

Chapter 2

Developments in Internet intermediary markets

This chapter discusses competitive market conditions and the pace of change in the main Internet intermediary sectors. It draws attention to the rapidly evolving nature of the sector's business models and the blurring of the boundaries of the related national statistics. Following a brief discussion of the effect of the recent economic crisis, it traces trends in the various types of Internet intermediary markets, including online payment.

The OECD tracks the top 250 information and communications technology (ICT) firms for the biennial *OECD Information Technology Outlook* by monitoring firms' annual reports. Firms in the list are categorised by sector and dominated by large electronics and telecommunications firms. Telecommunications firms generally have ISP activities alongside their voice activities, but they are not separated in the *OECD Information Technology Outlook*. However, the firms tracked also include an Internet sector which consists of firms earning their revenue from Internet-based activities but not members of any of the other ICT firm categories (pure-play Internet companies). Many of these firms are considered Internet intermediaries in this report (Figure 2.2).¹ Box 2.1 describes growth in this sector in the United States prior to the recent economic crisis.

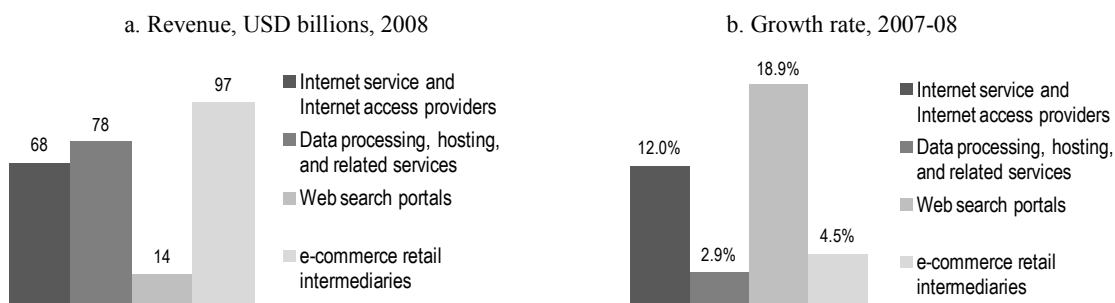
Box 2.1. Revenue in Internet intermediary sectors in the United States, 2008

US Census data on revenue in intermediary sectors in the United States show that ISPs had about USD 68 billion in 2008 (up 12% from the previous year) and data processing, hosting and related services USD 78 billion (up 2.9% from the previous year). While web portals had only USD 14 billion in 2008, their growth rate from the previous year was an impressive 19%. These data add up to estimated revenue of about USD 260 billion in 2008 (excluding wholesale). E-commerce retail intermediaries generated revenue of nearly USD 100 billion in 2008, up 4.5% (Figure 2.1). Additionally, it can be estimated that e-commerce wholesale intermediaries generated over USD 400 billion in 2008 (see also Annex 2.A).

These intermediary sectors represented roughly 1.4% of GDP value added in 2008. To put this number in perspective, the value added of the information sector as a whole represented some 4.4% of total GDP value added. Financial intermediation in the United States represented some 3.6%, while real estate intermediation represented less than 1%.¹

While e-commerce revenue in selected service industries totalled over USD 120 billion, this is not included in the total 1.4% for Internet intermediary sectors in this report because the data do not differentiate services sold by intermediary platforms from services sold by firms that take title to the services they sell. In addition, double counting is a concern.² Similarly, data on manufacturing e-shippments do not differentiate revenue from intermediary platforms and are not included.

Figure 2.1. Revenue in Internet intermediary sectors in the United States



Note: Internet services and Internet access providers include Internet access services by wired and wireless telecommunications carriers and cable providers.

1. It is assumed that the activities pursued under NAICS code Federal Reserve banks, credit intermediation, and related activities relate to financial intermediation and that those pursued under NAICS code Rental and leasing services and lessors of intangible assets relate to real-estate intermediation. Based on US Bureau of Economic Analysis, Gross Domestic Product (GDP) by Industry Data,

2. For example, e-commerce sales of services by Internet service providers and web search portals may already be counted in the ISP or web portal sectors.

Source: US Census Bureau.

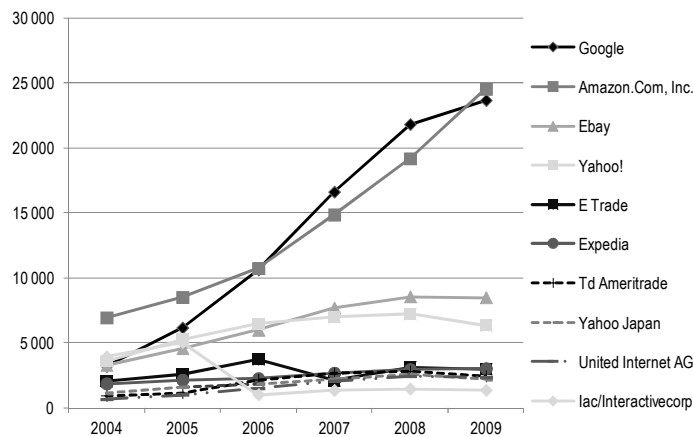
The impact of the economic crisis on Internet intermediary markets

Recent analysis of the impact of the economic crisis on ICT has shown that the fate of Internet intermediary markets depends on slightly different factors from those in other sectors (OECD, 2009a). In particular, evidence is emerging that business models based on online advertising (Google, AOL, Yahoo!, IAC) suffered much less from the crisis than business models based on traditional media, because the crisis acted to catalyse the transfer of advertising to the online market. Online transactions continue to grow as a share of total retail purchases (*e.g.* Amazon, eBay, Expedia). And broadband and mobile data subscriber numbers continue to grow. Slower overall growth in some sectors can benefit Internet companies as consumers look for better deals on line and advertisers focus on online advertising. This has encouraged further consolidation of companies and offerings and benefited the most successful firms, *e.g.* Amazon for cloud computing and online retailing, Google for online advertising, or Apple for digital content. It should be pointed out that these trends do not necessarily represent OECD member countries as a whole.

Figure 2.2. Revenue of top pure-play (non-ISP) Internet firms

USD millions in current prices

a. Revenue of top 10 Internet firms, 2004-09



b. Revenue of top 30 Internet firms, 2009

Amazon (US)	24 509	GMO Internet (JP)	402
Google (US)	23 644	Stream Co. (JP)	306
Ebay (US)	8 475	Asos (UK)	303
Yahoo! (US)	6 304	Blue Nile (US)	265
Expedia (US)	3 011	Liquidity Services (US)	235
E Trade (US)	2 978	The9 Limited (CN)	209
Td Ameritrade (US)	2 423	Adlink Internet Media (DE)	193
United Internet AG (DE)	2 320	US Auto Parts Network (US)	174
Yahoo Japan (JP)	2 154	Dmail Group Spa (IT)	161
Netflix (US)	1 634	Shutterfly (US)	154
Iac/Interactivecorp (US)	1 345	Start Today (JP)	103
Findel (UK)	1 131	Internet Brands (US)	96
Manutan (FR)	735	Dreamnax (FR)	92
Valueclick (US)	527	Buch.De Internetstores (DE)	91
Rue du Commerce (FR)	468	Internet Group (PL)	69

Source: OECD Information Technology Outlook database.

Nevertheless, the economic crisis did affect Internet intermediary firms. The picture in 2009 was mixed. Amazon and Google continued to post positive growth while revenues stagnated or declined for others. In the retail segment, Amazon posted double-digit year-on-year growth of 28% in 2009, but eBay's revenues stagnated. In the online advertising segment, Google reported 8.5% growth in 2009 (down from 31% a year earlier), compared to negative growth of -12% for Yahoo (down from 3.4% the previous year).

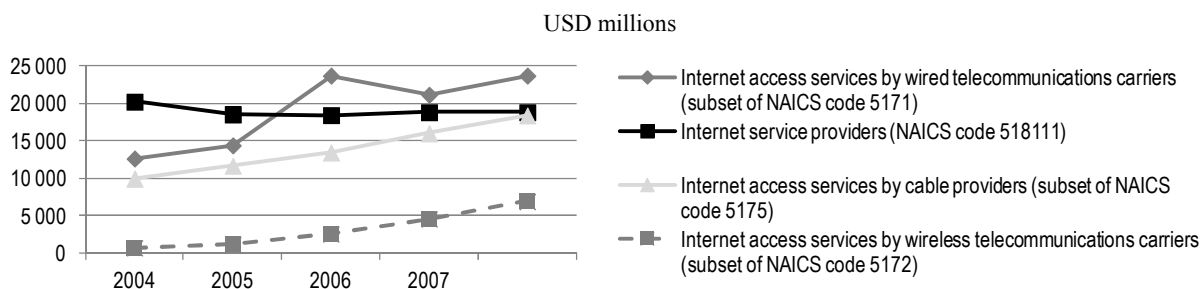
Internet access and service provider sector

Worldwide, Internet users reached 1.7 billion at the end of September 2009, over a quarter of the world's population. China had the most Internet users with 360 million, followed by the United States (230 million), Japan (100 million), Germany (54 million) and the United Kingdom (47 million).² Drivers for the Internet access and service provider sector include digital content and applications, faster broadband connections and, increasingly, mobile broadband. The market for Internet access and service provision is extremely competitive, with low margins. Despite growth in the number of Internet users, employment in the Internet access and services sector is projected to decline.³ As the industry continues to consolidate, and smaller numbers of providers serve larger shares of Internet users, the industry needs fewer workers.

Wired Internet access and broadband

Internet access represents a growing segment of telecommunications and cable providers' revenue. In the United States in 2008, revenue from Internet access providers was roughly equally divided among pure-play ISPs, wired telecommunications operators and cable providers (Figure 2.3). Telecommunications operators and cable companies achieve high growth rates from their Internet access services. For example, in 2008 Internet access contributed about a quarter of the revenue of companies such as NTT in Japan or Bell Canada, *i.e.* about as much as mobile voice or fixed voice. More telling is the upward trend in both fixed and mobile revenue compared with slower gains in mobile voice and declines in the fixed voice segments.

Figure 2.3. Revenue of Internet services and access providers in the United States, 2004-08



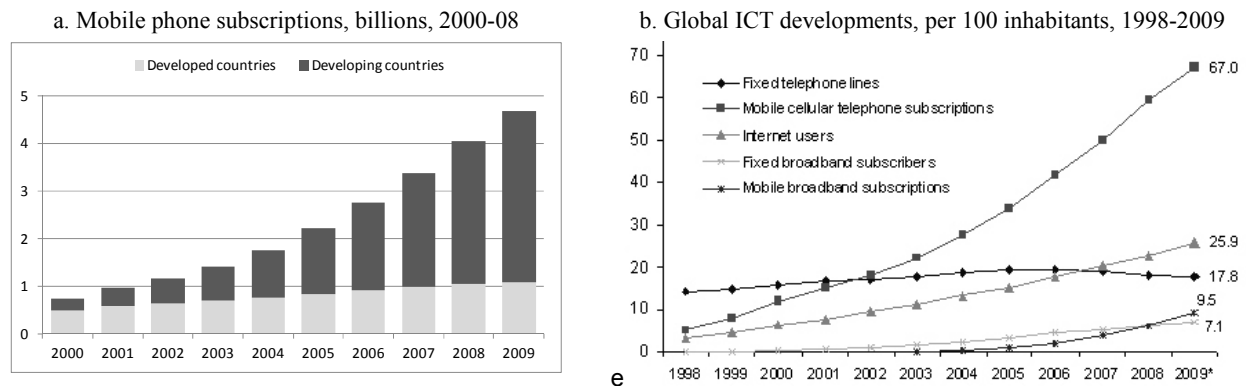
Source: US Census Bureau, Service Annual Survey and administrative data, 2010.

Broadband Internet continues to grow, partly at the expense of dial-up connections. In OECD countries, broadband penetration (broadband subscribers per 100 inhabitants) reached 276 million in June 2009, or the equivalent of 22.8 subscribers per 100 inhabitants.⁴ Although growth lost momentum during the economic crisis, investments in broadband networks – partly stimulated by economic recovery packages in OECD countries – were expected to benefit Internet broadband (OECD, 2009a).

Mobile Internet access

Mobile phones numbered more than 4.6 billion worldwide by the end of 2009 with recent growth taking place in the developing world (ITU, 2009). Indeed, many developing economies were leapfrogging their OECD counterparts in terms of SIM card ownership (Figure 2.4a).

Figure 2.4. Mobile phone subscriptions and Internet users, billions



* OECD members.

Source: World Bank; ITU.

* estimated.

Source: ITU World Telecommunication/ICT Indicators Database.

Growth in mobile broadband subscribers was significant in markets for which data are available.⁵ Data from the International Telecommunications Union (ITU) show that mobile broadband subscribers overtook fixed broadband subscribers in 2008, demonstrating the huge potential for the mobile Internet. Figure 2.4b compares trends in mobile and fixed broadband subscriptions worldwide from 1998 through 2009. Mobile broadband, rather than voice minutes, was a main growth area in the mobile market as subscribers upgraded to 3G. Data collected by the European Commission indicate that in January 2009 there were over 90 million 3G mobile users in the EU; these represented 15.5% of total mobile operators' subscribers. In Europe, 3G mobile users exceeded 20% of total subscribers in Italy, Sweden and the United Kingdom, as they did in Australia.⁶ It is noteworthy that Australia, Japan and Sweden have mobile broadband coverage of 100% or nearly 100%, higher than the coverage of fixed broadband (OECD, 2009b).

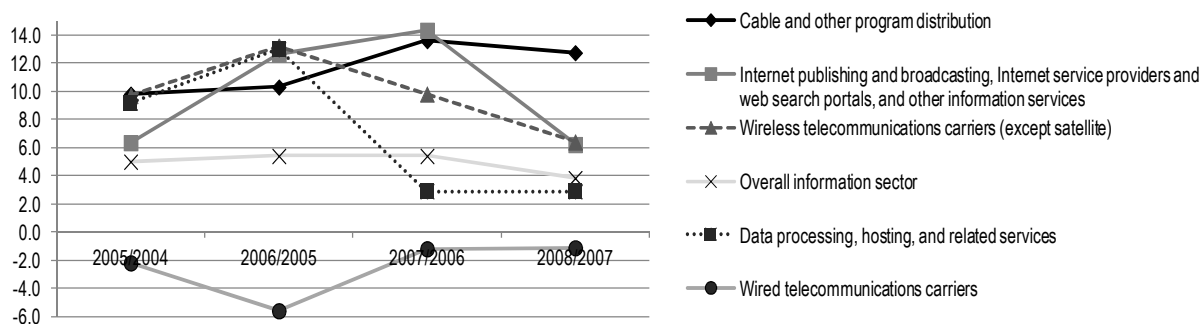
The revenue models for mobile broadband data are still in flux and no dominant business plan has yet emerged. Many operators still charge users by the megabyte for data traffic and prices are often high. In other cases, operators have chosen flat-rate plans for mobile broadband but control usage through data caps. Operators face a difficult pricing challenge: setting prices too low will reduce network quality for all and setting prices too high will leave frequencies unused. Nevertheless, mobile broadband access is expected to continue to be a major source of revenue growth (OECD, 2009c).

Data processing and web hosting sector

Drivers for the data processing and web hosting provider industry include faster processing at lower prices, broadband diffusion, which enables remote services hosting for applications, and the trend towards information technology (IT) outsourcing. Managed hosting firms, such as NaviSite, Easyspace in the United Kingdom, OVH in France, China Unicom, ThePlanet.com, Peak10, Equinix, Savvis, Bluehost Web hosting, Rackspace and others, usually depend on web hosting revenue and provide software as a service (SaaS) in addition. Frequently, 80% of their facilities (by volume) are collocation, *i.e.* they share a host web server, for which there has been increasing demand.

Managed hosting firms have also benefited from the trend to outsource selected IT functions to outside entities. Increasingly, the trend is towards cloud computing; in this case providers such as Amazon, Salesforce.com or Microsoft help corporate clients use the Internet to access everything from extra server space to software that helps manage customer relationships. Cloud computing encompasses several areas, including software as a service, a software distribution method pioneered by Salesforce.com in early 2000. It also includes hardware as a service, a way to order storage and server capacity on demand. All cloud computing services are delivered over the Internet, on demand, from massive data centres. Analysts predict continued very high growth for cloud computing. In a May 2008 report, Merrill Lynch estimated that 12% of the worldwide software market would go to the cloud by 2013.

Figure 2.5. Yearly growth rates in the information sector in the United States, 2004-08

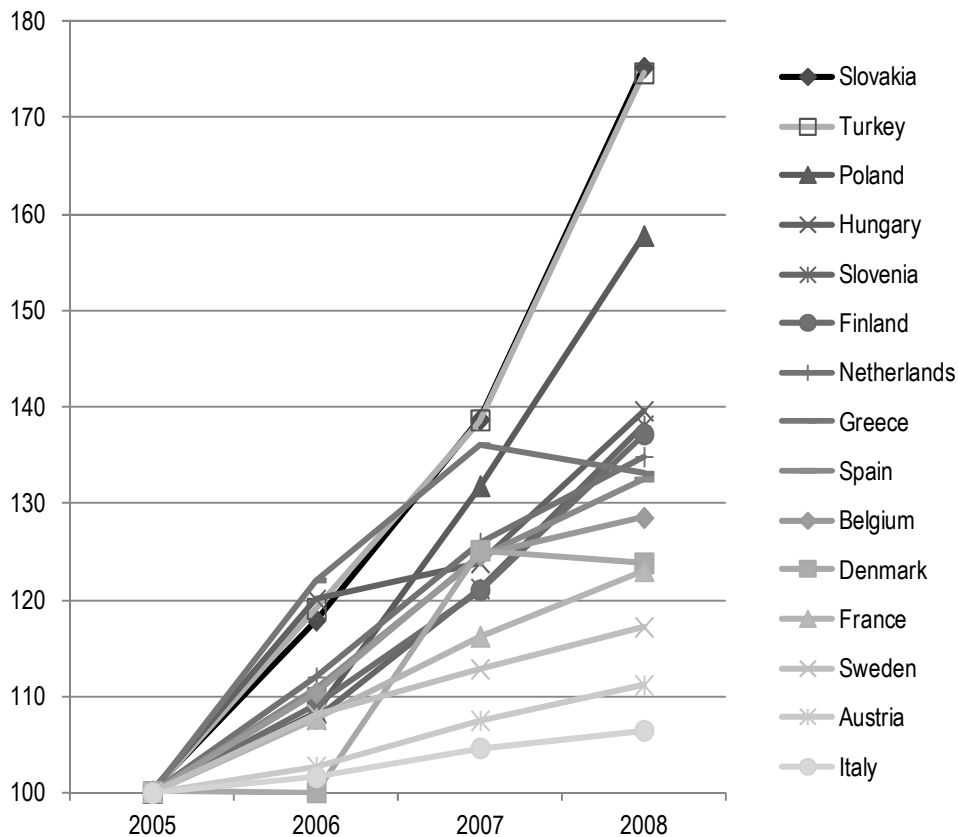


Source: US Census Bureau (2010).

Revenue in the data processing and web hosting provider sector in the United States grew at just 3% annually between 2006 and 2008, after rapid growth (13%) between 2005 and 2006 following the troubled dot-com bust period (Figure 2.5). Index data for European markets seem to show that growth in the Slovak Republic and Turkey (20% annual growth between 2005 and 2008) was particularly strong, followed by Poland, Hungary, Slovenia and Finland, which experienced growth rates of between 12% and 16% (Figure 2.6). Countries such as France or Sweden, which already had high penetrations of web servers in 2005, experienced slower growth (Figure 2.6).

Figure 2.6. Index of total turnover: data processing, hosting and related activities and web portals

Selected European countries, 2005-08 (base year 2005)

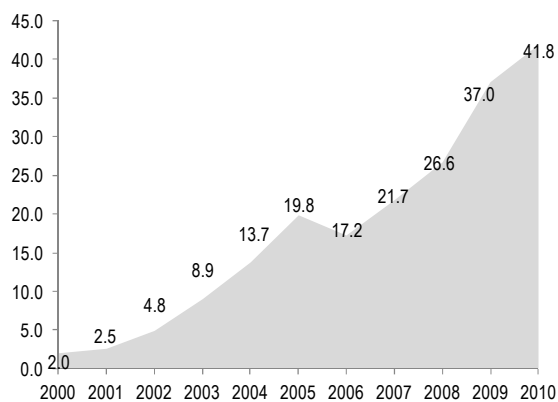


Source: Eurostat.

As proxies of global market growth in the web hosting market, web servers worldwide increased from 2 million in 1998 to 42 million by early 2010 (Figure 2.7a). These servers help enable more than 175 million websites to form the World Wide Web. For domain names, registrations increased from 25 million in 2000 to 187 million by the end of the third quarter of 2009. Over the past ten years, since the creation of ICANN in 1998, the market for domain name registrations has become highly competitive, with the top 20 gTLD registrars accounting for over 75% of the market in 2009 and the top four for some 50%. Go Daddy accounts for over a quarter of the market and no other registrar accounts for more than 10% (Figure 2.7b).

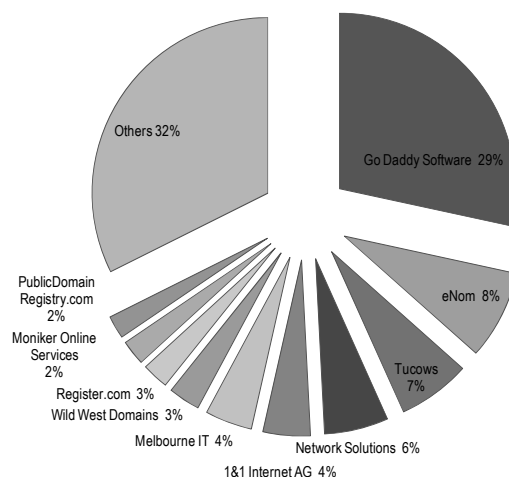
Figure 2.7. Internet supporting infrastructure

a. Number of web servers worldwide, 2000-10, millions



Source: Security Space (2009).

b. Domain name registrars' market share, mid-2009



Source: RegistrarStats.com (2009).

Internet search engines and portals sector

Growth in the Internet search engine and portals sector results from business and consumer demand for more efficient search functions for both information and entertainment, and from the expanding array of services offered by web search portals. Major products are search portals and websites devoted to news, sports, entertainment, gaming, networking and other topics. Advertising is the primary source of revenue. The profitability of individual companies depends on their ability to deliver relevant information to consumers and to offer advertisers desirable target markets. Large companies enjoy economies of scale in marketing and in their ability to develop and maintain multiple websites as well as networks of partner sites. Smaller companies compete by focusing on niche markets.

The global search market expanded by 46% in 2009, as both highly developed and emerging markets posted strong growth to reach more than 131 billion searches in December 2009. Revenue for web search portals in the United States in 2008 was USD 14.3 billion, up from USD 12 billion in 2007. About 72% of revenue in 2008 came from online advertising. Limited turnover data are available for this sector in Europe or in other OECD countries.

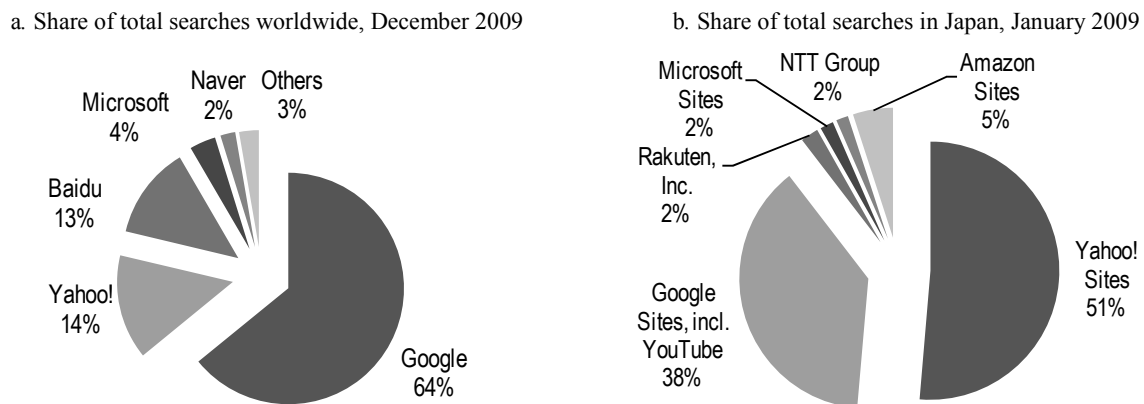
The search engine segment of the industry is highly concentrated: the top five companies account for over 90% of the market. Worldwide, Comscore data from early 2010 show that in December 2009 Google's share represented 66.8% of the 131 billion searches that month (*i.e.* 87 billion searches), followed by Yahoo! (7.2%), Baidu (China) (6.5%), Microsoft (3.1%), and NHN Corporation (Naver.com, Korea) (1.6%) (Figure 2.8a). In the United States, Google had 65.7% of the 22 billion searches in December 2009; Google's next closest competitor, Yahoo!, had about 17.5% of the monthly search traffic.

While Google is by far the leading search engine worldwide, competition continues apace, particularly in Asian markets. In the Asia-Pacific region overall, gaps between search engines' shares appear to be relatively smaller. Comscore data from September

2009 show Google's share at 44.1%, followed by Baidu (21.3%) and Yahoo! (13.8%). Korea's NHN Corporation captured the fourth ranking with a 5.1% market share, ahead of Microsoft (2.8%), Lycos Sites (2.6%) or Alibaba.com Corporation (2.5%).⁷

In Japan, Yahoo! and Google each control a significant share of the market. The Japanese market is important as Japan has the world's third largest Internet population (Figure 2.8b). In addition, Yahoo! and Microsoft have recently proposed a partnership whereby Yahoo! would use Microsoft's Bing search engine and advertising server. The combined search market share of Yahoo! and Microsoft in the United States would approach 30%, helping the new Bing search engine to gain market share. Yahoo! expects to be able to focus its resources on high traffic portal and e-mail pages.

Figure 2.8. Main search actors, worldwide and Japan

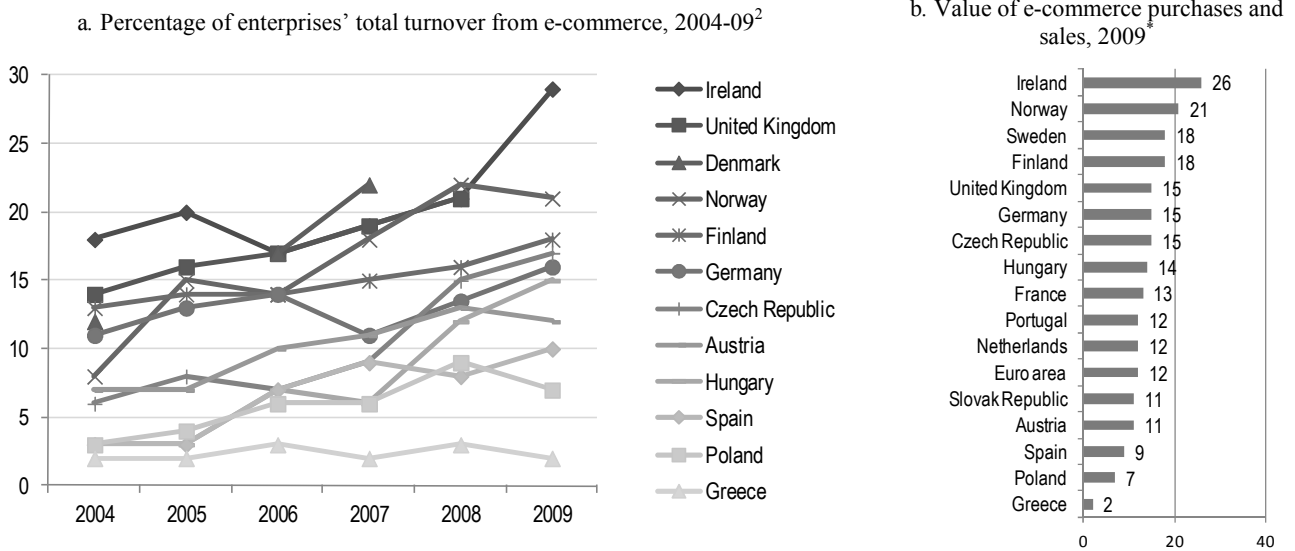


Note: excludes searches from public computers or access from mobile phones or PDAs.

Source: Comscore.

Web e-commerce sector

Online transactions have become commonplace in OECD countries. By 2009, they accounted for almost 30% of enterprises' total turnover in Ireland (Figure 2.9a). The portion of e-commerce purchases and sales was also strong in the Nordic countries, at over 18% in Norway, Sweden and Finland (Figure 2.9b) and in the United Kingdom, where e-commerce purchases and sales accounted for 15% of the total. Varying levels of consumer confidence in OECD countries can explain part of the differences in their levels of e-commerce activity.

Figure 2.9. E-commerce in Europe, selected countries

*The indicator is calculated as the enterprises' receipts from sales through the Internet as a percentage of total turnover. Sales through other networks (EDI) are not included. Only enterprises with 10 or more employees are covered. The year given relates to the survey year. 1. NACE Rev. 2, e-commerce includes Internet and/or networks other than Internet 2. NACE Rev. 1.1.

Source: Eurostat.

B2C retail e-commerce

Reported growth rates for online retail e-commerce in Europe were higher than expected in 2008. Data from Eurostat show that growth in retail trade via mail-order houses or the Internet was much higher than growth in total retail trade, and highest in Poland and Greece (Figure 2.10). According to Eurostat, over 37% of individuals in the EU27 area shopped on the Internet in 2009 (Figure 2.11). Half or more of individuals in Norway, the United Kingdom, Denmark and the Netherlands shopped online. The research firm IDATE explains the trend towards increased e-commerce during the economic crisis by the fact that sales are shifting away from stores, that the number of new online shoppers is rising, and that online shoppers are less sensitive to adverse economic conditions than the average European consumer. Another research firm, Forrester Research, projects that Europeans will spend an annual average of EUR 942 per person on line in 2009.⁸

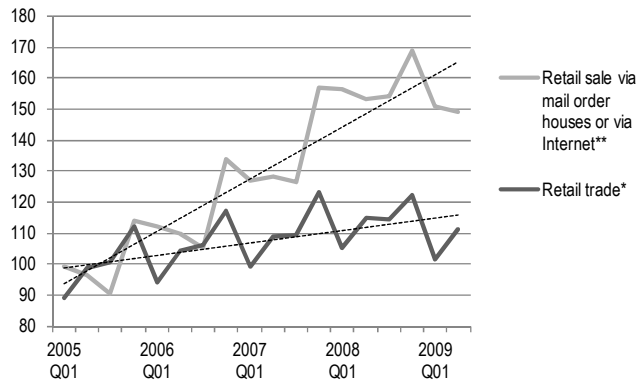
Table 2.1. Estimated online turnover and spending in selected European countries, 2007

Country	Turnover in B2C commerce (EUR)	Average spending per capita (EUR)
United Kingdom	62.6 billion	1 026
Germany	19.3 billion	234
France	16.1 billion	251
Italy	6 billion	108
The Netherlands	5.0 billion (2008)	312
Spain	3.1 billion	76
Sweden	1.8 billion	204
Belgium	1.2 billion	118
Poland	76 million	1.9

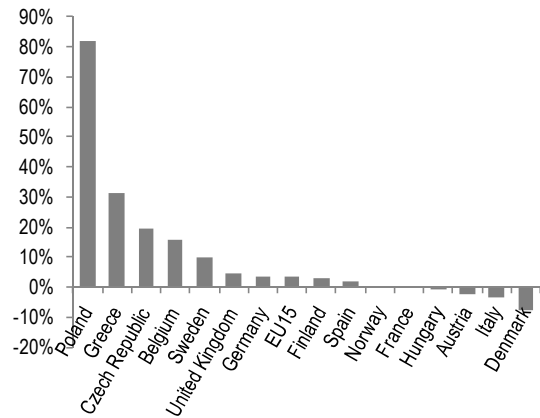
Source: Innopay, based on The Paypers: *Online Paypers* Vol. 1, Issue 6, IMRG.

Figure 2.10. Turnover from retail trade via mail-order houses or the Internet in Europe

a. Average growth in retail trade via mail-order houses or the Internet compared to total retail sales, quarterly data¹ (2005=100)



b. Growth of retail trade via mail-order houses or the Internet by country, 2008



1. Average for Austria, Belgium, Czech Republic, Denmark, Spain, Finland, France, Greece, Hungary, Italy, Norway, Poland, Sweden, Turkey, and the United Kingdom.

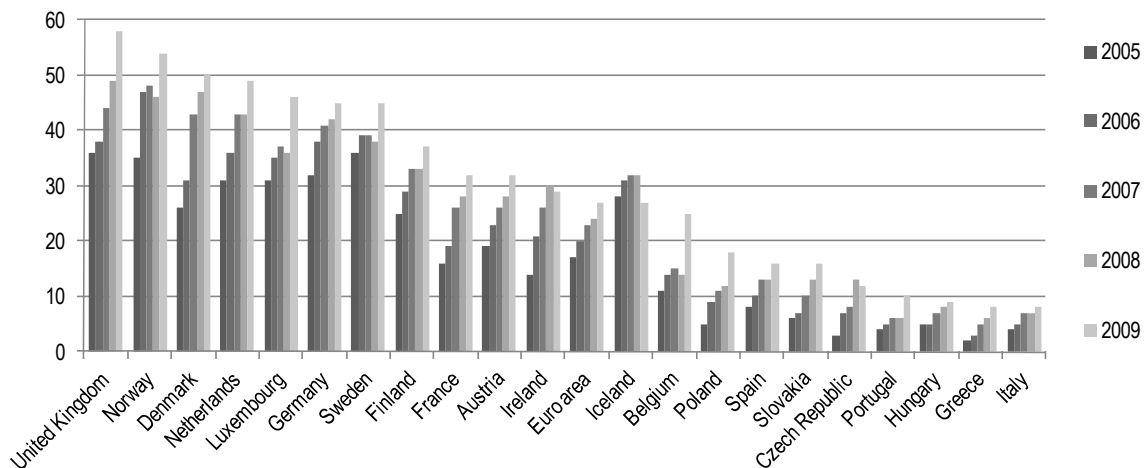
*NACE Rev 2 Code G47 Retail trade, except motor vehicles and motorcycles.

**NACE Rev 2 Code G479.

Source: Eurostat.

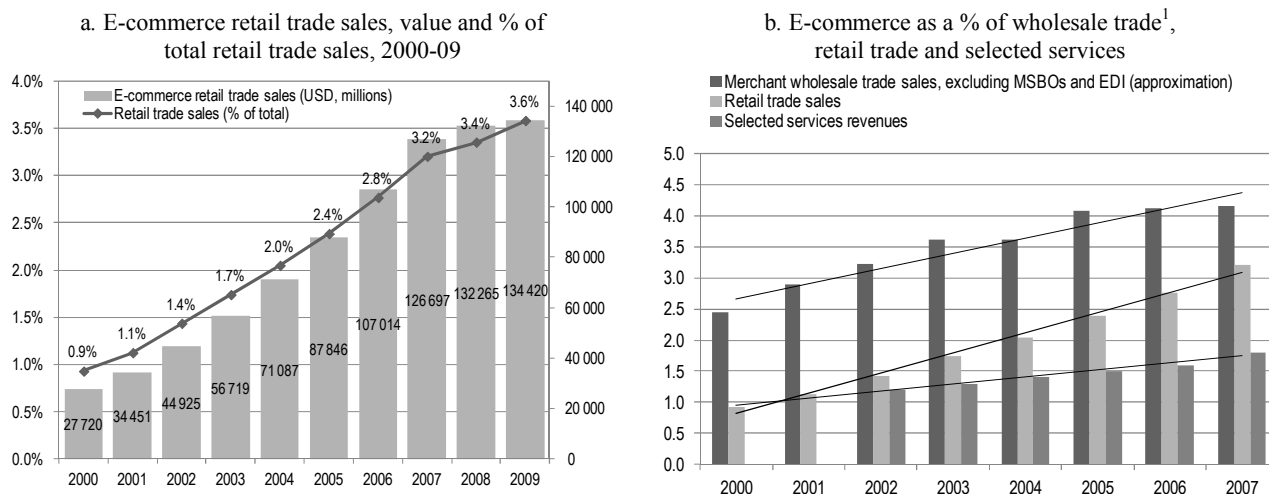
Figure 2.11. Individuals who ordered goods or services, over the Internet, for private use, in the previous three months, 2005-09

Percentage of the population



Source: Eurostat, 2010.

In the United States, official data show that growth in e-retail slowed after 2007 (Figure 2.12a). In 2008, online retail sales totalled USD 133 billion, up 5% from the previous year. Online retail sales in 2009, at USD 134 billion, were up a mild 1.6% compared to 2008, although e-commerce still grew as a share of overall retail sales (US Census, Estats, 2009). However, as a share of total retail sales, retail e-commerce sales remained modest, at 3.6% of total retail by the third quarter of 2009, up from 3.4% in 2008.

Figure 2.12. E-commerce in the United States

1. Evidence from Merchant Wholesalers indicates that B2B e-commerce relies on proprietary electronic data interchange (EDI) systems, with data showing this reliance at about 75% in 2006 and 2007. To approximate non-EDI e-commerce transactions for 2000-05, for illustration purposes, it is considered that non-EDI amounts to 25% of actual annual revenue.

Source: US Census Bureau, Estats (2010) and 2007 Service Annual Survey.

Out of total e-commerce retail sales in the United States in 2008, e-commerce retail intermediaries (the electronic shopping and mail-order houses industry group) represented some USD 97 billion.⁹ The leading merchandise category for e-sales within this industry in 2007 was Clothing and clothing accessories (including footwear) with USD 14 billion, followed by Other merchandise with USD 13 billion, and Computer hardware with USD 11 billion. The top two merchandise categories for percentage of online sales were Electronics and appliances, and Music and videos, both with 74%. In addition, although data may not be additive with other Internet intermediary sectors, e-commerce has also been a growing vector for sales of services, accounting for 1.8% (USD 124 billion) of selected service industries' total revenues in 2007, up from 1.6% (USD 104 billion) in 2006.

Electronic business-to-business marketplaces

Business-to-business commerce is increasingly an integral part of companies' commercial practices. B2B e-commerce transactions in Europe totalled close to EUR 1 000 billion in 2007. In the United States in that year, the web e-commerce (excluding EDI) portion of merchant wholesale trade represented USD 689.3 billion, or 4.2% of total merchant wholesale trade (Figure 2.12b). Wholesale agents, brokers and electronic markets, which do not take title to the goods they sell, made up 10% of the total sales of the wholesale trade sector in 2002. If the same ratio were applied in 2007, wholesale agents, brokers and electronic markets would represent some USD 415 billion. It is assumed that wholesale agents, brokers and electronic markets generated at least the same revenue in 2008 although official data are not yet available.

Electronic business-to-business exchanges usually follow either a transaction-fee-only model or a model that includes any combination of registration fees, transaction fees and listing (or hosting) fees. Registration fees may be charged to buyers, sellers or both; they typically involve either a one-time payment or annual fees in exchange for access to the

exchange's products or services, including reduced costs for searching for an audience of buyers/sellers. Transaction fees are traditionally based on either the monetary value of the transaction (and can be assessed to either buyers or sellers) or on savings realised by the buyer as a result of conducting the transaction through the particular online B2B exchange. Listing or hosting fees are generally paid by the seller in exchange for permission to market products or services over the online B2B's website; the B2B operates as a "catalogue" for the seller to market its products to the B2B's audience.¹⁰

E-commerce payment

Cards, mostly credit cards, are the dominant payment method for e-commerce. They also dominate retail transactions. In Europe for example, Deutsche Card Services (2009) estimated that credit cards accounted for over 80% of e-commerce retail transactions in 2009 (down from 2008), with Visa representing almost 55% of transactions, MasterCard 22%, and others (mostly American Express, Diners Club and retailer credit cards) about 4%. The group noted in 2008 that 12% of retail transactions were paid for by direct debit and 5% by offline methods (Deutsche Card Services, 2008). In the debit card arena, Maestro (MasterCard's debit card) was the leader with over 4% of the payment market in Europe.

Online banking e-payment methods, such as Giropay in Germany, are developing as an alternative to cards. Giropay, introduced in 2006, already has a market share of over 3% in Europe as a whole. In general, online banking methods are still mostly domestic. However, initiatives to increase standardisation are taking place, such as the establishment in 2008 of the International Council of Payment Network Operators (ICPNO) to determine standards and rules for the interoperability of domestic payment networks.

Box 2.2. Paypal

PayPal appears to be the most widely used non-bank, Internet-based new payment mechanism. PayPal primarily functions as a payments intermediary, allowing an individual to set up a pre-paid account with PayPal that can be funded from a credit or debit card or a bank account via a credit transfer. Using these funds, individuals can buy items or transfer funds to other PayPal account holders. The payment or transfer of funds occurs as a book-entry transaction between PayPal accounts. When individual wish to access the funds in their PayPal accounts, they direct PayPal to credit their credit or debit card or bank account via a credit transfer or even a paper cheque.

Paypal has been continuously extending its services. For example, it has launched a service called Paypal X to make it easier for third-party software developers to use the online payments system within their own applications, so that users can make purchases while they are still inside an application, such as an online game. In October 2009, PayPal partnered with payment processor First Data to allow debit cardholders in First Data's Star Network to link their debit cards to PayPal accounts on line through their financial institutions' websites. Paypal has also partnered with Billing Revolution, a mobile payments company, to enable PayPal merchants to conduct mobile credit card transactions.

PayPal, eBay's e-payment subsidiary, held over 150 million accounts worldwide at the end of 2009.¹ eBay has said it expects PayPal to increase revenue to a range of USD 4 billion to USD 5 billion in 2011, up from USD 2.4 billion in 2008, through continued penetration on eBay, strong growth of eBay through its merchant services business and expansion into mobile and non-retail payments.

1. <https://www.paypal.com/ie/cgi-bin/webscr?cmd=xpt/Marketing/bizui/AccessUserBase-outside>.

Alternative payment methods are primarily developed in the United States and are slowly gaining ground in European e-commerce (except for online banking-based payment methods). There is increasing competition in the online payments business. However, with the exception of PayPal (Box 2.2), the majority of alternative – non-card and non-bank – online payment means have not yet gained very wide user bases among merchants and consumers in OECD countries. Facebook has been gradually expanding the scope of its nascent online currency system. New types of payment include e-money as well as virtual currencies to exchange virtual goods in Internet games/virtual worlds.¹¹

Google and Amazon have used the credit card infrastructure to enable payments and online transactions. However, Amazon has been rolling out technology that lets other retailers use its proprietary system (Checkout by Amazon). For its part, Google has been trying to expand uses of its Google Checkout payment service, offering it as the payment option for developers who want to sell mobile applications for its Android operating system.

Participative networked platforms

Participative networking platforms include:

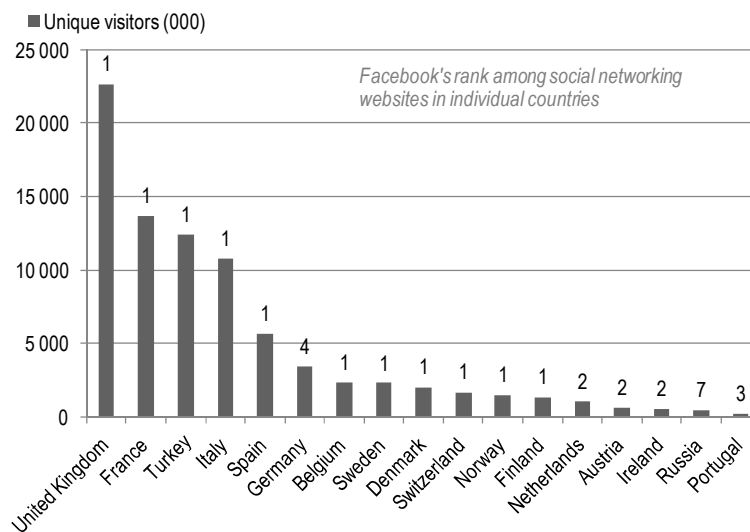
- Social networking platforms (*e.g.* Facebook, Twitter). Online advertising is seen as the main future source of revenue for social networking platforms. However, it is not clear whether revenue will be sufficient to finance the increasing number of participative networked platforms and whether users will be receptive to advertising on these platforms. Although user numbers were sharply up last year, the social-networking industry's revenues in America, its biggest advertising market, represented only USD 1.2 billion in 2009, according to market-research firm eMarketer.¹²
- Online games. These are computer-based games played over the Internet and include PC, console and wireless games.¹³ The online games market was estimated at USD 11 billion in 2008, some 25% of the worldwide game market (OECD, 2008, Chapter 5).
- Participative community platforms such as Wikipedia. Few generate significant revenue and most content is voluntary.
- Internet publishing and broadcasting platforms that do not create or own the content published or broadcast, such as YouTube.

Many interactions on participative networks take place at no financial cost or in the form of complex barter arrangements and most participative networks are private companies. It is therefore difficult to quantify the sector, unless proxies can be found (such as evaluating the value of the time spent on some of these platforms). The data presented by online audience measurement firms are indicative, however, of the continuing growth of participative networking as an activity on the Internet.

The online audience measurement firm Comscore found that more than 770 million people worldwide visited a social networking site in July 2009, an increase of 18% from the previous year. In August 2009, users worldwide spent an average of 22.4 hours on social networks. Over half of the Asia-Pacific online population was active on social networking sites, with competition between global and local brands intensifying. Although Facebook was the global leader and the leader in many countries, top social

networks varied. For example, CyWorld leads in Korea, Mixi in Japan, studiVZ in Germany, Baidu in China, Kohtakte in Russia, and Orkut in India and Brazil. In Europe, Facebook had a leading position in the social networking category in most European countries in February 2009 (Figure 2.13). The site's audience was largest in the United Kingdom with 22.7 million visitors (up 75% from the previous year), followed by France with 13.7 million (up 518%) and Turkey with 12.4 million visitors (previous year's data not available). For example, this would mean that one out of four French people use Facebook every month. While this seems extremely high, as a cross-country comparison and over time, the data are telling. According to another online audience measurement firm, Nielsen Netview, in June 2009, users in the United States spent an average of over 4.5 hours a month on Facebook compared to three hours on the Yahoo! sites and over two hours on Microsoft websites (Table 2.2).

Figure 2.13. Unique visitors to facebook.com in Europe, February 2009



Source: Comscore.

Table 2.2. Internet usage in the United States, combined home and work, June 2009

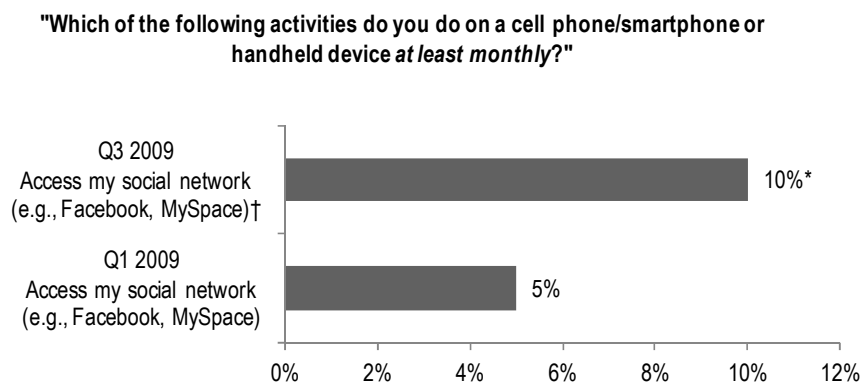
Top 10 web brands for June 2009				US internet usage	
Rank	Brand	Unique audience (000)	Time per person (hh:mm:ss)	Metric	Value
1	Google	147 778	1:48:58	Sessions/visits per person	88
2	Yahoo!	133 139	3:15:59	Web pages per person	2 569
3	MSN/WindowsLive/Bing	111 352	2:02:11	Duration of a web page viewed	65:10:25
4	Microsoft	96 071	0:49:50	PC time per person	0:00:57
5	AOL Media Network	92 705	2:43:10	Active digital media universe	195 974 309
6	YouTube ¹	87 686	1:12:57	Current digital media universe estimate	234 275 000
7	Facebook ¹	87 254	4:39:33		
8	Fox Interactive Media	72 724	2:14:21		
9	Apple ¹	59 663	1:19:33		
10	Wikipedia ¹	54 867	0:17:05		

1. Brands considered to be participative networked platforms in the context of this report.

Source: Nielsen NetView.

Mobile social networking is growing very fast. According to Forrester Research, 10% of adults in the United States accessed social networks from their cell phones in the third quarter of 2009, double the number at the beginning of the year (Figure 2.14).

Figure 2.14. Social activity on mobile devices, Q1 2009 and Q3 2009



Base: 4 290 adults with a mobile phone. †Base: 3 793 adults with a mobile phone.

Sources:

North American Technographics® Benchmark Survey, Q1 2009 (United States, Canada).

* North American Technographics® Media, Marketing, Consumer Technology, and Healthcare Benchmark Survey, Q3 2009 (United States, Canada).

Notes

1. With the exception of online brokerage intermediation services and travel reservation services. These have been excluded from this report because they are often included by national statistical agencies in classes according to their primary activity.
2. Internet World Stats, January 2010, www.internetworldstats.com.
3. US Bureau of Labor Statistics, www.bls.gov/oco/cg/cgs055.htm.
4. OECD Broadband Portal, www.oecd.org/sti/ict/broadband.
5. OECD (2009c). Work is under way at the OECD to identify the most appropriate methodology for comparing mobile broadband services across OECD member countries.
6. Commission staff working document – Progress report on the Single European Electronic Communications Market (14th report)
http://ec.europa.eu/information_society/policy/ecomm/doc/implementation_enforcement/annualreports/14threport/annex1.pdf.
7. ComScore Releases Asia-Pacific Search Rankings for July 2008,
www.comscore.com/Press_Events/Press_Releases/2008/09/Top_Asia-Pacific_Search_Engines.
8. The European e-commerce market, includes the EU17: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom
www.forrester.com/Research/Document/Excerpt/0,7211,44603,00.html.
9. It is assumed that e-commerce retail intermediaries (NAICS code 4541, the Electronic Shopping and Mail-Order Houses industry group) represented the same percentage of e-commerce retail sales in the United States in 2008 as in 2007, *i.e.* 73%. This group includes catalogue and mail-order operations, many of which sell through multiple channels, “pure plays” (*i.e.* retail businesses selling solely over the Internet), and e-commerce units of traditional brick-and-mortar retailers (*i.e.* “bricks and clicks”), in which the unit operates as a separate entity and does not sell motor vehicles online.
10. <http://aei-brookings.org/admin/authorpdfs/redirect-safely.php?fname=../pdffiles/phpMt.pdf>.
11. The Supreme Court of Korea for example ruled in January 2010 that virtual currency can be exchanged for real cash when the virtual currency is not used for gambling purposes and not earned by accident, news.cnet.com/8301-13846_3-10437250-62.html.
12. www.iab.net/insights_research/947883/1675/973901.
13. This includes extensions of stand-alone games so that small groups of players (2-16) can play together, to Massively Multiplayer Online Role Playing Games (MMORPG), with more than 10 000 players playing at the same time and more than 1 million players registered.

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Annex 2.A

The information sector in the United States

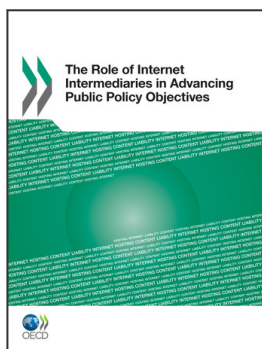
Table 2.A1. The information sector in the United States (NAICS 51) – estimated revenue for employer firms, 2004-08

NAICS code	Kind of business	2004	2005	2006	2007	2008
51	Overall information sector	955 083	999 741	1 052 274	1 114 129	1 156 755
511	..Publishing industries (except Internet)	256 301	267 801	280 794	295 768	300 365
51111	.....Newspaper publishers	48 366	49 594	49 239	47 914	43 918
Of which	<i>Online newspapers</i>	1 308	1 537	1 418	1 645	2 017
51112	.....Periodical publishers	42 290	44 241	46 827	48 692	47 505
Of which	<i>Online periodicals</i>	1 848	2 063	3 080	2 993	3 507
51113	.....Book publishers	27 904	27 909	28 240	29 344	30 284
Of which	<i>Online books</i>	620	654	775	936	1 084
51114	.....Directory and mailing list publishers	18 040	19 413	18 886	19 764	20 098
Of which	<i>Online directories, databases, and other collections of information</i>	2 540	3 243	3 000	3 700	4 186
51119	.....Other publishers	7 440	6 788	6 920	7 258	6 852
5112	....Software publishers	112 261	119 856	130 682	142 796	151 708
512	..Motion picture and sound recording industries	88 269	93 719	97 199	100 534	101 792
515	..Broadcasting (except Internet), radio and television, cable and other	83 466	87 709	93 075	96 453	100 298
516, 5181, 519	Internet publishing and broadcasting, Internet service providers and web search portals, and other information services	40 287	42 845	48 259	55 177	58 603
516	Internet publishing and broadcasting	8 695	10 391	12 908	16 683	19 979
Of which	<i>Publishing and broadcasting of content on the Internet</i>	5 278	6 068	7 069	8 728	10 437
Of which	<i>Online advertising space</i>	1 607	1 976	2 874	3 676	4 604
Of which	<i>Licensing of rights to use intellectual property</i>	401	433	521	569	585
517	Telecommunications	429 430	445 296	462 866	493 609	515 515
5171	Wired telecommunications carriers	211 176	205 652	195 632	196 981	194 765
Of which	<i>Internet access services</i>	12 616	14 374	23 692	21 143	23 692
5172	Wireless telecommunications carriers (except satellite)	127 602	140 030	157 491	172 524	183 559
Of which	<i>Internet access services</i>	659	1 124	2 509	4 541	6 863

Table 2.A1. The information sector in the United States (NAICS 51) – estimated revenue for employer firms, 2004-08 (continued)

NAICS code	Kind of business	2004	2005	2006	2007	2008
5173	Telecommunications resellers	9 849	11 135	11 802	12 256	11 619
5174	Satellite telecommunications	6 030	5 823	6 217	6 296	6 925
5175	Cable and other programme distribution	73 317	80 555	89 713	102 164	115 184
<i>Of which</i>	<i>Internet access services</i>	9 924	11 651	13 415	15 989	18 361
5179	Other telecommunications	1 456	2 101	2 011	2 079	2 218
518	Internet service providers, web search portals, and data processing services	82 491	87 891	98 142	103 462	110 836
5181	Internet service providers and web search portals	25 161	25 520	28 061	30 874	33 173
518111	Internet service providers	20 201	18 528	18 404	18 792	18 803
518112	Web search portals	4 960	6 992	9 657	12 082	14 370
<i>Of which</i>	<i>Revenue from online advertising space</i>	3 407	4 815	6 399	8 559	10 267
518210	Data processing, hosting and related services	57 330	62 371	70 081	72 588	77 663
519	Other information services	6 431	6 934	7 290	7 620	7 970
51911	News syndicates	1 972	2 092	2 198	2 392	2 366
51912	Libraries and archives	1 879	1 948	2 040	2 194	2 328
51919	All other information services	2 580	2 894	3 052	3 034	3 276

Note: Dollar volume estimates are published in millions of dollars; consequently, results may not be additive.
Source: US Census Bureau 2007, Service Annual Survey and administrative data.



From:
**The Role of Internet Intermediaries in Advancing
Public Policy Objectives**

Access the complete publication at:
<https://doi.org/10.1787/9789264115644-en>

Please cite this chapter as:

OECD (2011), “Developments in Internet intermediary markets”, in *The Role of Internet Intermediaries in Advancing Public Policy Objectives*, OECD Publishing, Paris.

DOI: <https://doi.org/10.1787/9789264115644-5-en>

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