link system in 1991, upgrade and Internet-enablement by Atlas Commerce in 2001, and then advanced satellite communication systems, Massively Parallel Processor computer systems (MPP) and extensive disaster recovery planning in the years following.

### **Labour Relations**

1. Wal-mart has traditionally been a low salary payer. Basic training is given, but staff turnover at Wal-mart stores is high. Trade union membership is discouraged.

2. Nonetheless, an academic study by Vedder and Cox {10} found much to admire in Wal-mart practices towards staff and local communities.

### **Current Threats**

Not all has gone smoothly, particularly outside the USA. {8}

1. Wal-mart has not always adapted to local market and service expectations. In October 2006, Wal-mart sold its stores in South Korea and Germany. Losses in Germany alone were 1 billion, aggravated by an extended court battle over predatory pricing.

2. Extensions to Wal-mart's supply chain management (retail applications from HP and Oracle, and contracts with the social networking company, Bazaarvoice) have not brought anticipated benefits. Wal-mart's online presence has fallen behind competitors like Amazon and Target. Wal-mart's systems may be victims of their initial success, i.e. no longer 'state of the art' and expensive to upgrade.

3. Wal-mart has generally won its many court actions over alleged infringements of labour laws, pricing policies, health insurance and unfair competition, but arrival of a Wal-mart store is still seen as a mixed blessing: increased employment opportunities but competition that many local businesses cannot survive without major restructuring.

## Points to Note

1. Supply chain management (here more a private industrial network) requires changes throughout a company.
2. Wal-mart's obsessive commitment to lowest prices.
3. Continuing profitability of Walmart. Net income has risen steadily in the last five years. {9}

## Questions

1. Provide a short history of Wal-mart.
2. What is the overall business aim of Wal-mart? How is this achieved?
3. Describe the Wal-mart supply chain management system.
4. Why has Wal-mart occasionally been less successful outside the USA?

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## 9.41 ZAPPOS.COM

Zappos.com is an online shoe and apparel shop. Founded in 1999, it grew to be the world's largest online shoe store, and was acquired ten years later by Amazon.com in an all-in deal worth around \$1.2 billion.

Some 80% of Zappos sales comes from shoes: in 50,000 varieties (i.e. the long tail), including well-known brands, hard-to-find sizes, American-made and vegan shoes. A high-end line of shoes called Zappos Couture was launched in 2004.

### Company Development

Zappos is often seen as the model online business: a novel concept, a fulfillment centre built from scratch, a US online business set up that focused foremost on customers, giving them quality, choice and free shipping, and then expansion of the business through the latest in manufacturing and supply management.

From a quiet start, Zappos grew rapidly.

**1999.** Founded by Nick Swinmurn. Tony Hsieh and Alfred Lin invested \$500,000 of their investment firm Venture Frogs. Company launched in June 1999 as ShoeSite.com, changed a few months later to Zappos so that other goods could be sold. The result was minimal sales, however.

**2000.** More investment from Venture Frogs, who also provided office space. Sales were US\$ 1.6 million.

**2001.** Zappos opened their own fulfillment center in Kentucky. Hsieh and Zappos executives set long-term goals for 2010: \$1 billion in sales and inclusion on Fortune's list of *The Best Companies to Work For*. Sales quadrupled to US\$ 8.6 million.

**2003.** Zappos abandoned drop shipping (accounting for 25% of revenues) to have more control over the customer's experience. Sales were US\$ 70 million.

**2004.** Zappos received \$35 million dollar investment from Sequoia Capital, and a \$40 million credit line from Wells Fargo Bank. Sales were US\$185 million.

**2007.** Merchandise was expanded to include handbags, eyewear, clothing, watches, and kids' items. Sales in 2007 were US\$ 840 million.

**2008.** Zappos sales were US\$ 1 billion.

**2009.** Zappos was listed at No. 23 on Fortune's *Top 100 Companies to Work For*. By mutual consent, Zappos was acquired by Amazon. Zappos share holders received 10 million Amazon.com shares and \$ 940 million for their Zappos shares, the employees a separate \$40 million in cash: a deal of around \$1.2 billion in all. Amazon acquired a company with better (though still slim) operating margins {13}; Zappos got funds and technology for expansion while retaining full control of its brand. {11}

**2010.** Zappos continued to expand with brand name unchanged {14}, and announced a move to new headquarters.

#### Business Model

Zappos have been successful by:

1. Knowing their customers and fulfilling their needs. 75% are repeat buyers.
2. Providing on value for money: not necessarily the cheapest, but quality brands backed by excellent service.
3. Concentrating on high-ticket items with good margins. Average order on Zappos is around \$100 and gross margins on shoes are about 50%. {2}
4. Offering free shipping, even for returns (return rate may be 30%) {7}
5. Developing a strong online brand.
6. Maintaining a friendly, caring appearance, through training at all levels and a presence on Twitter, Facebook and YouTube. {9} Money generally spent on advertising was invested in stellar customer service.

Employees are chosen carefully, for aptitude and personality. Zappos publishes an annual 480-page *Culture Book*, comprising unedited 2-3 paragraph entries from employees describing their understanding of the Zappos culture. All undergo call-centre and loyalty training courses, and are later tested by being offered \$2,000 to quit: only 3% accept the offer. {5}

Employees enjoy free lunches, no-charge vending machines, a company library, a nap room, and free health care. They are encouraged to personally decorate their offices and to take part in office get-togethers. Managers must spend 10-20% of their hours 'goofing off' with employees outside the office.

Zappos has grown by search engine marketing {1} and word-of-mouth recommendation. It has spent little on advertising otherwise, but did acquire 6pm.com, a company selling bargain shoes, clothing, and accessories in 2007.

Zappos also runs *Zappos Insights*, helping business people refine their company culture and customer service with videos and a two-day bootcamp where participants visit the headquarters and meet with Zappos executives.

#### Points to Note

1. A traditional, service-focused online company of the outside-in pattern.
2. Progressive, successful company, but margins remain thin. {7} {12}

#### Questions

1. What was the Zappos business model?
2. How did Zappos grow its business?
3. Why was Zappos sold to Amazon? What did each party get from the sale?

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## 9.42 ZIPCAR

Zipcar was founded in 2000 by Antje Danielson and Robin Chase, and by December 2010 offered over 8,000 vehicles to 560,000 members in urban areas throughout 28 north American states and provinces. Zipcar was also available in the UK, and in over 230 college campuses.

Zipcar's IPO in April 2011 raised \$174 million. {8}

To expand operations, Zipcar:

1. Merged with Seattle-based rival Flexcar in 2007.
2. Acquired an increasing (but still minority interest) in the Barcelona-based Avancar from 2008 onwards.
3. Acquired the London-based car-sharing firm Streetcar in 2011.

### How It Now Works

Zipcar is an automated car rental system in which cars are held communally and hired by the hour (or day if required). Over 30 makes and models are offered, plus pickup trucks, etc. Each vehicle has a home location, to which it must be returned, and these locations are shown on the Zipcar website. {3} {8}

The system has gradually evolved, but now works as follows. Customers:

1. Join Zipcar (\$60/year plus \$25 application fee) and obtain a Zipcard.
2. Make a reservation at the Zipcar website or with the iPhone application. Their particulars are transmitted wirelessly to the car's onboard computer system.
3. Pass their Zipcard over the car's reader on the windshield or press a button on the iPhone application. The car is unlocked and starter keys (inside) are enabled. The iPhone can also make the horn beep, helping to locate the car.

4. Drive off, noting the rules (e.g. no smoking). Rates vary by area, time of day, day of the week and the make and model of the vehicle. Typical rates vary from \$8 to over \$13/hour. Gas, parking, insurance, and maintenance are included in the price. {7} {9}

5. Fill up if the gas gets low, for free using the special charge card in the car.

6. Call or text Zipcar if they're running late and want to extend the rental: the automated system recognizes their number. (Forget to call, however, and they'll be charged a late fee of \$50 per hour plus the regular hourly rate. {3})

7. Return the car where they found it.

Zipcars are cleaned and washed weekly by the company.

#### Path to Viability

Zipcar seemed the challenge the American dream of car ownership, and capital was difficult to raise, even though the concept of car share was slowly catching on in Europe. Indeed there were already three north American competitors by 1999: CommunAuto (Canada), Car-Sharing, Inc. (Portland) and Flexcar (Seattle). Robin Chase also thought the car rental companies, Hertz and Avis, might enter the market if the concept proved viable. {1}

1. Robin Chase set up the company in 2000 with the the memorable tag line 'Wheels when you want them', assembled car fleets in Boston, New York, and Washington, and eventually acquired 6,000 members. Under her management: {1}

a. annual charges were first set at \$300 but then reduced to \$75.

b. charges were by hour and mileage, but the initial \$1.50/hour was raised to \$4.50-7.00/hour.

c. members were expected to keep the car clean and trouble free.

d. cars were acquired by leasing arrangements at \$4,500/year.

- e. parking, when not free, would cost \$600/year.
- f. marketing was by word of mouth (30-40%), free media coverage, and the remainder by their own guerilla tactics.
- g. environmentally-friendly aspects were stressed.
- h. neither Robin Chase nor co-owner (50%) Antje Danielson took a salary.
- i. \$375,000 was raised from small investors.
- j. a new CEO was hired, but quickly dropped when his big company experience proved inappropriate.
- k. wireless technology developed, but not completed.
- l. limitations placed on drivers (clean record).

Actual costs emerged as the company got going. Lease costs were \$4,800/year. Parking was \$750/year. Fuel costs were 10% higher than anticipated. Overheads were higher than expected at \$44,000/month. {1} By the winter of 2002 the company was losing money, and a \$7 million financing deal fell through. {2}

2. Scott Griffith took over in 2003, and adopted a more aggressive and systematic policy by:

- a. setting up focus groups to understand customer needs and concerns.
- b. dividing cities into zones and assigning different cars to each.
- c. acquiring permanent parking places.
- d. calculating the minimum membership needed for profitability.
- e. developing the technology for trouble-free use based on the Kaizen quality-control process of Japan.
- f. further developing its youthful image, interacting with customers for ideas.
- g. adding up-market models that didn't display the Zipcar logo.
- h. replacing the hour and mileage charge by a simple hourly charge.
- i. downplaying the environmental-friendly image in favour of a more businesslike one.
- j. making area managers responsible for promotion, which

they could adapt to fit local conditions: customer acquisition costs fell from \$150 to \$50.

k. agreeing insurance rates so that 16-21 year olds could use Zipcar.

l. setting up in university campuses.

m. obtaining \$ 4 million 'angel' funding in 2003 to tide the company over.

n. obtaining \$10 million in 2005 and then \$25 million venture capital in 2006 as the business took off and its book value increased.

3. Steve Case (co-founder of AOL) acquired 55% and then 85% of Seattle-based Flexcar in 2005-6, finally merging the company with Zipcar. The merger/acquisition facilitated:

a. increased geographic spread.

b. purchase rather than leasing of car stock.

c. interests acquired in Barcelona-based Avancar.

d. 8,500 companies signed up for the service, including Lockheed Martin, Gap and Nike. {3}

e. 2011 IPO that raised \$170 million.

f. 2011 acquisition of UK-based Streetcar.

## Business Model

Zipcar makes its money from:

1. Members using its car rental system
2. Marketing its technology ( hardware and software that keep track of the cars) to city governments.

## SWOT Analysis

### **Strengths**

Zipcar benefits several parties: {8}

1. Members: save 70% per year on transport costs
2. Environment: Each car shared takes 15 personally-owned vehicles off the road.
3. Public transport: Zipcar members report a 47% increases

use of public transport, a 10% increase in bicycling trips and a 26% increase in walking.

The service also:

4. Appeals to the technically savvy, familiar with social networks, smartphones, etc. {4}
5. Analyzes its data, leveraging information to find optimal utilization trends, member demographics and spending patterns. {4}
6. Is being adopted by city authorities, e.g. Washington DC, which saved over \$300,000 over a four-month pilot scheme. {6}
7. Has enjoyed increased revenue per vehicle per day (\$48 in 2009 to to \$65 in June 2011), which suggests Zipcar could become impressively profitable in due course. {7}

### **Weaknesses**

1. Zipcard approval can take a week. {5}
2. Zipcar is a capital intensive business with low margins. {7}
3. Zipcar had accumulated losses of \$65 million by 2010. {7}

### **Opportunities**

1. Toyota and Ford are exploring ways to work with Zipcar. {3}

### **Threats**

1. Similar schemes are being considered by Hertz, Enterprise and U-Haul. {3}

### **Points to Note**

1. Difficulty in raising capital.
2. Time needed for a concept to come of age.
3. Importance of real data in planning.

### **Questions**

1. Give a brief history of Zipcar under its three CEOs.
2. How does the system work now?
3. Provide a SWOT analysis of Zipcar. How do you rate its chances?

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Section Contents

## 10. RESOURCES

### Software and Services

- General Advice
- Affiliate Management Software
- Bulk eMailing Programs
- Online Checks and Wallet Systems
- Internet Payment Service Providers
- Publishingresources

### Information

- Professional Marketing Studies
- General eCommerce Information
- eCommerce Marketing
- eCommerce Statistics
- Case Study Sources
- Business Information
- Business News: Americas
- Business News: Europe & Russia
- Business News: middle East & Africa
- Business News: south & southeast Asia
- Business News: Australasia & World
- Online Courses
- Academic Journals
- eCommerce Technology
- Technical Magazines
- Help for Students
- Internet Searches

The information available on the Internet today is staggering, indeed overwhelming, and it becomes increasingly important to know where and how to start researching a market or business concept.

Book Contents

## 10.1 GENERAL ADVICE

Internet business resources are enormous, and growing all the time. The section can only be a small selection of many sites worthy of inclusion.

First, some general advice. Many sites claiming to be independent in fact live off commissions, and therefore promote the programs and services best paying them, a situation that applies particularly to hosting comparison sites. Software reviews don't always cover the whole field, moreover, and programs that worked flawlessly on test machines may not on yours: operating system differences and currently installed software can interfere. You must:

1. Shop around: many programs allow a free trial: test everything thoroughly on all machines.
2. Do detailed Internet searches looking for problems: 'programname / service /opportunity review/problems/scam', etc.
3. Investigate the service or software supplier. Anything playing a key role in your company is a potential point of weakness, and if the software house goes out of business so may you. Open source software is more reliable than commercial in this respect, but also tends to be more limited and requiring of IT skills to get the best from it. A free Perl script is far from free if you have to employ a programmer to get it working properly.
4. Play safe. Buy the software that's sold tens of thousands of copies and is supported by an enthusiastic user's club and help site rather than something 'tailor made for you'.
5. Test, monitor, analyze and improve. A two percent improvement over the competition may seem modest, but will aggregate to a commanding lead over time. An improving profit margin also provides the resources to further improve your goods, service or marketing approach.

6. In the listings that follow we suppose you can use the Internet search engines and directories intelligently to locate the products and services needed, and so restrict ourselves to a. alerting you to alternatives, b. noting what to look for, and c (occasionally) providing full listings when search is difficult or tedious.

## Section Contents

## 10.2 AFFILIATE MANAGEMENT SOFTWARE

You'll need software to automate the process of creating links, storing records of purchases, calculating commissions, allowing commissions to be viewed, and sending out payments. Programs now exist for all pockets, from simple scripts you install on your server to sophisticated programs provided as a third party service.

Check:

Rental set-up cost, monthly fees, any commissions and minimum rental period.

Price if software is purchased outright.

Extent that software can be customized to your needs.

Whether potential affiliates can sign up automatically.

Software automatically creates links, banners and/or rotating banners for affiliates.

Software allows pay by lead.

Software allows pay by sale.

Rate can be adjusted to affiliate and/or extent of sales.

Commission type: %, flat rate or reverse.

Tiers of commission possible.

Limits on number of affiliates and/or click-throughs per month.

Software can cope with offline sales.

Sales information is readily exported to databases and/or accounting programs.

Signup and sale notification is automated.

Commission tracking is automated.

Tracking technology will work on most systems.

Cookie life can be set (if cookies are the tracking technology).

Software integrates with your (or popular) shopping cart and payment gateways.

Software includes fraud prevention measures.

Software includes an email marketing facility.

What money-back guarantee exists.

## Section Contents

## 10.3 BULK EMAILING PROGRAMS

Bulk emailing is tedious without the tools to automate the task. Search under emailing / bulk email services / software. These features can prove useful:

Database input: takes file data from any ODBC-compliant database and merges it with your email message.

HTML format: emails can be sent as HTML pages, with included graphics and more attractive layout.

Direct delivery: email can be sent directly to recipient, bypassing the ISP mail server.

Text selection: selected parts of the text or HTML page can be sent.

Incoming mail processing: automatic handling of incoming mail — including sign-ups, double opt-ins, opt-outs, etc.

Subscriber profiles can be changed.

Bounce management: detects whether email has been delivered.

Multi-channel: speeds up process by sending many emails simultaneously.

DOS mailing: emails can be sent from the DOS command line.

Preview: lets you preview any message before it is sent.

Attachments: lets you attach files to your message.

Mailing list rebroadcasts: you can take a message from a member of a mailing list and rebroadcast it to all members of that mailing list.

Own SMTP server (so you can use on a laptop away from base and/or when the ISP does not provide a SMTP service).

Squeeze page. HTML page that promises something (usually a free report) in exchange for a customer's email address. Most emailing services now supply this.

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## 10.4 ONLINE CHECKS AND WALLET SYSTEMS

Not everyone uses credit cards, and you may lose half your potential business if you don't take alternatives. Search under online checks, wallet systems, payment solutions and payment services. Wikipedia has brief listings under: online wallet, e-commerce payment system, electronic funds transfer and payment service provider.

You'll have to visit the sites/contact the companies concerned for details of the existing range of online and secure payment services, which fall into several categories. Some schemes provide a secure wallet, into which a customer can put funds for the merchant to withdraw, without credit card details being divulged. Some allow telephone billing. In others, a name, address, number, routing/sort code and account number are keyed in by the customer, and a cashable is printed out at the merchant's terminal. A few schemes will also convert the to a full electronic payment, usually for an additional fee.

Online checks are most popular in the States and Canada, though banks even here can impose additional charges for such processing. You'll want to discuss matters with the people you normally deal and bank with.

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## 10.5 INTERNET PAYMENT SERVICE PROVIDERS

If you don't have an online merchant account, and/or your level of business doesn't justify getting one, you can use a third-party payment service provider.

The rates below apply to US merchants selling physical goods through a bureau that does not provide a shopping cart, or to merchants not using a shopping cart available. Rates for non-US merchants may be a little different, so check on the payment provider sites.

Remember also to check what credit cards they handle, and the popularity of these cards in your target countries. You will generally have to inquire about chargeback fees (which tend to vary with incidence of chargebacks per month), and sometimes about other rates from payment providers that prefer to assess each merchant individually. Do an Internet search on the hosting company (complaints review company-name\_or\_service) before finalizing your choice.

### Internet Payment Service Providers

PSP	Setup fee	Monthly fees	Transaction fees (from)		Transaction fees (to)		Extra fees for	Notes
			US \$	US cents	US cents	%		
Website	US \$	US \$	US cents	%	US cents	%	-	see key
2Checkout	49	-	45	5.5	45	5.5	manual setup	-
AlfaBank	inquire	inquire	inquire	-	inquire	-	-	RBP
Alertpay	inquire	inquire	25	2.5	25	2.5	-	-
Alipay	inquire	inquire	inquire	-	inquire	-	-	CPP
Amazon Payment Services	0	0	1	1.5	30	2.9	balance transfers	non US +1% Amazon customers only
BillJunction	Rs 225-1149	0	inquire	-	inquire	-	-	IPP
Business America	inquire	inquire	inquire	-	inquire	-	-	BP
Card Accept	0	33	25	2.24	25	2.24	-	-
CashToChina	-	-	inquire	-	inquire	-	-	CBP
Charge.com	0	26.95	25	2.25	25	2.25	merchant account, gateway, statements.	SC
CCNow	9.95	0-9.95	50	4.99	50	4.99	-	SC
ClickandBuy	19.95	19.95	35	2.9	35	2.9	-	-
ClickBank	50	0	100	7.5	100	7.5	-	SC
ClickPay	-	-	inquire	-	inquire	-	-	CBP
CitoPay	inquire	inquire	inquire	-	inquire	-	-	IPP
CCBill	0	0	-	11.5	-	14.5	European customers	-
Cyberplat	inquire	inquire	inquire	-	inquire	-	-	RBP
Dibspayment	€220-1080	€55-110	0	1.0	-	inquire	monthly minimum	SPP
Digital River World Payments	inquire	inquire	inquire	-	inquire	-	-	-
Ecommerce PaymentNets	inquire	inquire	inquire	-	inquire	-	-	ThPP
eNets	inquire	inquire	inquire	-	inquire	-	-	-

ePassporte	0	0-35	inquire	-	inquire	-	-	BP
ePay	inquire	inquire	inquire	-	inquire	-	-	BUP
Epoch Merchant Services	inquire	inquire	0	13	0	15	-	-
Gate2Shop	-	-	inquire	-	inquire	-	-	-
GeldKart	inquire	inquire	-	0.3	-	inquire	-	-
Google Checkout	0	0	30	1.9	30	2.9	+1% for overseas customers	full shopping cart service
Global Collect	inquire	inquire	inquire	inquire	inquire	inquire	-	-
Global Payment Services	inquire	20	34	2.19	35	2.19	-	-
India Pay	inquire	inquire	inquire	inquire	inquire	inquire	-	IPP
India Internet	Rs 12,000-30,000	Rs 1,200	-	3.25	-	5.00	-	IPP
Inpay	0	0	-	1.0	-	4.0	-	BP
InstaBill	0	49	50	2.35	50	2.35	payment gateway. international merchants	-
Internet Secure	inquire	inquire	inquire	-	inquire	-	-	-
iPay88	\$150	-	40	-	40	-	-	EAS
iPayNA	inquire	inquire	inquire	-	inquire	-	-	-
Kagi	0	0	15	2.5	500	2.5	credit card processing	UC CD
Membership Plus	0	0	-	18	-	18	-	AS
Merchant Accounts CA	5-199	5-39	CA\$ 0.15	-	CA\$ 0.15	-	-	CPP
MicroPayment	inquire	inquire	inquire	-	inquire	-	-	-
Moneta	inquire	inquire	inquire	-	inquire	-	-	BP
Merchant Services Bergen	0	10	35	2.19	35	2.19	-	-
Money Bookers	-	-	€0.13	-	€0.5	-	-	EB BP
Moneris	inquire	inquire	-	inquire	-	inquire	-	-
Multicards	25	49/yr	45	4.95	45	4.95	-	EB
NetBanx	-	-	£0.10	-	£0.45	1.9	monthly minimums	-
NetBilling	0	25	15	1.5	15	1.5	-	-
NorthStar Solutions	0	0	45	6.5	200	4.0	-	UC CD
Ogone	inquire	inquire	-	inquire	-	inquire	-	-
PayBox	inquire	inquire	inquire	-	inquire	-	-	FPP
PayByWeb	0	30	38	2.29	38	2.29	-	-
Paymate	-	A\$0-33	-	1.5	-	2.4	prepaid fees	A
PayPal	0	0	30	2.4	30	5.4	-	-
PayPoint	£125	£30	inquire	-	inquire	-	-	-
Plimus	0	-	-	4.5	-	15.0	-	-
ProPay	0	35-300	25	2.69	35	3.75	-	EB
PaySignet	Rs25,000	0	-	1.00	-	7.00	-	IPP
PaySimple	0	30	29	2.29	29	2.29	-	-
PayStation	NZ\$200	-	NZ\$0.1	-	NZ\$0.1	-	monthly minimum	NPP
PayXpert	inquire	inquire	inquire	-	inquire	-	-	-
RBS WorldPay	£200	£30	£0.56	4.5	£0.56	4.5	-	-
RegNet	0	0	-	20.0	300	10.0	-	UC CD
RegSoft	9.95	0	300	-	-	8.9	-	UC CD
SetSystems	0	0	-	15.0	-	15.0	-	UC CD
Safecharge	-	-	-	-	-	-	-	POA
Secure Trading	inquire	inquire	inquire	-	inquire	-	-	BPP
ShareIt!	0	0	100	4.9	100	6.9	-	UC CD
SWReg	0	0	100	2.9	100	2.9	-	-
Take Cards Today	0	0	-	2.14	-	2.14	gateway. statement	-
United Bank	295	10	0	-	150	-	-	BP
VeriPayment	699	40	65	4.95	inquire	inquire	-	-
Verotel	0-1000	30	-	13.0	-	14.0	-	-
Web Money	inquire	inquire	inquire	-	inquire	-	-	RBP
Western Union	0	inquire	various rates	-	various rates	-	-	BP
Yahoo! Small Business	0	\$40/m	0	1.5	0	1.5	-	full shopping cart service
Yes-Pay	£42.50	£15-31	£52/month	-	£105/month	-	-	IPP

Key  
A=Australian IPSP. AS=specializes in adult sites. BP=bank payment system. BUP=Bulgarian IPSP (in Russian). BPP=British IPSP. CD supply service. CPP=Canadian IPSP. CBP=Chinese bank payment service. CPP=Chinese PayPal (in Chinese). DPP=Dutch IPSP. EAS= east Asia clients. EB= specializes in eBay sales. FPP=French IPSP (in French). HR=high risk accounts. IPP=Indian IPSP. JPP=IPSP for Japan, east Asia and Philippines. LBP=bank payment service for Latin America. NPP=New Zealand IPSP. RBP=Russian IPSP and/or money transfers by prepaid cards (in Russian). SC=Shopping cart supplied. SPP=Swedish IPSP. ThPP=Thai IPSP (in Thai). UC=supplies unlock codes

## Recurring Payments and Subscriptions

PSP	Setup fee	Monthly fees	Transaction fees (from)		Transaction fees (to)		Extra fees	Notes
			US \$	US cents	US cents	%		
website	US \$	US \$	US cents	%	US cents	%	-	see key
123Ticket	0	0	€0.11	-	€2.06	-	-	-
Alertpay	inquire	inquire	25	2.5	25	2.5	-	-
AllCharge	inquire	inquire	inquire	-	inquire	-	-	-
Amazon Payment Services	0	0	1	1.5	30	2.9	balance transfers	non US +1% Amazon customers only
BillMatrix	inquire	inquire	inquire	-	inquire	-	-	-
ClickBank	50	0	100	7.5	100	7.5	-	SC
CCBill	0	0	-	11.5	-	14.5	European customers	-
Gate2Shop	-	-	inquire	-	inquire	-	-	-
Global Payment Services	inquire	20	34	2.19	35	2.19	-	-
India Pay	inquire	inquire	inquire	inquire	inquire	inquire	-	IPP
iPayNA	inquire	inquire	inquire	-	inquire	-	-	-
Membership Plus	0	0	-	18	-	18	-	AS
Merchant Services Bergen	0	10	35	2.19	35	2.19	-	-
Multicards	25	49/yr	45	4.95	45	4.95	-	EB
NetBanx	-	-	£0.10	-	£0.45	1.9	monthly minimum	-
NetBilling	0	25	15	1.5	15	1.5	-	-
PayBox	inquire	inquire	inquire	-	inquire	-	-	FPP
PaySimple	0	30	29	2.29	29	2.29	-	-
PayPal	0	0	30 F	2.4	30 F	5.4	-	-
SWReg			100	2.9	100	2.9	-	-
Verotel	0	0	-	16.5	-	18.0	-	-
WorldPay	£200	£30	£0.56	4.5	£0.56	4.5	-	-
Xiaonei	inquire	inquire	inquire	-	inquire	-	-	CPP
Key	A=Australian IPSP. AS=specializes in adult sites. BP=bank payment system. CD supply service. CBP=Chinese bank payment service. CPP=Chinese PayPal (in Chinese). DPP=Dutch IPSP. EB=specializes in eBay sales. IPP=Indian IPSP. NPP=New Zealand IPSP. RBP=Russian money transfers by prepaid cards (in Russian). SC=Shopping cart supplied. SPP=Swedish IPSP. ThPP=Thai IPSP (in Thai). UC=supplies unlock codes							

## Telephone Billing

PSP	Setup fee	Monthly fees	Transaction fees (from)		Transaction fees (to)		Extra fees	Notes
			US \$	US cents	US cents	%		
website	US \$	US \$	US cents	%	US cents	%	-	see key
123Ticket	0	0	€0.11	-	€2.06	-	-	-
Allopass	inquire	inquire	inquire	-	inquire	-	-	-
BillJunction	Rs 225-1149	0	inquire	-	inquire	-	-	IPP
DaoPay	0	0	-	10	-	71	-	-
Charge.com	0	26.95	25	2.25	25	2.25	merchant account, gateway, statements.	SC
First Data	inquire	inquire	inquire	inquire	inquire	inquire	-	-
NetBanx	-	-	£0.10	-	£0.45	1.9	-	-
Ogone	inquire	inquire	-	inquire	-	inquire	-	-
PayByWeb	0	30	38	2.29	38	2.29	-	-
Verotel	0	0-30	-	20.0	-	30.0	-	-

## Micropayments

PSP	Setup fee	Monthly fees	Transaction fees (from)		Transaction fees (to)		Extra fees	Notes
			US cents	%	US cents	%		
website	US \$	US \$	US cents	%	US cents	%	see key	see key
Allopass	inquire	inquire	inquire	-	inquire	-	-	-
AllCharge	inquire	inquire	inquire	-	inquire	-	-	SU
Amazon	0	0	0.25	20	0.25	20	-	Amazon customers only
Clickand Buy	inquire	inquire	1	-	inquire	-	-	-
PayBest	inquire	inquire	inquire	-	inquire	-	-	MS
Key	AD=paid by advertising. MS=music sales commissions. SU=status uncertain.							

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## 10.6 PUBLISHING: GENERAL RESOURCES

Book Industry Statistics. Useful facts and figures.

Bookwire. Comprehensive portal of the book industry.

Journal of Electronic Publishing. More scholarly articles on e-publishing.

eContent Magazine. Content on the Internet: news, articles and resources.

General Publishing Resources. Long listing, rather a mixed bag.

Comparison of e-book readers. Wikipedia. Good table and listings.

Internet Publishing. Personal site, with an excellent listing of electronic publishers.

Author's Guild. Advice on the book (and other) contracts.

Perfect Pages: Book design, typography, and Microsoft Word. Aaron Shepard. 2006. 140 pp. \$15.

StyleWriter. Searches for thousands of writing faults and helps you write clear and simple English. \$150.

Comparison of e-book formats. Wikipedia. Extensive tables and listings

PDF Zone. Online hub for all things PDF.

:eBook Generation

eBooks are commonly made by:

1. Compiling webpages: search under 'webpage compiler', 'ebook creator', 'make your own ebook', etc. Many exist for the Windows platform, few for the Mac. Features to check:

Layout precision required: program:

Compiles simple HTML pages only.

Css layouts preserved: rarely the case: check with pages concerned.

Nature of Input:

Text only.

Text and graphics.

Basic multimedia.

Flash and/or videos.

Pdf Acrobat files.

Functionality:

Individual pages can be hidden/password protected.

Printing can be disabled.

Copying can be disabled.

Indexes easily created.

Search facility can be added.

Level of security required:

Password protection of whole document.

Password protection of individual pages.

Time expiry of e-book.

Expiry after certain number of times used.

Access restricted to single machine/user.

User tracking.

Most programs have free trials or demo versions.

2. Making PDF files with specific software from webpages and/or Microsoft Word etc. documents.

Search with 'pdf creation software', 'pdf creation services', 'word to pdf', 'online pdf services', etc. Apart from Adobe's Acrobat, the software is generally inexpensive, and online services even more so. Preservation of layout and links (bookmarks and exterior links) can be difficult, claims notwithstanding. Test thoroughly.

Security is a vexing matter as software is readily available to open locked pdf documents (and extract their data) if the whole document is not password-protected (and passwords are commonly passed on with the document). Several commercial options exist, but are expensive. The cheaper options are

Mac platform: Book Guard.

Window Platform: Softlocker, AftIndia, Apinsoft and Authpro.

3. Making Flash pages, either from scratch (with Adobe Flash, Swish or Toufee) or from previous documents usually pdf (e.g. with PageTurnPro ) or Word (e.g. with Print2Flash). Search with 'easy flash program', 'word to flash', 'pdf to flash'. Many

companies offer a complete service: e.g. PageGangster and ePaperFlip.

:File Handling

These file handling routes should cover most needs:

1. Text to HTML:

Any number of HTML editors exist, many free or shareware.

use AscToHTM.

2. Text to Acrobat PDF format:

Use Adobe Acrobat.

Or one of the many (cheaper) clones available: Win2PDF, PrintToPDF, PDF-Xchange, PDF-Xchange, PDF Online, DaVince Tools, Create PDF, Sonic PDF or NitroPDF.

3. Text to Microsoft Reader format:

Use ReaderWorks.

4. Microsoft Reader to other formats:

Use ConvertLit.

5. Text to Hiebook format:

Use software supplied with Hiebook, now sold on eBay.

6. Text to Gemstar format:

Contact fellow users: Gemstar eBook Publisher no longer live.

7. Text to Rocket eBook format:

Contact fellow users: Rocket Librarian site is no longer live.

8. Text to Mobipocket format:

Use Mobipocket Reader 5.

9. Word to Acrobat PDF:

Use FinePrint, MakePDF, PDF Writer Pro, etc.

10. Word to HTML:

Save as HTML in Word and use HTML Tidy, or

Use Flash Utility, Word2Web or ePrint Professional.

11. Word to Microsoft Reader:

Use Microsoft Reader or ReaderWorks.

12. HTML to Text:

Use a HTML code stripper like NoteTab, PureText, or StripHTML.

13. HTML to Acrobat PDF:

Use Acrobat's webpage capture and number pages with Javascript coding, or.

Use HTMLDoc.

14. HTML to Microsoft Reader:

Use ReaderWorks, or

Convert to MS Word and use Microsoft Reader or ReaderWorks.

15. Add graphic files to HTML documents:

Optimize file size in a graphics program like Fireworks, and then use an HTML editor.

16. Add graphic files to Acrobat PDF documents:

Insert in HTML or Word document: import into Acrobat, and save at appropriate resolution, or

Use PDF Studio, Infix, etc.

17. Add graphic files to Microsoft Reader Documents:

Import to MS Word and add Word, or

Convert to file formats and then use graphics program.

18. Add graphics to MS Word documents:

Use Word Autoshapes or WordArt tools, or

Import from file and then format with Format>Picture>Layout>in front of text.

19. Text and graphics to Adobe InDesign:

Follow InDesign procedures or consult third-party manuals.

20. Text and graphics to Quark Xpress:

Follow Xpress procedures or consult third-party manuals.

21. Prepress for Adobe InDesign:

Export as Postscript files, setting controls or use DeskPrint, or

Preflight in Adobe Acrobat, or

Use third-party software, e.g.: PitStop Professional, Crackerjack, PDF Robot.

22. Prepress for Quark Express:

Distill using Postscript driver, or

Preflight in Adobe Acrobat, or

Use third-party software: PDF Robot, etc.

23. Convert HTML/Word/Text files to MP3 format

Use Verbose and then convert WAV file to MP3, or use Text Aloud, etc., or

Speak into an MP3 encoder: DailyMP3, MP3 Machine, Hitsquad, NCH, MP3-Converter, Winamp, Musicmatch or Blaze Media Pro.

24. Convert audio files to MP3 format for web download:

Convert to MP3 format and then link to RSS feeds.

25. Convert between graphics file formats:

Use graphics programs: PhotoShop, Illustrator, Paintshop Pro, or Cheaper file format converters.

26. Convert PDF to flash: Swifttools.

27. Convert PDF to PageTurn: PDF 2 PageTurn.

28. Convert PDF to ePub: PDF2EPUB.

29. Convert PDF to Kindle: AutoKindle.

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## 10.7 PROFESSIONAL MARKETING STUDIES

Below are listed the leading market research companies, but their reports are not cheap, findings differ between surveys, and predictions are continually being revised. Which survey should you trust? And how many reports should you purchase: all of them so as to compare, or none at all?

We can't answer these questions directly, but common sense suggests you'll want to consider the conditions under which such reports are compiled.

Internet users are so conditioned to receiving free information that they sometimes suppose that all information is theirs by right. But information has to be collected, analyzed and disseminated, and the cost of doing these must be met somehow. Often the process is very indirect — keynote speeches at institutional get-togethers, for example, which further the aims of the industry concerned — but the exercise has eventually to end in some benefit. And that applies even to interviewees. Data collected by market research companies are only as good as the questions and persons asked. CEOs who give up valuable time to answer journalists' questions understand that the increased publicity helps sales and market standing, but they're not going to be self-critical, or give away company secrets. By its very nature, all commercial information is suspect, and its value is often proportional to the effort put into its collection and analysis. Before purchasing any report, try (and it's not easy, though emails are usually answered) to find out:

1. When the data were collected: ecommerce changes rapidly.
2. How the market data were collected — questionnaires, analysis of company reports, interviews, etc.
3. The identity of the interviewees or questioned, and whether they were in a position to know and be candid.
4. Statistical validity of the data.

5. Matters that might affect judgment — inducements offered to those participating in the survey, etc.

Then ask yourself if you can properly use the information. You may learn, for example, that online customer acquisition costs are now averaging \$40, but do these apply to the online operations of household brands or to market newcomers? And in what market sector? Differences are crucial, and you'll want to be sure that the sample represents your sort of company. Check that:

1. The data are relevant to your needs.
2. Predictions have been reliable/useful in the past.
3. The market research company has a good reputation, and has not simply presented what subscribers wish to hear.

Though marketing generally exceeds the costs of getting a site online, it is often money well spent. Some form of market research is unavoidable, and without its guidance companies will be flying blind. If a report does not address your queries sufficiently, however, you'll have to commission your own market research, though the cost will be an order of magnitude higher.

Unless you're a big company needing to move fast, you may wish to see what's freely available through other sections in this ebook.

#### Professional Market Research Companies

**Analysys Mason.** Information on and analysis of the telecoms industry.

**Bloor Research.** IT research, analysis and consultancy: 750 reports available.

**Business Insights.** Sell reports on a wide variety of market sectors: usually US\$ 1,000 plus.

**Cheskin.** Research emphasizing peoples, culture and change.

**Computer Economics.** Studies helping IT executives control and manage their IT costs.

**Current Analysis.** Worldwide competitor analysis and market research: costs, pricing, trends, etc.

Data Monitor. Business intelligence: variety of reports and subscription services.

Dun and Bradstreet. Some free articles from this leading supplier of business information: but otherwise reports by country, business sector or company name.

eMarketer. Comprehensive demographics, surveys and analysis on ecommerce. Inquire about subscription rates.

Forrester Research. Research reports on customer trends, business strategy and technology investments: free summaries on registering for newsletter.

Gartner Research. Searchable and extensive database of research reports: free abstracts.

International Data Corp. Commercial surveys and assessments of IT and associated industries.

Input. Market research and marketing for ebusiness: various reports and services.

Instat. Analysis and forecasts of the telecommunications industry.

Igigroup. Newsletters and technology reports on all aspects of the telecommunications industry.

ITSMA. IT services, branding and marketing business information.

Javelin Strategy and Research. Quantitative and qualitative research focused on the global financial services industry.

Marketing Analytics. Tools to analyze marketing mix, pricing, advertising and consumer segment response.

Market Research. Over 40,000 documents from 350 research companies. Documents can be purchased in sections.

Nielson. Market research reports by industry and geographical region.

Pew Internet. Selected surveys and research articles on US Internet use.

Plunket Research. Detailed statistics by market sector: from US \$20-\$1800.

Quirk's Marketing Research Review. Statistics on the market research industry and access (by subscription) to extensive reports.

Real Story Group. Formerly CMS Watch: reports on and evaluations of content management systems.

Yankee. Market analysis and consultancy on international communications industry.

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## 10.8 ECOMMERCE: GENERAL INFORMATION SITES

Business 2.0. Insights, tools, and advantage of ebusiness.

Business Dictionary. Covers most terms.

CIO. Information, insights and analysis for IT executives on ERP, CRM, outsourcing, knowledge management, e-commerce, security, etc.

ClickZ. Information, advice, market research and statistics on Internet marketing, email, brand and affiliate marketing.

CNN Money. Company news, assessments, business and financial advice.

CRM Daily. Customer relationship management news and analysis for the ecommerce industry.

Datran Media. Includes annual marketing & media survey results

Dr. Ecommerce. Introductory tutorials plus forum for ecommerce researchers.

eBiz. Articles, email help and telephone support for the more advanced ecommerce merchant.

eBusiness IT Toolbox. Directory of ecommerce IT articles, products and services.

Ecommerce Guide. Portal with helpful articles and listings.

ECommerce Information Centre. Directory of some 40,000 ecommerce products and services.

E-Commerce Times. All aspects of Internet business for C-Level executives and small-to-mid-sized business managers.

eCommNewz. eCommerce development tutorials, articles and statistics for eBusiness professionals.

Electronic Commerce Guide. News, reviews and practical solutions for the ecommerce business.

Enquiro Research. White papers on how people use search engines, navigate websites and engage with advertising.

eTimes. Corporate information on interactive communications, distance learning, training etc., plus some case studies.

eWeek. Latest high-tech news, reviews and research on ecommerce, communications and Internet-based architecture.

Fast Company. News, trends and information on leading-edge entrepreneurs and fastest-growing companies.

Internet Retailer. News, articles and research for online merchants.

Internet Society. History of the Internet, connection updates, and much else.

Mashable. News and views on social media.

Monster Small Business. Extensive ecommerce glossary.

Online Publisher's Association. Research, news, events and intelligence reports on online publishing.

Practical eCommerce. Practical articles on ecommerce, with tips, tools, guides and resources.

Retail Ecommerce. Industry news, latest tips and strategies.

Roger Clarke's Electronic Commerce Listing. Independent research papers from Australian National University.

Search E-Business. Articles targeted at IT professionals and corporate ecommerce sector.

Sell It on the Web. No-nonsense introduction, with clear advice and newsletter.

Shop.Org. Detailed reports providing benchmarks for online retailing: conversion rates, customer acquisition costs, etc. Up to \$2995. Some free stats on site.

SocialmediaExaminer. Guide to the social media jungle.

TrendsResearch. Forecasts the general trends affecting US citizens: abstracts free, otherwise by subscription.

W3.Org. Develops specifications and guidelines for Internet technology.

Web Practices. Personal collection of diverse and useful ecommerce resources.

Website Magazine. Linked articles under useful headings: US\$45/year.

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## 10.9 ECOMMERCE MARKETING

Frequent visits to these sites will keep you up to date with marketing techniques, news and information:

**A Promotion Guide.** Excellent and extensive free tutorials on marketing your site.

**Add Tracking Review.** Evaluate the effectiveness of your advertisements. Advice on choosing an ad tracking program, plus reviews of products.

**AdExchanger.** Articles and white papers on many aspects of marketing.

**Advertising Age.** Ad business news, plus industry data on advertising and marketing.

**ClickZ.** Information, advice, market research and statistics on Internet marketing, email, brand and affiliate marketing.

**eMarketing.** Helpful free ebook in pdf form: *The Essential Guide to Online Marketing*.

**FutureNow.** Articles plus twice-monthly newsletter on improving the selling characteristics of your site.

**Idea Site for Business.** Marketing ideas for entrepreneurs and the smaller business.

**Internet Advertising Resource Ad Guide.** Brief but useful primer on Internet advertising.

**MarcommWise.** Marketing and communication strategies: articles, vendors and resources.

**Marketing Experiments.** Reports and monthly newsletters are now free.

**MarketingProfs.** Pushes products hard, but often has excellent articles.

**Marketing Sherpa.** Wide readership, with lots of good casestudies.

**Marketing Tips.** Ideas and resources for Internet marketing.

**Marketing Today.** Aimed at marketing professionals, but much useful background material.

**Marketing UK.** Tips, articles, resources and newsletter from this long-established UK marketing portal.

**MarketingVOX.** Strategy and media research for marketing professionals.

**Media Finder.** Database of print media in Canada and the USA.

Media UK. UK media community with extensive independent directory.

Mobile Marketer. Mobile marketing, media and commerce news.

Patricia Seybold Group. Corporate reports on customer service and relationships.

Promotion World. Hundreds of free articles on promoting your website, with reviews of services and products.

Psychology of Consumers. Somewhat theoretical, but very clear and thorough series of articles.

Selling Power. Online version of magazine with 200,000 subscribers. Practical articles.

WebDigest for Marketers. Compares tools and companies in over 50 marketing categories.

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## 10.10 ECOMMERCE STATISTICS

While you'll no doubt be overjoyed to discover that missing piece of your market study — that percentage increased confidence in ecommerce among Vietnamese communities, or whatever — it's worth reflecting on the accuracy and significance of your discovery. Surveys are generally based on a small sample of the population, and their success depends on the representativeness of that sample. Surveys are conducted in many ways, moreover, often a combination of ways — by telephone, email, mail shots, online (computer) surveys, mobile phone, personal at home, personal at shopping mall, etc.— and results can reflect the method used to collect the information: only the comparatively well-off in Vietnam would own a computer, for example.

A semi-US Government agency like Westat, which employs 5,000 interviewers to weekly feed 25,000 to 35,000 hours of results into 400 field stations for computer analysis, has several criteria to fulfill. Staff have to be trained at an appropriate level to handle responses in a similar way. Samples need to include factors that may be relevant: income, marital status, ethnicity, education, age, etc. Results are subject to the interviewees' motivation, honesty, memory, and ability to respond. Surveys may need to be repeated, particularly if results are off trend. And so on: surveys are a complicated matter, and there are suspicions that some market research companies may cut corners when times are hard.

Statistics, moreover, is a science or branch of mathematics, and has its own ways of assessing data reliability and the significance of results. Statistics is indeed an immensely complicated subject, and a great deal of forethought and experience is required to apply the right measures and draw meaningful conclusions. The larger market research companies do indeed have this expertise, but the extent to

which it can be deployed is sometimes limited by the understanding and/or budgets of their clients.

Small businesses may be satisfied with ballpark figures: they need only to take advantage of a growing interest in some market sector, perhaps, but the same latitude does not apply to academic research, or to the econometric modelling a corporation may need to undertake in switching R & D funds to another field. Even incontrovertible facts like capital expenditure set down in company annual reports may prove deceptive on examination. Companies present their figure to burnish their reputations and minimize their tax liabilities, and it's not always clear what expenditure has been assigned to what, or whether indeed the figure represents true capital expenditure at all and not fixed cost given a good home for the present. Nor is the same figure appearing in different sources sufficient grounds for optimism — indeed the opposite on occasion, given the way information is cheerfully copied across the Internet. Data quality is always of first importance, and while some figures have to be accepted in good faith, industry experts can often make shrewd adjustments where outsiders must take matters at their face value.

### **Chief Sources**

[Actinic Surveys](#). Surveys of ecommerce experience of Actinic merchants: free but generally more Europe-based.

[Comscore](#). Consumer Internet behavior in the US and Europe.

[Clickz](#). Web site with statistics and web marketing information, gathered from key data sources, such as Jupiter Media Metrix and Nielsen/Net Ratings.

[Digital Economy in Canada](#). Statistics links listed on Research and Statistics page.

[eCommerce Facts](#). Useful roundups of ecommerce surveys and news.

[eConsultancy](#). Internet statistics reports by geographic block: US\$400/report or US\$495 for one year's 350 reports.

[eMarketer](#). Excellent reports, articles, statistics and news on ecommerce and marketing from over 4,000 sources..

E-Stats. Official Census Bureau's surveys of e-commerce activity in the US economy.

GVU WWW Surveys. Detailed surveys of world wide web users' behaviour: several years out of date but detailed and still valuable for understanding customer preferences.

Internet / E-commerce Statistics. Key statistics on Canada and worldwide ecommerce-related matters.

Internet News: Stats. Continuous compilation of business ecommerce statistics from industry sources.

Internet World Stats. Detailed Internet statistics by country, region and world groupings.

Marketing Charts. Free informative charts on many aspects of ebusiness

Wilsonweb. Large collection of articles, including ecommerce statistics in the free Web Marketing Today Research Room.

### **Subsidiary Sources**

Browser Statistics. Internet browsers in use worldwide: generally retrospective by 10 months.

Cybermaps. Geographies of the Internet, web and emerging cyberspaces.

eBillMe. Quarterly index of US online spending habits.

Entrepreneur. 2006 compilation of ecommerce statistics.

Federal Statistics. Statistics from over 100 US federal agencies.

Gallup Organization. Polls on most aspects of life: results free online: also offer books and courses.

International Data Corp. Commercial surveys and assessments of IT and associated industries.

Internet Statistics and Resources. Infoplease's listing: much now dated.

Internet Traffic Report. Monitors the current flow of data around the world.

Internet World Stats. Internet usage and world population statistics: usually 6 months in the past.

ISC Domain Survey. Growth of domain names: statistics from 1994.

Marketing Charts. 76 free charts provided quarterly.

MIT eCommerce Forum. MIT library's listing of ecommerce statistics sources.

Net Market Share. Current market share of browsers, search engines, etc.

Statistical Abstract of the United States. Authoritative and comprehensive summary of statistics on the social, political, and economic organization of the United States.

Top 250 Retailers. NRF Store's listing of top 250 retailers globally.

TrendWatching. Tracks consumer trends: free monthly briefing, plus premium service.

UK Search Engine Marketing Benchmark Report 2010. Summary on site: full report worth £149 free on registering.

ZookNic. Domain name location and Internet access by country.

## Section Contents

## 10.11 ECOMMERCE CASE STUDIES

Small companies will not have the resources to implement all the technologies described here, but can prosper in their own market sector by progressively making small and necessary improvements.

Possibly the largest listing of ecommerce case study resources anywhere: links to several thousand of them, largely free.

### **B2C**

B2C Marketing Insider. Case study — raising the profile of Pentura.

Case Studies of Ecommerce in SMEs. Listings of rural US ecommerce enterprises by Barkley, Lamie and Markley: free pdf document.

ComMarketing. 14 case studies relating to hotels and tourism; another 15 B2B case studies listed on page.

Darden Business Publishing. 8 featured cases, 2009-10: \$6/case study.

Ecommerce Case Studies. Some 13 brief studies listed by Actinic with links to companies concerned.

Eloqua. Four fun B2C social media case studies.

Email Marketing Reports. Marketing Sherpa's B2C email marketing reports: approx. 60: also sell a 2011 Email Marketing Benchmark Report at US\$397.

eTimes. Corporate information on interactive communications, distance learning, training etc., plus some case studies.

Fry's Clients. Good range of studies: click on the client logos.

Google Scholar. Sections of relevant books and pdf documents relating to B2C case studies: 500 + studies.

Go2Web. Case studies listed under 'Recent Projects'.

Harvard Business Publishing. A good range of case study books.

Information Week. Extensive case study listings: 33 B2C, 58 B2B and 105 Ebusiness/Ecommerce examples.

Microsoft Case Studies. Leading hypermarket chain launches B2C portal with the help of Commerce Server 2007.

Visibility. Several listed under 'Project Experience'.

Walmart.com. Case study by James Maguire. Ecommerce Guide. November 15, 2002.

## **B2B**

3 Killer B2B Case Studies. Three word-of-mouth case studies, emphasizing community aspects.

Accenture. Several case studies listed under 'Industries Served'.

B2B Integration—A Case Study. Several alternatives presented before optimal solution is found.

BluHalo. Brief studies outlined under 'Clients'.

ComMarketing. 14 case studies relating to hotels and tourism; another 15 B2B case studies listed on page.

Darden Business Publishing. 8 featured cases, 2009-10: \$6/case study.

Google Scholar. Sections of relevant books and pdf documents relating to B2B case studies.

Harvard Business Publishing. A good range of case study books.

Information Week. Extensive case study listings: 33 B2C, 58 B2B and 105 Ebusiness/Ecommerce examples.

## **Marketing**

B2B Advertising. Nine case studies detailing the objectives, methodologies and findings of some past projects.

Business Week Social Media Site. Video recap of presentation at Marketing Profs B2B Forum.

Communications: Conversations. Three B2B social media case studies and why they worked.

Internet Advertising Bureau. Some fifteen studies as downloadable pdf documents.

Internet Marketing / E-commerce / Case Studies. Dave Chaffey's notes on selected cases.

Junta42. Seven marketing case studies

MarketingProfs. B2B case studies on email, crm and social media.

MarketingSherpa's Top 7 B2B Case Studies for 2010. Excellent 64 pp pdf document, free on registering.

Media Awaken. Social media: an unofficial B2B case study.

## **CRM**

CDC Software. Some 50 CRM case studies: details on registering.

Concentrix. CRM case studies: thirteen listed, each linked to a detailed study.

CRM Daily. News, reports and resources for customer resource management.

CRM Today. Some 100 case studies listed, each linked to a detailed study.

SearchCRM. Some nine case studies, free on registering.

Toolbox: Ask a Question. Case study: Walt Disney World Resorts and crm strategy.

UPS. Some 35 success stories under four categories.

Walmart. Mohan Chandran's extended study of Wal-mart's operation and 25 largest retail companies.

WhatIs.com Research Library. CRM case studies: over 70 listed: details free on registering.

YourTechTV. Some 33 video case studies.

Supply Chain Management

About.com. Six Supply Chain case studies.

Aspin. Field sales, ecommerce and warehouse case studies of clients.

CAPS. Detailed purchasing and supply chain management studies: free if you register.

CSCMP. Supply Chain Management case studies: 20 for academics and 16 for practitioners.

Establish. Articles, briefs and case studies from management consultants specializing in the Supply Chain.

IdealWare. Managing constituent relationships: four case studies.

Microsoft Dynamics. Over 200 case studies listed, each linked to a detailed study.

PPRC. Supply Chain Management for environmental improvement: 38 case studies, and links to another 8.

SupplyChainDigest. Some 40 case studies listed, with link through to details.

SupplyChainStandard.com. Some 22 studies dating from 2007-8 period.

Publishing

Amazon Upgrade. Providing immediate online access to the text of a purchased book at an additional fee.

AuthorHouse. Self publishing case studies: 9 listed, with links to full story.

Bakersfield Californian. Successfully taking a traditional local newspaper on line.

Book Locker. Case studies of self publishers who landed traditional publishing contracts: some 20 showcased.

Cheapskate Monthly. New website created using *Imagine IT's* LiveWeb application suite: eBusiness.

Chown Hardware. Chown door hardware and plumbing fixtures used LANSAs for the Web to develop an online product catalog.

eContent Magazine. Articles grouped under e-publishing concerns.

LA Observed. Making the jump from one-man blog to community website.

Social Text. Becoming Agile and Innovative Grows Revenues: Meredith Corporation case study.

Miscellaneous

1to1Media. Free registration to access articles, podcast, white papers and newsletter.

Accessible e-commerce sites. Importance of disabled market and some brief success stories.

BitPipe. Some 400 case studies: free if you register.

Business Case Studies. Internet marketing and E-commerce case studies: generally €6.5/study.

Business Week Online. Many brief case studies, including SMEs.

CaseForest. Large selection, free on registering. Also MBA term papers, research papers and related matters.

Caseplace. Hundreds of free case studies that cover social impact management on business management.

Case Studies and Management Resources. Some 50 studies, each at Indian Rupees 200-700.

CaseStudiesInc. Some 30 studies at \$5/study.

CNN Money. Short but useful list of ecommerce case studies.

eCommerce Guide. News, reviews and practical solutions for online business.

Ecommerce-Partners. Webbuild company with case studies of successful partnerships in a wide range of market sectors.

Financial Partners Credit Union. New website to strengthen CU's source of financial information and products.

Global Lens. Some 300 individual case studies, searchable by database: US\$6/copyright.

Internet Business Models. Good listing of case studies and academic papers.

Internet.com. Excellent source of larger company case histories: use the search box.

Internet Retailer. News, articles and reports/statistics.

Off shore Ecommerce Case Studies. Brief detail on six projects.

Marketing Profs. Articles and free newsletter: also premium account for back issues, etc.

Market Research. Over 24,000 detailed case studies available, generally over \$1000 each.

Media Post Publications. News and article: several subscription schemes.

Merlot University. Articles and courses on ecommerce and business management.

Multimedia Victoria. Successful IT company projects in the Australian State of Victoria.

Red Technology. Success stories of clients: free downloadable booklets but rather brief.

Secrets to their Success. SME ecommerce case studies. \$80/year.

The Times 100. Free case studies on real companies for business students and lecturers.

Wilsonweb. Articles in Research Room: more for SMEs.

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## 10.12 GENERAL BUSINESS INFORMATION

Below are a few of the many sites that now exist to provide information, advice and resources for today's modern business. Many more can be found through specific Internet searches.

### **General**

Accounting, Business Studies and Economics Dictionary. Extensive online dictionary.

Alexa. Free browser add-on that analyzes sites you visit for download speed, startup date and popularity ranking.

Audit Bureau. Circulation figures for ABC-certified newspapers, magazines and directories in the UK.

Babylon. Translation services and software: 17 million customers worldwide.

Bankruptcy Data. Largest online data source on US bankruptcies. Wide range of services in Free and Premium categories.

Beaucoup. Handy listings of specialist directories.

Better Business Bureau. Information on companies and consumer issues in US and Canada.

BizJournals. Online versions of business papers catering for 35 market sectors.

BizOffice. Listings for small and home-based businesses.

Black Enterprise Online. News, information and resources for African American entrepreneurs, professionals and business leaders.

Brandseye. Monitors who's talking about your product: from \$1/month.

Britannica. Online encyclopedia, dictionary and thesaurus.

Business Directories. Directory of business directories worldwide.

Business Wire. Financial disclosures and press release services to local and international markets.

Census Records. Useful statistical and demographic information on the USA.

Change Detection. Free service that helps you keep an eye on the competition by notifying you of webpage changes.

Click Forensics. Leader in scoring, auditing, and improving traffic quality for the online advertising community: free reports on click fraud.

Compete. Monitors your own and competitors' traffic.

Competitive Intelligence Services. Guide to services and software available.

Corporate Information. Extensive information on over 350,000 companies worldwide.

Currency Converter. Just choose two currencies and click the button.

CTS Language Link. Offer translation services in over 120 languages.

Department of Labor. US labor and employment legislation: advice, forms and statistics.

Edgar Database. Free access to financial reports of public companies filed with the (US) Securities and Exchange Commission.

ExecutiveBiz. Covers people and companies making news in and around around Washington, DC.

Federal Trade Commission. Information on federal antitrust and consumer protection laws.

Free Pint. Free newsletter putting 72,000 Internet business in touch: includes free look up of statutory and financial data on 1.6 million UK companies.

Google Alerts. Free service that keeps you abreast of competitors in the news.

Hoover's Online. Information on over 50,000 private and public companies in USA and Europe. By subscription, but some free information.

How To. Practical advice: 15,000 step by step how-tos.

InfoSpace. Quickly finds people, businesses and business types on the web (US only).

Infoworld. Technology resource for new IT products and strategies.

Interbrand. Annual listing of top 100 brands.

International Facts. Key facts, services and companies listed by country.

Intelius. Locates practically any individual in the USA.

International Trade Administration. Guidance, information and references for trading outside the USA.

Jigsaw. Extensive business directory where you can find contact and company information.

Library of Congress. Point of entry for extensive resources, including those useful for business research.

Langenberg. Machine translation from many sources.

Lengua. Quality translation services: good range, including Asian: fees on sites.

Market Research Wizard. Extensive directory of drop shippers and qualified wholesale suppliers: lifetime membership is \$299.

MarkMonitor. Global leader in enterprise brand protection.

Multinational Monitor. Tracks corporate activity, especially in the Third World, focusing on the export of hazardous substances, worker health and safety, labor union issues, etc.

KnowX. Searches public records for court judgment, bankruptcies etc. on individuals and companies: fee scale on site.

Online Business Dictionary. Business dictionary of words and phrases commonly used in international trade

Omniture. Web Analytics services that also sell various best practices guides.

Postcodes. Finds UK postcode from address, and vice versa.

Society of Competitive Intelligence Professionals. How to conduct competitor intelligence: principles and professionals available.

Startup Nation. Business advice to those wanting to start or grow a small business.

Systran. Competent translation software; also online services. European and Asian languages.

The Corporate Corporation. Helps you to incorporate your company quickly and relatively cheaply.

Thesaurus. Free online thesaurus and dictionary.

Thomas. Congressional reports, legislation and activities.

Thomas Register. Information on 170,00 industrial products and services. Free on registering.

Thomson One. Business School Edition Web site for Finance.

TradeName.com. Worldwide trademark search and registration services.

Translator Tips. Resources for professional translators, but also lists over 2000 translation agencies.

Translation. Free online translations between most Asian and European languages.

US Phone Numbers. Phone Numbers and addresses of US companies.

US Trade Online. US export and import data for over 18,000 export commodities and 24,000 import commodities.

Who's mailing What. When and what your competition is mailing, and the creative ideas and offers they are using. Packages from \$30.

Yahoo Finance. Free access to annual reports of 3,500 US and Canadian Companies.

ZoomInfo. Free access to data on 50 million employees in 5 million US businesses.

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## 10.13 MAGAZINES AND NEWSPAPERS: AMERICAS

A list of business newspapers and magazines in English for the Americas: Canada, the United States and Latin America.

### **Canada**

**Canadian Business.** Business news and financial market coverage, continuously updated.

**Business Review.** Business news on Canadian banking, trade, finance, stock market, real estate, industries and economy.

**Macleans.** Leading weekly news magazine.

**Toronto Star.** Canada's largest daily newspaper: left of centre

**Western Standard.** Conservative news magazine.

### **United States**

**Business Journals.** Resources for local US businesses.

**BusinessWeek.** International business news & stock market news. Company profiles, financial advice, small business and global economy issues, etc.

**Black Enterprise.** Information on Black American and minority business issues.

**Business Review.** Business news on US banking, trade, finance, stock market, real estate, industries and economy.

**CEOWorld Magazine.** Business, finance and technology news, reviews and analysis.

**Dismal Scientist.** Detailed economic analysis and data, by Asia/Pacific, Europe, Latin America, US/Canada groupings: US\$125-275/semester.

**Dollars & Sense.** Economic news and analysis, primers on economic topics and critiques of the mainstream media's coverage of the economy.

**ECompany.** Online version of Business 2.0.

**Entrepreneur.** Information, services and expert advice for the entrepreneur and small business.

**Fast Company.** News, trends and information on leading-edge entrepreneurs and fastest-growing companies.

**Forbes.** Online source for US business and financial news and analysis: personal finance, lifestyle, technology and stock markets.

Fortune. Articles on the marketplace, tech movers and shakers, career trends, US politics, and European business.

Harvard Business Review. Articles, case studies, courses and books for educators, students and managers: subscription schemes on site.

Inc Magazine. Small business resources, information and advice.

Manufacturing Digital. Management issues for professionals and executives.

Minority Business Entrepreneurs. Bimonthly publication for women and minority business owners: short list of useful associations.

My Business Magazine. Basic information, tools and resources for small business success.

New York Times. US and international news and current affairs from an American perspective. Helpful article search facility.

nPost. Interviews with CEOs, Founders and Chairmen about the issues and opportunities facing business today.

Retail Digital. In-depth look at specific industry issues worldwide, e.g. multi-channel marketing, supply chain, property and retail technology.

strategy+business. Magazine for senior business executives.

The Top 500 List. Check the performance of other companies: \$10 per company.

USAToday. Extended articles on many aspects of American life.

Wall Street Journal. Leading financial magazine with good coverage of US and overseas issues, including ecommerce and technologies.

Your Economy. US business performance from local to national perspectives.

## **Latin America**

Ambito. English version of Argentine business and financial newspaper.

BBC News: Argentina. BBC's information page on Argentina.

Economist: Brazil. The Economist's information page on Brazil.

Fundacion Invertir. Investment and economic information on Argentina.

BBC News: Brazil. BBC's information page on Brazil.

Brazzil. General interest magazine published in USA.

Latin American Newspapers in English. World-newspaper.com listing of Latin American newspapers in English: grouped by country.

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## 10.14 BUSINESS NEWSPAPERS: EUROPE AND RUSSIA

Business information sources for the UK, Europe and Russia in English.

### United Kingdom

BBC. Respected international broadcaster with extensive website.

Economist. In-depth analysis of global economic, cultural and business matters: much free online, but \$264/year for full access.

Financial Times. Leading newspaper for financial and business information, with analysis and comment.

Money Week. Comment and analysis of UK and international business, with investment and financial advice.

Observer. Quality Sunday broadsheet: register for full digital editions of Observer and Guardian newspapers.

Reuters UK. News by industry, country and market sector: some analysis.

Scotsman. Well-regarded Scots daily: business coverage of Scotland and UK.

Telegraph. Conservative broadsheet with some business news.

### Europe Generally

A Dynamic eBusiness Environment for Europe. EEC aims, regulations and help sites.

CNCB Business. Investment, innovation and enterprise news from Europe and elsewhere.

EuBusiness. European business news and market research reports.

European Business. Articles on business and finance in Europe and beyond.

European Business Review. News, articles and white papers.

European Newspapers in English. World-newspaper.com listing of European newspapers in English: grouped by country.

Le Monde Diplomatique. More political/cultural than business articles, but a good corrective to USA-UK perspectives: English edition.

### Russia

Eurasian Home. News, articles and analysis of former USSR countries.

European Newsletters in English. World-newspaper.com listing of European newspapers in English: grouped by country.

Business Review Europe. Company reports, white papers, business features and news.

RIA Novosti. English version of State-run news agency.

Russia Beyond the Headlines. English version of state-owned Rossiyskaya Gazeta newspaper.

Prime-Tass. Russian business news and statistics by market sector.

Russian Newspapers. A world-newspapers.com listing of Russian newspapers in English.

Russia Today. A 24/7 English-language news channel.

Russia Profile. Information service and magazine with analysis of Russian politics, economics, society and culture.

St. Petersburg Times. English version of a leading Russian newspaper.

Vladivostok Times. Covers the east Russian scene.

Voice of Russia. State radio site featuring daily news, comments and special reports.

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## 10.15 BUSINESS NEWS: MIDDLE EAST & AFRICA

Business information sources for the Middle East and Africa.

### **Middle East**

AME Info. Business, financial and industry news, services and country profiles.

ArabianBusiness. Leading resource for business, financial & industry news: includes reviews of Middle East newspapers.

Globes. Israel's business arena: includes surrounding countries.

ITP. Information technology news and reviews for the region.

Kipp Report. Business magazine based in Dubai and updated throughout the day.

Menafn. Middle East and north Africa business and financial news by market sector.

M E Business Daily. News and articles relating to Middle East business and politics.

MER: Mid East Realities. Middle East news, issues and opinion: good balance of conflicting viewpoints.

MEED: Middle East Economic Digest. Weekly magazine with business news, analysis and comment on north African and Middle East regions.

MERIP: Middle East Research and Information Project. Detailed analysis of regional events and developments from a Washington perspective.

Trade Arabia. Business news and information on Middle East and Arabian Gulf countries.

Zawya. Business and finance coverage of the Middle East and north Africa.

### **Africa**

African Business Magazine. Business news on Africa: banking, trade, finance, stock market, real estate, industries and economy.

Africa Investor. Investment magazine and website with sector-by-sector coverage of the latest developments in business, stock markets and politics.

Afrik. Daily online newspaper with information on culture, economics, and sport of fifty-six African countries.

Afrol News. Independent newspaper on the African continent in English: daily news and analyses.

African Renewal Online. Information and analysis of the major economic and development challenges currently facing Africa.

Africasia. Online presentation of *African Business*, *New African* and the *Middle East*.

All Africa. Leading provider of African news and information: general and by individual country.

East African Business Week. Business magazine covering Uganda, Kenya, Tanzania and Rwanda.

North Africa Journal. Weekly analysis of North Africa's economy, business and politics: much free, from US\$150/year for full access.

SABC News. South African Broadcasting Corporation site.

The Economic Insight. In-depth articles on African business and politics.

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## 10.16 SOUTH & SOUTHEAST ASIA

Business information sources for South and Southeast Asian countries — notably India, China and Japan.

### **India**

**Business Today.** Indian business by technology and market sector.

**Business Line.** Business daily from The Hindu group of publications.

**Business Review India.** In-depth look at specific Indian industry issues, including finance and technology.

**Business Standard.** Major source of news on Indian industries, companies, and stock markets.

**Economic Times of India.** Business and financial news, stock markets and articles on Indian economy and life.

**Domain-B.** Worldwide business news from an Indian perspective.

**Financial Express.** Business and financial news in India.

**Hard News.** Political newspaper: partner of Le Monde Diplomatique.

**India Briefing.** Economy, current market conditions in India and other influences on doing business in India.

**Indian Web Start-Ups.** Statistics on Indian company web startups: includes ecommerce section.

**Reuters: India.** Reuter's business news from India.

**Samachar.Com.** Aggregates news from major Indian newspapers.

**Technology News.** EIN news service for Indian technology professionals.

**Times of India.** Quality newspaper with database search for articles.

**Trading Economics: India.** Detailed economic indicators for India.

### **China**

**China Business News.** Business news on China: banking, trade, finance, stock market, real estate, industries and economy.

**China Business Review.** Business and political information on China.

**China Briefing.** Articles on the Chinese economy, market conditions and ways of doing business in China.

**China Daily.** Business news headlines and articles on the Chinese economy, statistics, stock market, investing and personal finance.

China Economic Net. Chinese economic information portal: news, reports, economic analysis and data compilations: plus some world coverage.

China Economic Review. Publishing house and provider of China business news and information since 1990.

China Knowledge. Financial, business, industrial and economic news from China.

China Perspective. Major business news for Chinese and foreign investors.

Chinability. News and statistics on China's economy and business climate.

Economic Observer. Weekly Chinese newspaper offering news and commentary on China politics, economics, finance, media, and culture.

Telegraph: China. UK newspaper's business page on China.

Trading Economics. China. Detailed economic indicators for China.

## **Japan**

Japan Business News. Time magazine's Japan business page.

Japan Economic News. Brief but useful summaries by market sector.

Japan Inc. Japanese business, people and technology.

Japan Times Online. Business, financial and cultural news: widest-read English language newspaper in Japan.

News on Japan. Business news, economy, stock market and current events.

Japan Economy: News and Blog. Business news and reports.

Nikkei.Com. Japanese financial and investment news: includes Japanese investment in India and Asia generally.

Trading Economics. Japan. Detailed economic indicators for Japan.

US Business News: Japan. Japan-US business community forum.

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## 10.17 AUSTRALASIA & WORLD

Business information sources for Australasia and the world generally.

### **Australasia**

[Australian Business News](#). Business and financial news by industry and market sector: subscribe for free enewsletters and white papers.

[Business Review Weekly](#). Popular business publication with daily summaries of stock and finance markets.

[Financial Review](#). Business and finance news and analysis for Asia Pacific region.

### **Mainland Asia**

[Asia Times Online](#). News from China, Japan and southeast Asia, plus central Asia and the middle east.

[Bloomberg Business Week: Asia](#). Asia business and financial headlines on companies, technology, investing and management.

### **World**

[Business Forum](#). Economist publication, with particularly useful country surveys.

[Christian Science Monitor](#). International news organization with thoughtful comment.

[Commerce](#). Extensive resources list for Berkeley Information Management School.

[Country Watch](#). Many hundreds of articles and news on countries worldwide.

[Journal of Commerce](#). International trade and logistics news.

[IRIN \(Integrated Regional Information Networks\)](#). UN humanitarian news and analysis, both generally and by individual country.

[Reporters without Borders](#). Promotes global press freedom but also carries stories from around the world.

[Trading Economics](#). Detailed economic indicators, for world and individual countries.

## 10.18 ONLINE BUSINESS STUDY COURSES

Business Study graduates are highly marketable, and readily find jobs in accountancy, finance, business information analysis, public relations, and media consultancy. Some become economists, statisticians, risk analysts, economic forecasters or financial consultants. Others turn to small business, new venture or project management. Some specialize further and take up investment banking, sharebroking, the management of human resources, or become experts in the intricacies of import and export licensing. Business studies graduates can also be found among market researchers, advertising agents, property managers and even professional sports administrators and managers.

Ecommerce is finding a larger role in today's business studies, and students will generally learn the fundamentals of website development, IT management, planning and analysis of online marketing campaigns, plus the many incidental skills that weld an effective team from the disparate skills of the usual online company.

### **Ecommerce Online Courses**

AcademicInfo. Select your course by degree and US State.

ACS Distance Education. Australian courses.

AskEdu. Ecommerce training courses and workshops in Canadian cities.

AskEdu. Some 25 ecommerce/ebusiness courses in India.

BBC. Guide to business studies learning resources and online courses.

Best Business Schools. Bloomberg Businessweek's listing.

Business School Rankings. F.T.'s international listing for 2010.

Business Training Schools. Wide range of US business schools offering ecommerce, grouped by State and category.

Distance Learner. Short list of free and affordable courses in ecommerce.

Education Portal. Good listing of US courses, what they consist of, and expected salaries.

eLearning Center. Offers twelve courses for \$69/year.

GradSchools. Some 38 online ecommerce graduate programs.

Graduate School Guide. Gateway to graduate schools and programs in the US and around the world: free to students.

India Education. Indian correspondence certificate courses in ecommerce

Online Colleges. Database of all accredited US online colleges.

Online Ecommerce Studies. Various degrees available: associate, bachelor, masters, doctors and graduate certificate.

Open Directory's Listing. Some 23 centres listed: USA and Europe.

Unigo. College reviews by students.

Which MBS. The Economist's 2010 listing of best MBS courses

Worldwide Learn. A short list of evening, weekend and online courses at US colleges.

## Section Contents

## 10.19 ONLINE ACADEMIC BUSINESS JOURNALS

Academic ecommerce and business journals with online representation.

Academic Ecommerce and Business Journals

ACM Transactions on the Web. Journal publishing refereed articles reporting the results of research on web content, applications, use, and related enabling technologies.

American Economic Review. General-interest economics journal: published quarterly with articles on a broad range of topics.

Communications of the Association for Information Systems. Computer use and its wider implications: free articles.

Ecommerce Scholarly Journals. Baker University's listing.

Electronic Markets. International journal on networked business in the Americas, Asia, Australia and Europe.

First Monday. Peer-reviewed monthly journal on the Internet.

IEEE Journal of Communications. Full text access to quality technical literature in engineering and technology: free on registering.

International Journal of Applied Management and Technology. Wide coverage, of business generally and beyond.

International Journal of Business Research and Management. Theoretical and applied research on all areas of business and management.

International Journal of Electronic Business. Aims to develop, promote and coordinate the development and practice of electronic business methods: abstracts free.

International Journal of Computer Applications. Scholarly, peer-reviewed papers: generally technical.

International Journal of Electronic Commerce Studies. Publishes research and applied articles from all areas of electronic commerce.

International Journal of Retail and Distribution Management. A forum for researchers in academia, business, consultancy and management.

International Marketing Review. Complexities involved in devising powerful international marketing campaigns.

International Small Business Journal. Original research papers on small business and entrepreneurship.

Internet Research. Technology and the social, ethical, economic and political implications of mass public access to information resources.

Irish Journal of Management. Management-related issues from a national, regional and international perspective.

Journal of American Academy of Business. Peer-reviewed papers, usually technical.

Journal of Applied Business Research. Abstracts on site and full papers in pdf format: free.

Journal of Business Management. Journal of KCA University research.

Journal of Economic Literature. Survey and review articles, book reviews, an annotated bibliography of newly published books, and a list of current dissertations in north American universities.

Journal of Electronic Commerce in Organizations. Social, cultural, organizational, and cognitive impacts of ecommerce technologies and advances on organizations around the world.

Journal of Electronic Commerce Research. An international forum on all topics related to electronic commerce theories and applications: online copies free.

Journal of Interactive Marketing. A thought leader and catalyst for shaping ideas and issues associated with electronic, interactive, and direct marketing environments.

Journal of Internet Commerce. Includes business information systems, ebusiness & ecommerce, emarketing and new technology management.

Journal of Marketing Management. Includes international marketing, management & management techniques and sales & marketing management.

Journal of Purchasing & Supply Management. Research within the field of purchasing and supply management (PSM).

Journal of Small Business and Enterprise Development. Formulation, development, implementation and evaluation of enterprise policy.

Journal of Theoretical and Applied Electronic Commerce Research. Flexible channel of communication to share new ideas and emerging technologies related to the field of electronic commerce.

Marketing Letters. Shorter papers on marketing science, consumer research, methodology, and marketing strategy and management.

Marketing Science Journal. A listing of articles free under Google Scholar.

MIS Quarterly. Publishes research concerning development, management and use of information technology.

MIT Sloane Management Review. Quarterly research journal, a trusted source of useful and innovative ideas for business leaders.

New Media and Society. International journal publishing research from communication, media and cultural studies.

South African Journal of Business Management. Articles with real significance for management practice.

Small Business Economics. Research and scholarship focusing on the role of entrepreneurship and small business.

Supply Chain Management Review. More news and reviews, but includes white papers.

The Information Society. A multidisciplinary journal intended to answer questions about the information age: one copy free.

## Section Contents

## 10.20 ECOMMERCE TECHNOLOGY

eBusiness and new technology tend to run in harness, and you may find these listings helpful in researching new business opportunities and statistics for sales and market penetration.

**21<sup>st</sup> Century.** Science and technology magazine, with wide range of articles grouped by major themes.

**CNET News.** News, features, and special reports covering technology and its impact on ebusiness, finance, communications, personal technology, and entertainment.

**Channel Insider.** News, views and reviews of communications industry.

**Computer Security Institute.** Publishes an annual CSI computer crime and security survey.

**Government Computer News.** News and articles on government institutions' use of computers, including surveys.

**IEEE Spectrum.** Magazine for technology innovators, business leaders, and the intellectually curious: explores trends and likely impact on society and business.

**Information Week.** Business management magazine offering commentary, feature articles, and daily news.

**InfoTech Trends.** Searches 650 sources of Internet information. Various access schemes.

**InfoWorld.** Technology magazine with IT news, product reviews and white papers on specific topics.

**Institute of the Future.** Technical, demographic and business trends in emerging technology. Membership on a corporate basis.

**Mobile Magazine.** News and reviews on mobile technology, including cell phones, PDAs, MP3 players and digital cameras.

**OnWindows.** News, resources and information on companies providing technology solutions.

**Popular Mechanics.** Information on electronics, computers, etc., plus product reviews and how-to articles.

**R&D.** News and information for the research and development community.

**ReadWriteWeb.** Latest news and articles on web technology and content.

Red Herring. Magazine covering innovation, technology, financing and entrepreneurial activity.

San Jose Business Journal. Silicon Valley's news, events and industries.

Small Times. Daily articles on microelectromagnetic systems, nanotechnology and microsystems with a business angle.

Tech News World. Technology news from around the world: hardware, software, networking, wireless computing, personal technology, etc.

Technology Review. MIT articles and news on a full range of new technology.

TechRepublic. White papers and resources for IT managers and CIOs

The 451. Analysis of recent developments in technology, business models, and latest mergers and acquisitions.

TheWhereMagazine. Mobile technology and news.

Wired. Popular coverage of technology trends and their impact on business, entertainment, communications, science, politics, and culture.

## Section Contents

## 10.21 TECHNICAL MAGAZINES

A small selection of what's now available online: search under specific topics for more.

*ComputerActive*. Simple advice for PC owners, but with reviews, news, etc.

*Computing*. Technical: mainstay (with *Computer Weekly*) of the UK computer industry.

*Computer Shopper (US)*. Hardware, peripherals, gadgets and software. Limited selection but in-depth reviews.

*Computer User*. Sensible articles aimed at the business user.

*Computer Weekly*. Aimed at working professionals, and so more technical, but should be intelligible to users of this ebook.

*Computerworld*. Computer news from the IT manager's perspective, but including the usual product reviews and predictions.

*Computing Magazine*. For professionals: membership gives numerous benefits, including online access to ebooks, etc.

*Expert Reviews (UK)*. Hardware, peripherals, gadgets and software.

*IT Expert Magazine*. For IT professionals: technical but chatty style.

List of Computer Magazines. [Wikipedia](#). Extensive listing, not always up to date but covering much of the English-speaking world, platforms and interests.

*MacLife*. News, reviews, tips and discussion of Apple, Mac, iPod, and iPhone products.

*Maximum PC*. Reviews, lab tests and DIY content for more savvy PC user.

*Networking*. Generally non-technical but still very much for the professional.

*PC Magazine*. Guide to PC computers and peripherals, with technology news and trends, shopping advice and price comparisons.

*PC User (Australia)*. Reviews, news and opinion, with some how-to articles: for the intermediate PC user.

*PC Utilities.* Guide to 28,000 free Windows software programs.

*PC World.* World's largest-circulation computing magazine: aimed at the intermediate PC user.

*S C Magazine.* For IT security professionals, but will keep you to up to date with developments.

## Section Contents

## 10.22 HELP FOR BUSINESS STUDENTS

Those attending colleges and universities will have their own libraries and online subscription services, but these may help the independent student.

*123 Textbook Rentals.* Offers 5 million textbooks at 25% of original cost: 5 rental periods.

*ABI/Inform Database.* Abstracts (and some full texts) of articles from international professional publications, academic journals, and trade magazines: enquire at your local business library.

*Bookshare.* Free software and text service to US students with genuine print disabilities.

*Books Google.* Searchable database of free and full-text online books.

*Business Book Summaries.* Top 1% of the more than 6,000 business books published each year in the United States selected: summaries also provided for more than 700 of the top business books from the last 20 years.

*Business Source Premier.* Full text of over 2200 business journals: enquire at your local business library.

*CourseSmart.* Online access to college textbooks at 40-50% discount.

*Google Scholar.* Provides a search of scholarly literature across theses, books, abstracts and articles.

*Questia.* Online access to 76,000 books and 3 million academic journal, magazine and newspaper articles: p.o.a.

*Online Digital Library.* Some 24,565 conference papers, 1,963 articles, 56 talks, and 8 ebooks.

*Safari Books Online.* Generally IT technical, but some ecommerce and general business: 10 books can be accessed for \$23/month.

*Deep Dyve.* Several million articles on commerce and industry: access at \$5-\$20/month.

Section Contents

## 10.23 INTERNET SEARCHES

*Search Engine Popularity Statistics*. March 2011. Smart Insight. Useful tables and advice

*comScore Releases US Search Engine Rankings*. Comscore. US tables.

*The Webcertain Search and Social Report*. Webcertain. Search and social media activity across the world.

*The Search Engine List*. About.Com. Search engines grouped by type or area of search.

*SearchEngine Colossus*. Extensive listing of search engines in 312 countries: for search and site submission.

*SearchEngine Showdown*. Guide to searching with various search engines and directories.

*Finding Information on the Internet*. Linked articles from UC Berkeley's Teaching Library Internet Workshops.

*How to Search the Internet@2Learn.ca*. Short but useful list of 'how to' sites.

*Internet Searching Tools*. Southern Oregon University's detailed listing.

*Making the Net Easier*. Phil Bradley's excellent set of articles on search engine strategies.

*Searching the Web*. Excellent Internet4Classrooms articles on search engines and strategies.

*Specialist search engines*. AussieEducator. Australian focus but a good listing.

*Searching the Web*. Studholme. 2004 list of search engines by geographical coverage.

*Discover over 70,000+ searchable databases and specialty search engines*. Compute Planet. Dated but useful.

*Search Engines Directory*. SearchEngineGuide. Search engines and guides listed under almost 100 categories.

*Google Custom Search*. Google. Creates a customized search experience for a website.

*Resource Blog*. ResourceShelf. Where librarians and others share the results of their web searches for resources and information.

## Section Contents

## 11. REVIEW AND QUESTIONS

Social Dimensions

Research and Planning

Gaining an Online Presence

Marketing the Business

Technical Aspects

Models and Strategy

Learning from Others

Questions collected from the various sections, so that you can review your understanding of them.

Book Contents

## 11.1 QUESTIONS: SOCIAL DIMENSIONS OF THE INTERNET

### Scope of the Internet

1. Describe the eight features that characterize the Internet today.
2. What are the main uses of the Internet?
3. Why are smart phones so vital to the increased use of the Internet? Give some figures for likely use in 2015.
4. How is content being self-generated? Give some examples.
5. Why do some believe that the latest developments argue for a revolutionary change in the Internet? Do you agree?

### B2B Ecommerce Successes

1. Why is B2B ecommerce so important?
2. Give a detailed, two-fold grouping of B2B ecommerce constituents.
3. Analyze the current US electronic economy.

### B2C Ecommerce Successes

1. List five areas in which online businesses have been particularly successful. Suggest why.
2. You're assessing the business plan of a new entrant into the online travel sector. Where would you be especially critical?
3. How could a new online real estate company be successful in today's difficult economic climate? What business model might be successful?
4. Your online brokerage company is losing customers. How could you compete with the big boys, and what sort of budget might be required?

### eBusiness law

1. Provide three rules of thumb regarding the law as it applies to the Internet.
2. What should a contract with a web design or programming company cover?
3. Name six areas relating to intellectual property on the

Internet.

4. How would you be wise in using any material apparently available for free on the Internet?
5. What do you understand by data privacy, and how does US legislation compare to that of France?
6. Briefly describe the legal considerations that apply to US companies with international business contacts.
7. Provide a checklist that a website is complying with US law.

### **eBusiness tax**

1. What are the three areas of tax most affecting ecommerce?
2. How are state taxes handled in ecommerce? Give some examples of company compliance and noncompliance with the regulations.
3. What are the general provisions of Value Added Tax as it applies to European ecommerce?
4. Your (American) company has started selling educational films into the European Union. What VAT would it expect to pay? What steps should it take to ensure compliance with the regulations?
5. What tax advantages could be enjoyed by a. a UK subsidiary and b. a Korean subsidiary of an American corporation?

### **History of the Internet**

1. Briefly describe the three phases in the development of the Internet.
2. Provide a brief history of American ebusiness over its last, commercial stage.
3. How does the European history of the Internet differ from that of America?
4. What are the difficulties in predicting Internet use in different countries? Give some examples.
5. What, in your view, are the most important Internet developments of the last five years?

### **India and China**

1. Outline the main differences between China and India in their histories of ebusiness.

2. What are the main uses of the Internet in India?
3. How have international developments changed ebusiness in China?
4. Compare ebusiness in China and India now.
5. Describe a recent important ebusiness development in China and India. Why are they so different?

### **Governance**

1. The Internet is the last free place on earth. Comment.
2. How are domain names handled? What are the latest developments?
3. Is company data generally secure on the Internet. What, if anything, still needs to be done?
4. How is Internet content blocked or censored? What are the ways of evading such control?
5. Suggest sensible policies regarding the Internet publication of sensitive material. Does recent history provide any useful guidelines?

### **Online privacy**

1. What are the main threats to personal privacy on the Internet, and how serious are they?
2. Outline the legislation relating to online privacy in the USA.
3. How does Europe generally treat online privacy?
4. Suggest practical measures to improve online privacy.
5. Do you think online privacy is an an important matter? Give the arguments for and against.

### **The death of print**

1. Why is the publishing industry in general so gloomy about prospects? Are they justified in this?
2. What are the reasons for the decline in traditional newspaper sales, and what could be done to reverse the trend?
3. Why are book publishers focusing on more restricted market segments?
4. What can authors do towards making themselves more marketable?

## **Intellectual property**

1. What are the three types of intellectual property that relate to websites and the Internet generally? Distinguish between them.
2. What is copyright and fair use? What are the acts currently applying, and their main provisions?
3. Outline how patents apply and are obtained. Find an Internet patent and explain what it protects.
4. What are trademarks and why are they important? How can they be infringed, and what may be the penalties of doing so?

## **Welfare issues**

1. Why do welfare issues apply also to the Internet?
2. Describe the varying attitudes to pornography, between countries and individuals.
3. What legislation is in place to protect children on the Internet, in the USA and elsewhere?
4. Why is online gambling restricted or prohibited, and with what success in the USA?
5. Outline the controversies over online drug dispensaries? Why have they arisen? What seem to you sensible approaches?
6. How successful has been legislation to improve web accessibility, in the US and abroad?

## **Cyber wars**

1. Cyberwars belong to science fiction. Discuss.
2. How does the US military regard cyberwar, and why?
3. Outline, with the relevant acts, the legislative approach to its dangers.
4. What practical measures could be taken?

## **Internet prospects**

1. Are you optimistic or gloomy about the prospects for the Internet? Why?
2. What are the main problems facing the Internet as used today? Suggest improvements.
3. Describe three developments giving grounds for optimism. What business models apply?

4. Provide your own predictions for the Internet, with reasons.

## Section Contents

## 11.2 QUESTIONS: RESEARCH AND PLANNING

### Getting Started

1. Describe the recommended seven steps in setting up an online business.
2. Why will this approach generally fail today?
3. What can be done to increase the odds of success?

### Research for the Small Company

1. Describe the research needed by a small company venturing into ecommerce.
2. What are the two key areas that ecommerce research should cover?
3. How would you get reliable figures for traffic and percentage conversion?
4. How could business models and strategies help?

### eBusiness Overview

1. Suppose you are selling leisure goods over the Internet.
  - a. what competitor research will you undertake, and how?
  - b. describe your marketing plan, detailing what Internet services you would use.
  - c. what would your business plan cover?
2. Suppose you're going to sell financial advice over the Internet:
  - a. what Internet services would you consider using, and why?
  - b. how would you market your service?
  - c. outline a three-year timetable.

### Planning for Internet SMEs

1. How does moving an existing business online differ from starting one from scratch?
2. Outline four groups of ecommerce start-ups.
3. What should a business plan cover, and why?
4. Describe possible sources of capital, their advantages and disadvantages.
5. How can you get accurate figures for web build and other costs?

## 11.3 QUESTIONS: GAINING AN ONLINE PRESENCE

### **Business to Customer**

: Without a website

#### **eMail Marketing**

1. Explain the advantages of email marketing.
2. How do you legally obtain email addresses?
3. How do list managers differ from list brokers?
4. Describe the step-wise approach of an email marketing campaign.
5. How would you stay within the law pertaining to email marketing?

#### **Merchant Services**

1. What are the pros and cons of merchant services?
2. Model the profit margins of two hypothetical products to find when it would be wise to move from merchant services to Internet payment providers and/or an Internet merchant account.

#### **Mobile Applications**

1. Why are mobile applications important?
2. What needs to be done prior to creating the application?
3. List some applications and say why you like them.

#### **Newsletters**

1. How do companies use newsletters?
2. How are subscription lists built up?
3. Describe, with suggested software, how you would manage a 15,000 subscriber company newsletter.
4. Compare newsletters to webzines.

## **Selling on eBay**

1. Describe the eBay model. How do you set up shop on eBay?
2. What sorts of things sell on eBay, and how do you source supplies?
3. How do you get a positive ranking as an eBay seller?
4. What can be done to improve sales?

: Using Third Party Platforms

## **Marketing Platforms**

1. What are the three most commonly used marketing platforms on the Internet?
2. Name the platforms available for marketing a. software, b. music and videos, c. community services, d. games and virtual worlds.
3. What advantages do such platforms offer?

## **Free services**

1. Give ten examples of free Internet services and indicate where they could be useful.
2. Compare free and commercial services in a. document sharing, b. video hosting and c. social media.

## **Social Media**

1. What are social sites? Give some examples and their popularity.
2. Why do businesses currently find social media a 'hot topic'?
3. Give a short history of social media in the USA.
4. Why are social media companies difficult to value?

: With a Website

## **Websites: Introduction**

1. What would your brief to a web designer cover?
2. You get three quotes for a website build. How would you assess them?
3. What aspects must be covered by an ecommerce site?
4. Your chief has decided to adapt the company site for the

Chinese market. Describe how you'd manage the project.

### **Building a Website: Technical**

1. What alternatives are there to building your own website?
2. List the seven ways in which websites can be built.
3. Describe the basic layout of a web page.
4. How can sound, Flash and order pages be added to the website?
5. How would you choose a hosting service, and why?

### **Mobile Web Pages**

1. What challenges do mobile web pages present to the designer, and how are they overcome?
2. Outline the seven steps in building web pages for mobile phones.
3. How can the designer ensure that the web page viewed is suitably designed for the mobile phone in question? What alternatives exist?
4. Provide some statistics for thinking mobile commerce is the next big frontier.

### **Professional Pages**

1. What in general should web pages aim to do, and how?
2. What overriding matters should the web designer bear in mind?
3. List the things to be avoided in web page design.
4. How would you improve the conversion rates of a website?

### **Shopping Carts**

1. Give the pros and cons of the various ways of attaching a shopping cart to an ecommerce site.
2. What would you take into account when selecting third party shopping cart software?
3. Why can using the hosting company's 'free' shopping cart software be a false economy?

### **Payment Systems**

1. How does an online merchant account differ from a normal retail one?
2. How would your company obtain an online merchant account?
3. Explain how payment gateways work.
4. In what circumstances may an online merchant account be difficult to obtain. What are the alternatives?
5. Give some examples of Internet payment service bureaus and how they work. What are their advantages and disadvantages?

### **Site Hosting**

1. In what circumstances would you hand over the hosting of the company website to a third party hosting company?
2. How would you select the appropriate hosting company?
3. What security measures would you expect your hosting company to have in place, and how could you check?

### **Webzines**

1. Explain how you would set up and market a webzine.
2. How could a webzine be made to pay its way?
3. Investigate subscription services available from Internet payment service providers. What looks best with 15,000 overseas subscribers?

### **Auctions**

1. Why do companies use auctions?
2. Describe the main auction types.
3. What facilities does online auction software provide?
4. Why do some companies hand over the running of their auction system to third parties?
5. Compare the features of some popular auction software packages.
6. Describe the activities of three online auctions.

### **Blogs**

1. What technical advantages do blogs have over web pages?
2. How are blogs used in business?

3. How do blogs differ from content management systems?
4. Your boss wants a blog that fits neatly into the company website. Even those with no IT skills will take their turn in writing posts. She is most concerned about spam and derogatory comments from rival companies. What would you recommend, in terms of procedures and software?

### **Content Management Systems**

1. How do content management systems differ from blogs and business intelligence systems?
2. Under what aspects would you evaluate a content management system?
3. Look at examples of clients' sites illustrated by content management systems. What would be attractive if you were a. a local community centre, b. a commercial expatriate tax advice centre, and c. a publishing house?

### **Web Portals**

1. What is a portal? List the common types.
2. What, listed in order of difficulty, are the options in setting up a portal site?
3. What features would you expect from a commercial package?
4. Suppose you wanted the full facilities of a commercial portal, but also something with a 'human face' like social media. How would you find / develop such a system?

### **Wikis**

1. What features characterize a wiki?
2. Describe three different wikis and their use.
3. Outline the legal and security issues that affect wikis, and how they are sensibly dealt with.

: With a Website: Types

### **Selling Content**

1. What advantages has the selling of content over selling physical goods on the Internet?

2. What sort of Internet content will people pay for? How could you find out?
3. You are marketing slimming and health advice. Would you choose distance learning courses, newsletters, ezines or ebooks? Why?
4. What should you look out for if selling through an ebook publisher?

### **ePublishing**

1. What are the advantages of e-publishing?
2. Why aren't ebooks cheaper (compare costs of traditional and e-publishing)?
3. What does a publishing contract cover?
4. Why could writers be a vanishing breed?
5. Explain copyright and libel. What measures should be taken to avoid legal actions?

### **Distance Learning**

1. How and why has distance learning become popular?
2. What features would you look for in selecting something for a. technical training of staff, and b. a university course leading to an accredited degree?
3. Describe some developments worldwide in distance learning.
4. Anyone can teach themselves to degree level today. Discuss.

### **Selling Advertising**

1. How do you get companies to advertise on your site?
2. What are banner ads? What is their metrics terminology?
3. What does a media kit include?
4. Compare sponsorship with banner ads.
5. In what circumstances would you employ a banner ad agency or network?

### **Becoming an AdSense Publisher**

1. Describe the main features of the Google AdSense program.
2. How do you find the high-paying keywords? Realistically?
3. What is an acceptable AdSense site to Google?
4. What constitutes an *unacceptable* AdSense site to Google?
5. List the important do's and don't's when using Google AdSense.
6. How should companies experiment? Give a few of Ecommerce Digest's findings.
7. List several alternatives to AdSense. Why don't they compete effectively?

## **Becoming an Affiliate**

1. How does selling through affiliate work? What do the two parties look for?
2. What are the advantages of working with an affiliate solution provider?
3. What sort of company would act as an affiliate? Is it worthwhile doing so today?

## **Selling Physical Goods**

1. What, in terms of increasing outlay, are the best ways of selling physical goods over the Internet?
2. Describe your unique selling proposition: i.e. how you will beat the existing competition in some market sector of your choice.
3. How will you fulfill orders? Give the options.
4. List and explain fulfillment company terminology.

## **Corporate eCommerce**

1. What problems do staff in large corporations commonly face in implementing ecommerce?
2. Suggest some practical measures for managing such projects.
3. Compare three popular corporate ecommerce solutions. How far is an objective appraisal possible?

## **eCommerce Servers**

1. You've been asked to manage the ecommerce implementation for a large company. What questions would you ask of available software? How would you obtain a second opinion?
2. What is system build? What questions does it attempt to answer?
3. Give an example of logical design. What contingencies would you factor in?
4. The allocated budget is \$2 million over two years. How would you allocate funds, and why?

## **Staying Safe**

1. What information must the merchant keep safe?
2. Briefly describe the other security matters the merchant is responsible for.
3. How would you evaluate the security measures of your hosting company?

### **Customer Relationship Management**

1. What is customer relationship management? Give examples of where it could be useful.
2. Describe a typical crm system.
3. What are the pros and cons of customer relationship management?
4. Give a short history of customer relationship management implementation in the USA.

### **Supply Chain Management**

1. Explain how supply chain management systems work.
2. Outline supply chain management systems' eight areas of application.
3. How did supply chain management systems evolve: give a short history of the US development.
4. What the advantages and disadvantages of supply chain management systems?

### **Digital Exchanges**

1. Distinguish between eprocurement, digital exchanges, industrial consortia and private industrial networks.
2. Under what keywords would you undertake a search for eprocurement systems on the Internet?
3. Explain how digital exchanges work. What are their advantages?

### **eProcurement**

1. Distinguish between eprocurement, digital exchanges, industrial consortia and private industrial networks.
2. Under what keywords would you undertake a search for eprocurement systems on the Internet?
3. Name and briefly describe the seven types of eprocurement systems
4. Explain how eprocurement systems work. What are their advantages?

## **Industrial Consortia**

1. Distinguish between eprocurement, digital exchanges, industrial consortia and private industrial networks.
2. What are the aims of industrial consortia?
3. How did industrial consortia develop in America?.
4. Describe some US industrial consortia, with financial data as available.

## **Private Industrial Networks**

1. Distinguish between eprocurement, digital exchanges, industrial consortia and private industrial networks.
2. Under what keywords would you undertake a search for private industrial networks on the Internet?
3. Explain how private industrial networks work. What are their advantages?
4. Provide three examples of their commercial use.
5. What legal challenges could private industrial networks face?

## **Section Contents**

## 11.4 QUESTIONS: MARKETING

### Identifying the Customer

#### Keyword Research

1. What do keyword research programs measure?
2. Why is that information important?
3. What would you do if keyword research showed no opportunities in your market sector as a. a large company with an established brand name and b. a small company just starting up?

#### Market Segment

1. What is market segment, and how may it be found by Internet-based businesses?
2. Explain, with three examples, how you would modify your ad copy to target a market segment.
3. What are the two major ways of targeting a market sector with the company website?
4. Take three common market sectors and find two new website examples. In your opinion, in what ways do they succeed and/or fail?

#### Customer Tracking

1. Why is tracking the customer's progress through a website important, and how is it accomplished?
2. What traffic information is commonly provided by hosting companies? How can it be useful?
3. Explain test splitting.
4. Name three advanced metrics, and explain what they do.
5. What sort of questions does marketing expect these metrics to answer?

#### Metrics

1. Define ten of the commonly-used marketing metrics.
2. Explain the difficulties in using marketing metrics in social media marketing. What measures are nonetheless used?

### Campaigns

#### Marketing Campaigns

1. What is a marketing campaign, and what are its common objectives?

2. Names six types of Internet-based marketing campaigns.
3. How can a web site be part of a marketing campaign?
4. Marketing campaigns are continually modified. Discuss.

### **Marketing with Social Media**

1. How would you convince your management to use social media marketing?
2. What social media platform would you use and why?
3. How would you locate important 'influencers' and enlist their help?
4. What metrics would you use? Illustrate with three different market sectors.
5. How would you appraise the competition in selling a. investment advice, b. US holidays and c. baby products?

### **Marketing with Mobile Platforms**

1. Draw up a marketing campaign using mobile phones.
2. Compare the services of three mobile application development companies.
3. Describe in detail the tracking services now available.

### **Selling through Affiliates**

1. Why would you sell through affiliates, and what sort of goods and services? How does selling through affiliates work? What do the two parties look for?
2. What are the advantages and disadvantages of running your own affiliates program?
3. What will you be looking for in your affiliates? What will they expect?
4. Outline the types of affiliate fraud you may encounter. What countermeasures should you take?

## **Press Releases**

1. What are press releases used for?
2. What is the standard format for a press release?
3. When would you disseminate the press release yourself, and when employ professional bureaus?
4. Prepare a costed comparison of a popular press bureau service and a DIY approach.

## **Copy Writing**

1. What is the aim of copywriting?
2. How does copywriting differ from normal writing?
3. List some important copywriting practices.
4. How would you rewrite something for web page viewing? Explain why.
5. What should appear in pay-per-click ad copy?
6. How can your ad copy target the market sector effectively?

## **Pay per Click Marketing**

1. How does pay-per-click marketing work?
2. What are the advantages and disadvantages of pay-per-click marketing?
3. Compare search engine optimization and pay-per-click marketing. Which is appropriate in what circumstances?
4. What alternatives to Google Ads exist. When would you use them?
5. Explain why keyword research is important.
6. What is click fraud, and what defense measures can be adopted?

## **Search Engine Optimization**

1. Why do web pages need to be optimized for search engines? When would search engine optimization not be useful or practicable?
2. Explain how keyword research software could be useful.
3. What are the key points in purchasing an aged domain?
4. What are the ten areas in which web pages can be optimized for the search engines?

5. How much time and money would you put into seo? Give a costed example.

### **Improving the Business**

1. What often has to be improved in the first few weeks of an ecommerce site going live?
2. How can you better understand your customers?
3. Why would you employ a webmaster, and how interview?
4. List the points to check on landing pages.
5. Describe MEC's Ezine/Ebook study. How could the results be useful?
6. Why is it worth experimenting with price comparison search engines?
7. Suggest some ways of using the marketing spend more effectively.
8. How would you find the optimal price for an ebook?
9. When should you make money on shipping charges?

### Section Contents

## 11.5 TECHNICAL ASPECTS

:Fundamental

### **Anatomy of Internet**

1. What is the Internet exactly? Explain how it differs from the World Wide Web.
2. List and briefly explain the functions of the hardware involved.
3. What is the server-client model, and why is it important?
4. Draw a rough map of the Internet, from backbone to last mile facilities.
5. Where may technological advances be expected?

### **Telecommunications**

1. Explain the difference between analog and digital signals: why is digital preferred?
2. Explain the principles of packet switching.
3. What are network protocols?. Give some protocols important to the Internet, and explain what they do.
4. Outline the channels of the Open System Interconnection standard.
5. Explain how Ping and Tracert are used, and why.

### **Wireless systems**

1. Describe the transmission protocols operating in US wireless systems.
2. Describe the frames that make up a wireless transmission.
3. What new components have been added to the web ecosystem by mobile phones, and illustrate them by reference to some popular mobile phone groups.
4. Compare six wireless Internet access systems, their transmission speeds, ranges and implementations.

### **Client Computers**

1. Describe the main components of a Personal Computer and explain how they operate.

2. What backup routines would you impose, and why?
3. How do viruses differ from spyware, and how can you minimize the risk they represent?

### **Mobile Devices**

1. How do mobile phones differ from personal computers?
2. What functions do smart phones increasingly perform?
3. Describe the components of a mobile phone, and the functions they perform.
4. Describe some popular smart phone models and the operating systems they employ.

### **Operating Systems**

1. What is an operating system, and what are its common functions?
2. Describe four popular operating systems.
3. What are the advantages and disadvantages of open source operating systems?

### **Computer Programs**

1. What are computer programs, and how are they written?
2. Explain the differences between machine code, assembly language, p-code and higher-level languages. What are the pros and cons of each?
3. Why is client-server programming necessary, and what languages are commonly employed?
4. Compare and contrast the use of PHP and Javascript in web pages.
5. Why is Ruby often employed to write content management systems, distance learning languages and the like? What other languages are also employed for these tasks?
6. Write the code to display an empty HTML page in PHP, Cold Fusion and Active Server Pages.

### **Security**

1. What are the four requirements of any security system?
2. Explain how PKI encryption works.

3. What protocols are available for secure channel communication? Explain briefly how they work.
4. How are networks kept secure? Name some popular services and/or software available.
5. What security measures surround the online handling of credit card information?

:Applications

### **Browsers**

1. What is a browser, and what does it do exactly?
2. How have browser wars returned with mobile web pages?
3. List the more important differences between HTML, XHTML and XML. Suggest Internet uses for each.
4. What are the advantages and disadvantages of Cascading Style Sheets? Find examples of CSS-controlled web pages on the Internet.

### **Business Intelligence Systems**

1. What is meant by business intelligence systems?
2. What the nine types under which business intelligence systems are commonly grouped?
3. Distinguish between business intelligence systems, databases and content management systems.
4. Choose three business intelligence system types and explain their use in detail.
5. Your company wants the latest in business intelligence systems. How would you a. conduct an Internet search and b. evaluate the software available?

### **Cloud Computing**

1. Why is cloud computing being so promoted?
2. What are its advantages to a. a small company just starting out, and b. a global company with semi-independent subsidiaries?
3. Describe the problems that could arise with cloud computing services.
4. In making their choice of cloud computing services partner, what should companies investigate?

## **Databases**

1. What are relational databases, and why are they preferable to flat files for storing information?
2. Explain records, fields and data types.
3. What is Structured Query Language? Give some important commands relating to table creation, use and removal?
4. Explain what is meant by database normalization. Why is it undertaken?
5. Your company has switched from an Apache server to (Windows) SQL Server. Undertake a literature search to find the best way of migrating data from the original MySQL database.

## **DTP Programs**

1. For what tasks would you employ a word processing package to lay out a page?
2. What DTP package would you employ for these tasks, and why: a. a mass market novel, b. a flyer for your local pizza takeaway, c. a scientific paper involving complex math formulae, d. your company parts manual with 6,000 entries, and e. a photographic journal?
3. Your fashion company's magazine is to become available on tablet computers. Investigate the format conversion software available and devise a preproduction flow path.

### **eBook Readers**

1. Give a short history of ebooks, and suggest why they have recently taken off.
2. Describe the two display systems for ebook readers. Which would you prefer, and why?
3. How would you, on a regular basis, convert content for an iPod to something that could be read on a Kindle?
4. Your masterpiece is to be published in ePub, Kindle and PDF formats. Do an Internet search to find what digital rights management software is available to discourage piracy.

### **eMail Services**

1. What is an email service, and how is it supplied?
2. Briefly describe the four types of email service. What protocols are involved.
3. How can email be made more secure? Compare three such services found by an Internet search.
4. What is instant messaging and online chat? What are their commercial applications?

### **Expert Systems**

1. Define an expert system. Where are they typically used?
2. Describe the usual components.
3. What is a knowledge base, and how is it generated?
4. Describe an inference engine. What is meant by rule-based, backward chaining and confidence factors?
5. Weigh the pros and cons of expert systems.

### **Graphics Programs**

1. Compare the features of Photoshop, Paintshop Pro and Corel Painter.
2. What the typical areas of use for each of these programs?
3. Exactly what is a graphic file format?
4. What graphic file formats are used in a. web pages, b. photo storage, and c. photographic journals?

### **Internet TV**

1. Differentiate between videocasts and video streaming.
2. Explain the elements of Internet Protocol Television.
3. Describe some commercial applications of Internet television.
4. Outline the technology behind Internet telephony.

### **Music & Video**

1. Explain the piracy problems faced by the music industry.
2. Why was Apple iPod so successful?
3. What is digital rights management. Discuss the pros and cons of its use.
4. What technologies are employed in video transmission?

### **Really Simple Syndication**

1. What is really simple syndication, and how does it work?
2. What are three formats of RSS in common use, and how do they differ?
3. How would you find RSS feed for your company site? And add it?
4. How would you get your company's promotional material syndicated?

### **Rich Media**

1. What is meant by 'rich media' and how does it apply to web advertising?
2. Describe four popular programs. How do they compare with respect to range of use, ease of learning and display on mobile platforms?

3. What are the main ad types? List a site employing each type.

### **Search Engines**

1. What three operations do search engines perform?
2. Provide a short history of search engine development.
3. How do search engines specialize? Give some examples.
4. How do search engines differ from search directories?
5. What are the five most popular search engines in the US? What are the more striking differences in other countries?

### **Spreadsheets**

1. What are spreadsheet programs, and how are they employed?
2. Give a brief history of their development and marketing.
3. Explain their limitations, and give some examples of costly errors.

### **Video Conferencing**

1. Why is video conferencing becoming an important aspect of business life?
2. Describe the three types of video conference, and the three ways it may be set up.
3. What components are required for video conferencing? Show how they interact.
4. Give some account of Voice over Internet Protocol, and the other protocols involved in video conferencing.
5. Consider three popular video conferencing services and compare their features in detail.

### **Word Processing**

1. How has word processing changed office life? Has all been for the good?
2. Describe five word processing procedures useful for typesetting.
3. How has word processing empowered authors?
4. Compare Microsoft Word facilities with those of two free programs. Why as an impecunious author might you still use

Word?

:Corporate Matters

### **Cluster Analysis**

1. Define cluster analysis. What is the significant word in the definition?
2. How could it be useful in webpage design, pay-per-click marketing and search engine optimization?
3. Evaluate some statistical packages available, both free and commercial.

### **Neural Networks**

1. Explain briefly how neural networks operate.
2. What sorts of problems are they used to solve?
3. Provide five examples of their successful use.
4. Describe in detail their use in Microsoft's direct mailing study.

### **Pricing Models**

1. What matters need to be weighed when setting a price?
2. Give the advantages and disadvantages of common pricing models.
3. Explain the k-nearest neighbour (kNN) approach.
4. What is cross validation?
5. What further measures are needed to deal with uneven data?
6. Explain, in outline, how you would use real time data from eBay.

### **Realtime Systems**

1. What is meant by realtime systems? How are programming expenses justified?
2. Give three examples of realtime systems, and their commercial advantages.
3. You've been asked to design the logical system of realtime video hire company. Describe the steps you would take.

4. You're presenting a consultant's plan for a realtime travel company startup. What approaches are possible, and where would the company get its realtime data from?

### **Regression Analysis**

1. What is regression analysis? Why is it useful?
2. Give a hypothetical example of its use.
3. In what circumstances could regression analysis be more useful than cluster analysis or neural networks?

### Section Contents

## 11.6 QUESTIONS: BUSINESS MODELS AND STRATEGY

### Grouping by Strategy

1. Name twelve business groupings by strategy.
2. Provide a brief case study for five such business groupings.

### Strategic Management

1. What is strategic management?
2. How is strategy formulated, and what does it take into account?
3. Describe five landmark studies in strategic management.
4. Management studies evolve. Discuss.

### Business Models: General

1. What are business models? What are their strengths and weaknesses?
2. Compare and contrast three business models.
3. Describe Osterwalder and Pigneur's business model.
4. Briefly illustrate five applications of Osterwalder and Pigneur's business model.
5. What is SWOT analysis?. Give an example of its use.
6. Describe a practical application of Pestel analysis.
7. Explain why vector values change as a market matures.
8. Describe the value business model, and its application in value chain analysis.
9. Examine the Apple iPod product with Porter's Five Force Analysis.

### Customer Segments

1. What are customer segments?
2. Briefly describe five types of customer segment.
3. How can you recognize distinct customer segments?
4. Briefly illustrate the importance of customer segments with three case studies.
5. What ebusiness topics can help distinguish customer segments?

### Customer Channels

1. What are customer channels? What functions do they serve?
2. List the three types of customer channels and five temporal phases of them.
3. Briefly illustrate the importance of customer channels with three case studies.
4. What ebusiness topics can help improve customer channels?

### **Customer Relationships**

1. What are customer relationships? Why are they important?
2. What are the three motivations driving customer relationships?
3. With a case study each, illustrate how one a company gained and another failed with its customer relationships.
4. What ebusiness topics can help improve customer relationships?

### **Key Resources**

1. What are key resources?
2. Name the four types of key resources.
3. Briefly describe three case studies illustrating the importance of key resources.
4. What happens when key resources are not properly matched?
5. What key resources are used in selling content?

### **Key Activities**

1. What are key activities? How do they differ from key resources?
2. Name the three areas where key activities become important.
3. Describe first mover advantage in terms of key activity.
4. What key activities are employed in selling on the Internet?

### **Key Partnerships**

1. What are key partnerships? How do they differ from customer segments?
2. Name the four type of key partnership.
3. Describe the three motivations applying to key

partnerships.

4. Describe key partnerships in action with two case studies.

### **Value Propositions**

1. What is a value proposition?
2. Briefly describe eleven types of value proposition.
3. Briefly illustrate the importance of value propositions with three case studies.
4. What topics of ebusiness relate to value propositions?

### **Cost Structures**

1. What are cost structures?
2. Describe six types of cost structure.
3. Describe the advanced web technologies that maintain competitiveness.
4. Describe in some detail a relevant case study.

### **Revenue Streams**

1. What are revenue streams exactly? Why are they important?
2. What are the seven types of revenue streams?
3. Describe the different pricing mechanisms.
4. What ebusiness approaches and technology bear on revenue streams?

### **Internet Revenue Models**

1. Describe, with examples, a common three-fold grouping of Internet businesses.
2. Describe the essentials of five types of business to business Internet transactions.
3. Briefly describe B2C Internet businesses.
4. Name as many eBusiness enabler types as possible.

## 11.7 QUESTIONS: LEARNING FROM OTHERS

### Introduction

1. Briefly describe the nine elements of the Osterwalder and Pigneur business model. Give one case study example of each.
2. What are customer segments? Give three Internet examples where customer segments are important.
3. What are key partnerships? Give two examples of key partnerships that are not obvious on first inspection.
4. Explain what is meant by a value proposition, and give five case study examples.
5. What is meant by unbundling of a business? How can it be helpful? Give two examples.
6. Give some examples, noting the relevant case studies, of other business models/analyses.

### A Start

1. Why don't all businesses convert to ecommerce?
2. What aspects can be made clearer with business models?

### Coins International

1. What does this page focus on?
2. Provide hypothetical examples in a market sector familiar to you.

### Fine Art Ceramics

1. What was wrong with the first business model, and how should this have been evident without further research?
2. What marketing methods should have been included in the first plan?
3. Suggest other ways of marketing through third party sites.

### Halberd Engineering Ltd.

1. Describe Halberd's dilemma. What else could have been done to get an independent view of opportunities?
2. Give a SWOT analysis for Halberd Engineering.
3. What crucial step is missing from this example?

### Ipswich Seeds Ltd.

1. What is the key point made by this example?
2. Describe ISL's performance in terms of the Osterwalder and Pigneur model.
3. What other marketing platforms are now available?
4. Outline a more effective marketing strategy than Peter Thomson's.

### **Seascope e-Art**

1. Outline a research program leading to the same conclusions by a different route.
2. What marketing methods could increase conversion rates?
3. What element(s) of the Osterwalder and Pigneur model is/are crucial? What should be done?

### **Whisky Galore**

1. What should Dale's first question have been?
2. What, overall, were Dale's two greatest mistakes?
3. Analyze Dale's performance under the Osterwalder and Pigneur business model.
4. What crucial benefit was offered Dale, which he turned down?
5. Cost an effective research program for Dale.

## Section Contents

## Questions: Case Studies

### **Amazon, Inc.**

1. What aims did Amazon build its business around?
2. Was Amazon continuously successful? Describe some successes and failures.
3. What facilities does Amazon Marketplace offer? How successful is it?
4. Describe some Amazon web services and comment on their prospects.
5. Provide a simple SWOT analysis for Amazon.
6. What, in a nutshell, has made Amazon into a major player?

### **Andhra Pradesh e-Governance**

1. What problems did the government of Andhra Pradesh face? Explain how the McKinsey plan sought to overcome them.
2. How was the plan implemented, and with what success?
3. Give some idea of the services the eGovernance system supplies.
4. What are the current challenges and further plans?

### **Apple iPod**

1. Explain why the Apple iPod was such a successful product.
2. How did Apple manage the introduction of newer models and products?
3. What is Michael Porter's Five Forces Analysis? Apply it to Apple.
4. Identify the successful strands of Apple's business strategy.

### **Aurora Health Care**

1. What was Aurora Health Care set up to do, and what challenges was it facing by the twenty-first century?
2. Use a SWOT analysis to explain the workings of Aurora Health Care.
3. What areas did Aurora Health Care's 2007 Strategic Plan focus on?

4. What elements of Osterwalder and Pigneur's business model seem relevant, and why?

### **Cisco Systems, Inc.**

1. How did Cisco make a success of routers where other companies failed?
2. What threats was Cisco facing in the late 90s, and what measures were adopted?
3. Where did Cisco find the money to implement its innovative measures?
4. Apply the Osterwalder and Pigneur business model to Cisco Systems, Inc. What elements stand out as important?
5. Describe the Cisco management style. What were its pros and cons?
6. Study the Cisco website. How does it equate with the Cisco story?

### **Commerce Bancorp**

1. What has the banking sector generally done to cover acquisition costs? How was Commerce Bancorp different?
2. What are value vectors, and how do they generally evolve with market sector maturity?
3. Given that Commerce Bancorp was eventually taken over by another bank, in what sense was its business strategy successful?
4. What elements of Osterwalder and Pigneur's business model throw light on Commerce Bancorp's strategies?

### **Craigslist**

1. What is Craigslist, and why has it been successful?
2. Apply a SWOT analysis to Craigslist.
3. Do Craigslist sites need a facelift? What would you suggest?

### **Dell, Inc.**

1. Explain the early success of Dell, Inc.
2. How did HP and Apple computers erode Dell's market?
3. What new customer channels did Dell try after 2005, and with what success?
4. Imagine you were a potential computer purchaser visiting

the Dell ordering site. What would you encourage you to make a purchase, and what would not?

### **Early Dotcom Failures**

1. Give a brief history of the early dot com failures.
2. First-mover advantage can be overated. Discuss.
3. Describe in some detail the history of two failed early ecommerce ventures. With the benefit of hindsight, how would you have saved the companies?
4. Take one of the companies and replace its operations with current technology, including marketing techniques. What would the estimated profit and loss accounts look like?

### **Easy Diagnosis**

1. Explain how Easy Diagnosis works.
2. What is the business model for the service?
3. Your company offers financial services. How would you persuade your boss to adopt the Easy Diagnosis model? Provide a cost benefit study.
4. You're a busy local health authority facing staff cutbacks. How could something like Easy Diagnosis help, in what areas, and how would you start such a project?

### **eBay**

1. Briefly describe the seven strategies that have made eBay successful.
2. Which eBay acquisitions were beneficial, and which not?
3. What threats to its business does eBay currently face, and what countermeasures is it taking?

### **Eneco Energie**

1. How did Eneco Energie break into the intense price competition of natural gas sales?
2. Describe the Yokogawa control system.
3. What Internet technologies are employed by the Yokogawa system, and what is the mutual gain to the parties concerned?

### **Fiat**

1. Explain the situation at Fiat S.p.A.when Sergio Marchionne took over.
2. What was Marchionne's two step approach, and what were

the key factors to the success of the first step?

3. Why was Marchionne able to forge better relationships with the trades unions?

4. What Internet technologies contributed to Fiat's recovery?

### **Glaxosmithkline**

1. Is Big Pharma's public image as here portrayed either accurate or justified? Would it matter anyway — i.e. does ethics enter into business, and can 'value' become simply 'perceived value'?

2. How did GlaxoSmithKline market their Zantac drug? Why was the marketing important, and what lessons can be learned?

3. Describe GlaxoSmithKline's Patent Pool, and the business model that applies.

4. Give a marketer's view of the Ropinirole promotion.

5. Outline the difficulties current faced by the pharmaceutical industries, and suggest some remedies.

### **Google Ads**

1. Describe in detail how Google Ads now works.

2. How and why did the Google Ads model evolve?

3. What additional features did Google employ to make their service attractive?

4. How does Google Ads tie in with Google AdSense?

### **Google Services**

1. What is Metcalfe's Law, and what has it been superseded by? What is their importance to Google services?

2. Briefly describe ten Google services and explain how Google benefits from them.

3. How does Google get its traffic?

4. Give a reasoned history of Google acquisitions, suggesting the underlying strategy and commenting on the acquisition price.

5. What are the current threats to Google, and how seriously should the company take them?

6. Do you agree with Google's Library Project? Who are the main beneficiaries?

## **Intel**

1. Provide a short history of Intel's chip-making activities.
2. How has Intel tried to make the process more efficient?
3. What was the 'Intel Inside' campaign, and how did Intel recoup its expenses? Quantify your answer by looking at microprocessor prices on specialist sites.
4. What legal challenges has Intel faced, and what seems to be its policy here?

## **Liquidation.Com**

1. Explain the Liquidation.Com business model.
2. What Internet marketing techniques did Liquidation employ?
3. How did Liquidation build its brand name?
4. Who are Liquidation's important customers, and how are they secured?

## **Lotus Notes**

1. What is Lotus Notes? How did the program originate?
2. How did the Internet change its fortunes?
3. Outline the versions. What do they show?

## **Lulu**

1. What are the advantages of Print on Demand?
2. Why has Lulu been more successful than many in this field?

## **Netflix, Inc.**

1. What is streaming video, and what is its appeal?
2. How has Netflix grown its business?
3. What does Netflix tell us about ecommerce generally?
4. Analyze Netflix with the Osterwalder and Pigneur business model.

## **Nespresso**

1. Give a short history of Nespresso.
2. What suggested that Nespresso would be more appropriately marketed to affluent households?
3. What Internet marketing techniques proved successful?

4. What enabled Nespresso to survive so long as a struggling part of the Nestlé empire?
5. Construct a Osterwalder and Pigneur model for the current Nespresso business.

### **Netscape**

1. Explain the single, most important conclusion to be drawn from the Netscape story?
2. What were the main threats to Netscape, and which proved fatal?
3. Looking at Mozilla successors, what could management have done to better ensure the survival of Netscape?

### **Nintendo wii**

1. What is meant by double-sided platforms? How did this place Nitendo at a disadvantage?
2. Explain how competition forced Nitendo to change its market segments. How did it later exploit the new market segments?
3. Describe the evolution of the wii system.
4. Explore the current marketing efforts of Nitendo. Are they succeeding?

### **OpenTable.Com, Inc.**

1. Provide an account of Open Table.Com, Inc. How does it work?
2. Explain the difficulties in marketing the idea, and how they were solved.
3. Provide a SWOT analysis for Open Table.Com, Inc.

### **Paypal, Inc.**

1. What is PayPal, and how does it work?
2. Describe the three phases of PayPal growth
3. Provide a SWOT analysis for PayPal.
4. How has first mover advantage worked for PayPal?

### **Proctor & Gamble**

1. Give a brief description of Procter & Gamble.
2. Describe the Internet technologies P&G employ.
3. What is P&G's 'Connect and Develop'. How does it compare with GlaxoSmithKline's 'Patent Pool'?

4. How does P&G relate to its customers? Give an analysis in terms of the Osterwalder and Pigneur business model
5. How does P&G use social media to strengthen brand awareness?

### **SIS Datenverarbeitung GmbH**

1. Explain the problem SIS Datenverarbeitung GmbH was called upon to solve.
2. Why did Microsoft stop supporting Visual Basic, and what does 'stopped supporting' mean?
3. Describe the steps SIS Datenverarbeitung took in upgrading the ERP system.
4. What lessons can be learned from this case study?

### **Skype**

1. What is Skype? How, briefly, does it work?
2. Explain the eBay and Microsoft acquisitions.
3. Provide an appropriate business model for Skype.
4. Where do further opportunities lie for Skype?

### **Tesco plc**

1. Give a brief description of Tesco plc, and how it compares to other leading supermarket chains.
2. What are the two business elements on which Tesco has built its fortune? Provide some details.
3. Provide a Pestel analysis of Tesco plc. What does it show?
4. Give a SWOT analysis of Tesco plc.
5. What does a value chain analysis applied to Tesco show?
6. How has Tesco plc fared outside the UK, and why?

### **Twitter**

1. Explain the current interest in Twitter.
2. How does Twitter compare with other social media sites?
3. Where does Twitter funding come from, and is the model sustainable?
4. Discuss ways of monetizing Twitter.

### **Wal-mart**

1. Provide a short history of Wal-mart.
2. What is the overall business aim of Wal-mart? How is this achieved?

3. Describe the Wal-mart supply chain management system.
4. Why has Wal-mart occasionally been less successful outside the USA?

### **Zappos.Com**

1. What was the Zappos business model?
2. How did Zappos grow its business?
3. Why was Zappos sold to Amazon? What did each party get from the sale?

### **Zipcar**

1. Give a brief history of Zipcar under its three CEOs.
2. How does the system work now?
3. Provide a SWOT analysis of Zipcar. How do you rate its chances?

## Section Contents

## 12. HOW TO USE THIS BOOK

The book consists of a compiled set of some 190 modules, each simply written to provide essential information on an important topic of ebusiness, together with sources and suggestions for further reading.

The Windows and Mac versions are identical, but are protected by different digital rights management system, and so marketed as separate items.

Despite its size (over 240,000 words and 3,000 links) the content is written as concisely as possible. For many essays and course work, students will need to read beyond the text to the original sources and undertake their own research, as the ebook provides only the bare bones. Case studies and technical matters will make more sense when the fundamentals have been grasped.

The ebook offers navigation, page size enlargement (use page display and + - buttons) and word search. Bookmarks and hyperlinks are used extensively, and hyperlinks open to pages that can be copied and printed.

The ebook is priced at half the cost of its predecessor because limited to one copy on a single machine of the reader's choice. Further copies (to be read at another machine at a distant location) will need to be purchased.

References are dated to the month and year, not to the day, so that course tutors can check that students have indeed read them.

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## History of This Book

Little in ebusiness is plain sailing, and this book was no exception. We intended a stylish webpage compilation with better navigation than a conventional ebook, but soon found that the requisite software does not exist for the Mac platform. We then worked on a pdf ebook typeset in InDesign, but discovered that InDesign's handling of hyperlinks is problematic when these run to thousands. Finally, we refashioned the content into a Word document and tested the many programs and online services that convert the doc format to pdf format. Only one met our requirements, and even this service would not always cope with excess of 1000 hyperlinks. We therefore employed a pdf editor to create bookmarks, add illustrations that Word would not accept, and insert facsimilies of tables the pdf conversion corrupted. The result is not the elegant document we planned, but something we hope readers will find clear and easy to use.

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## Book Contents

## 13. ABOUT US

Colin J. Holcombe holds degrees in geology and teaching, and was formerly a Chartered Engineer and a Fellow of both the Geological Society of London and the Institution of Mining and Metallurgy. After a successful career in mineral exploration across five continents, he took up a research post in London with the mining giant RTZ plc., where he managed exploration programs in difficult terrains, conceived and built the first computer-based mine evaluation systems that are now standard in the industry, and became responsible for all technical aspects of RTZ corporate acquisition.

Colin left RTZ plc in 1988, and developed his own publishing and Internet-based businesses. He helped program the world's largest online gambling site, and his sites providing literary, travel and financial services won awards and featured in various computing and literary textbooks.

In 2001 Colin joined LitLangs Publishing Ltda. in Chile to set up ecommerce-digest.com, a business intelligence unit focusing on the ecommerce market.

As a contract programmer and webmaster, Colin draws on extensive experience of web design, database programming and ecommerce implementation.

LitLangs Publishing Ltda.

LitLangs Publishing Ltda. is a private company specializing in the publishing opportunities afforded by the Internet.

Over the 2001-2012 period, LitLangs published an 'Advanced Guide to Ecommerce', a detailed and constantly-updated guide used in some 60 countries by entrepreneurs, businesses, colleges and government institutions.

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