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Chapter One

Introduction

This is the CSO's fifth report on information society statistics. The report provides details from the CSO's Information and Communications Technology (ICT) surveys, complementary administrative data on ICT and summary information on the telecommunications sector in Ireland. Appreciation is again extended to ComReg for their assistance in providing the CSO with administrative data on telecommunications.

The report contains statistics on how ICT is being used in Ireland today, both in the home and in business. The data sources used in this report also provide information to monitor progress on the i2010 Initiative to create a European Information Society for Growth and Employment.

Chapter two gives the latest available information from the Census of Industrial Production and the Annual Services Inquiry on employment, turnover and value added in the ICT sector in Ireland. Chapter three presents results from the e-Commerce and ICT survey of enterprises conducted in March 2007, while the fourth chapter includes results from the household survey of ICT usage in February 2007.

Chapter five focuses on the key topic of "Connecting to the Internet" while the sixth chapter presents information on the Telecommunications sector. The final chapter presents some international comparisons.

Some of the key findings of this report on information society and telecommunications statistics are as follows:

The ICT Sector in Ireland

- Over 82,700 people were employed in the ICT sector in 2005, representing 9% of total employment in the industrial and services sectors. *See Figure 2.1 and Tables 2.1 and 2.2.*
- Turnover in the ICT sector increased from €53.1 billion to €63.3 billion between 2004 and 2005, an increase of 19%. Gross value added in the sector also increased, from €14.7 billion in 2004 to €19 billion in 2005, an increase of 29%. *See Figure 2.1 and Table 2.1.*
- The ICT sector accounted for 22% of total turnover and 23% of gross value added in the industrial and services sectors in 2007. *See Table 2.2.*

- Foreign owned enterprises represented 7% of all ICT enterprises in Ireland in 2005, but accounted for 59% of the total employment and 86% of turnover in the sector. *See Figure 2.2 and Table 2.3.*

Use of ICT by Enterprises

- In 2007, virtually all enterprises in the manufacturing, construction and services sectors used a computer and had access to email and the internet. *See Table 3.1.*
- Sixty four per cent of enterprises had a website or homepage in 2007. *See Table 3.1.*
- While 82% of enterprises used the internet to obtain forms from public authorities, 68% of enterprises used the internet to return a completed form to a public authority. *See Table 3.1.*
- Virus checkers or protection software were used by 91% of enterprises in 2007. Firewalls were used by 81% of enterprises while 46% of enterprises indicated that they backed up data offsite. *See Table 3.1.*
- In 2007, 55% of enterprises made some purchases using e-Commerce (internet or EDI purchases), while 27% of enterprises had e-Commerce sales. *See Table 3.3.*

Use of ICT by Households

- Over 65% (998,000) of households had a home computer in the first quarter of 2007, of which 87% were connected to the internet. *See Table 4A.*
- Over 68% of households in the Southern and Eastern region owned a computer, of which 88% were connected to the internet. In the Border, Midland and Western region, over 58% of households owned a computer, of which 82% were connected to the internet. *See Tables 4.1 and 4.2.*
- Almost 66% of persons aged 16-24 used the internet in 2007, while 18% of those aged 65-74 indicated that they had used the internet in the same period. *See Table 4.3.*
- Almost 1.15 million people indicated that they used a computer every day or almost every day, while almost 396,000 indicated that they used a computer at least once a week. *See Table 4.4.*
- The most common purchases on the internet in 2007 were *Travel and holiday accommodation* and *Tickets for events*. *See Table 4.7.*

Connecting to the Internet

- In the first quarter of 2007, almost 31% of all households had a broadband connection to the internet. This compares to 13% of households having a broadband connection to the internet in the same period of 2006. *See Table 5A.*
- In total, 57% of all households had access to the internet in the first quarter of 2007. Of those households with internet access in the period, 54% had a broadband connection. *See Table 5A.*
- Almost 15% of households in the Border, Midland and Western region had a broadband connection in the first quarter of 2007, compared to 37% of households in the Southern and Eastern region. *See Table 5B.*
- Broadband usage for enterprises was 68% in 2007, compared to 61% in 2006. *See Table 5.3.*

Telecommunications

- Total revenue in the Telecommunications and Broadcasting sectors increased from €3.9 billion in 2005 to almost €4.3 billion in 2006, an increase of over 9%. *See Figure 6.2 and Table 6.1.*

- The mobile penetration rate continued to increase and was 114% in the second quarter of 2007 compared to 103% in the same period of 2006. *See Table 6.2.*

- There were over 790,000 digital television (satellite and digital cable) subscribers in the second quarter of 2007 compared to 268,000 analogue cable subscribers in the same period. *See Table 6.2.*

International Comparisons

- In 2007, 57% of Irish households had access to the internet at home. This was higher than the EU27 average of 54% in the same period. *See Table 7.2.*

- Sixty eight percent of enterprises in Ireland had broadband access in 2007, compared to the EU27 average of 77% in the same period. *See Table 7.3.*

- Of those Irish households with internet access at home, 54% indicated that they had a broadband connection. This compares to an EU27 average of 77%. *See Table 7.4.*

- Almost 1,060 SMS messages were sent per head of population in Ireland in 2007. This is amongst the highest rates in the EU. *See Table 7.5 and Figure 7.1.*

Chapter Two

The ICT Sector in Ireland

Introduction

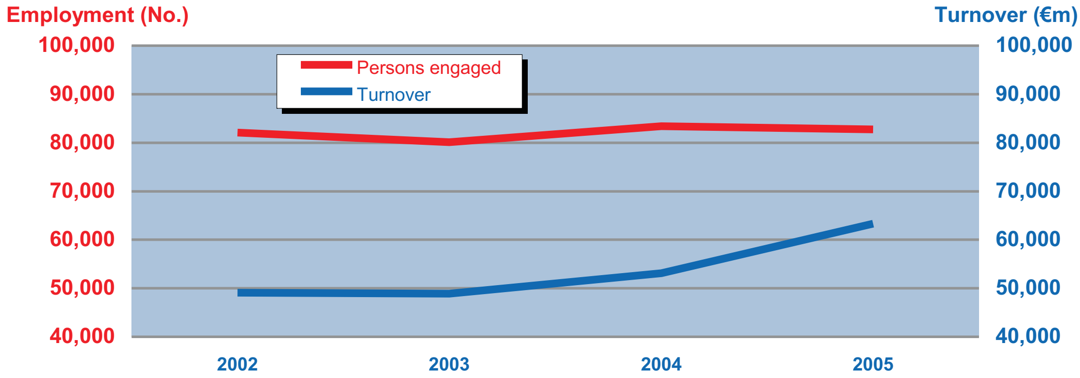
The ICT sector employed just over 82,700 people in 2005, a slight decrease compared to 2004. The sector represented 9% of total employment in industry and services. The ICT manufacturing sector employed 27,900 and accounted for 12% of total industrial employment, while 54,900 were employed in ICT services, accounting for over 7% of total employment in services. *See Tables 2.1 and 2.2.*

While the ICT sector accounted for 6% of the total number of enterprises and 9% of total employment in industry and services, it contributed 22% of total turnover in the sectors. In the ICT sector overall, total turnover was €63.3 billion in 2005. Almost 54% of this turnover was generated in manufacturing while 46% was generated in services. Value added in the ICT sector, at €19 billion, accounted for 23% of total value added in industry and services. *See Tables 2.1 and 2.2.*

The average ICT manufacturing enterprise employed 168 persons and had an average turnover of €205m. By contrast, ICT services sector enterprises tended to be smaller with an average employment of 11 and an average turnover of €6m. *See Table 2.1.*

Between 2002 and 2005 employment in the sector increased from 82,100 to 82,700, an increase of almost 1%. Turnover in the sector increased from €49.1m to €63.3m over the same period, an increase of 29%. *See Figure 2.1.*

Figure 2.1 ICT sector employment and turnover, 2002 - 2005



Source: CSO - Census of Industrial Production and Annual Services Inquiry

Nationality of Ownership

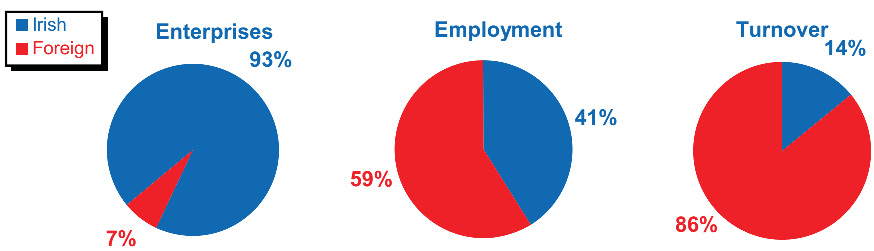
Some 61% of ICT manufacturing enterprises are Irish-owned while 39% are foreign-owned. This compares with 88% Irish ownership for industry as a whole. Irish-owned ICT manufacturing enterprises employed almost 3,400 people in 2005 while foreign-owned enterprises employed 24,500 during the same period. Foreign-owned ICT manufacturing enterprises tend to be larger scale with, on average, 383 persons engaged, compared to an average of 33 persons engaged for Irish-owned ICT manufacturers. *See Tables 2.3 and 2.4.*

In the ICT services sector, the balance between Irish and foreign ownership is different, with 94% of enterprises Irish-owned. These Irish-owned enterprises had 30,600 persons in employment while foreign-owned enterprises employed 24,200 people. ICT service enterprises were generally smaller than those involved in manufacturing: foreign-owned enterprises had an average of 83 persons engaged while Irish-owned ICT service enterprises had an average of 7 persons engaged. *See Tables 2.3 and 2.4.*

Output per employee, measured in terms of gross value added, was more than three times higher in foreign-owned enterprises compared with indigenous ICT companies. The average GVA per employee in the foreign-owned enterprises was €319,600 compared with €101,300 in the indigenous enterprises. *See Table 2.3*

In 2005, foreign-owned enterprises accounted for 59% of the total employment and 86% of turnover in the ICT sector. *See Figure 2.2.*

Figure 2.2 Principal aggregates for the ICT sector by nationality of ownership, 2005



Source: CSO - Census of Industrial Production and Annual Services Inquiry

Composition of the ICT sector

The ICT sector includes manufacture of office machinery and computers, manufacture of communications equipment, computer-related service activities and the distribution and renting of office machinery and equipment. Other manufacturing activities covered include measurement and process-control equipment, reproduction of computer media and manufacture of insulated wire and cable. In many international publications, the reproduction of computer media is not included as ICT. In this report this sector is included as it makes a significant contribution to industry in Ireland. This fact can therefore affect international comparisons. *See Table 2.5 and Chapter 7.*

Regional analysis

In 2005, almost 15% of persons engaged in manufacturing local units in the Southern and Eastern (SE) region were working in ICT manufacturing local units, compared to 8% in the Border, Midland and Western (BMW) region. Similarly, while 8% of persons working in services local units in the SE region were engaged in ICT services local units, the corresponding figure for the BMW region was 3%. In total, an average of 16 people were engaged in ICT local units (manufacturing and services) in the SE region in 2005, compared to 13 in the BMW region in the same period. *See Tables 2.6, 2.7 and 2.8.*

Table 2.1 Principal aggregates for ICT manufacturing and services sectors, 2002 - 2005

	Unit	2002	2003	2004	2005
ICT Manufacturing					
Number of enterprises	No.	233	216	183	166
Persons engaged	No.	33,488	30,791	30,004	27,884
Turnover	€m	29,449	30,051	32,299	33,950
Gross value added	€m	5,700	6,038	6,779	7,120
Average persons engaged per enterprise	No.	144	143	164	168
Average turnover per enterprise	€m	126.4	139.1	176.5	204.5
Average gross value added per enterprise	€m	24.5	28.0	37.0	42.9
Average gross value added per person engaged	€	170,210	196,096	225,937	255,344
ICT Services					
Number of enterprises	No.	3,900	4,226	5,100	4,924
Persons engaged	No.	48,572	49,307	53,415	54,858
Turnover	€m	19,609	18,851	20,792	29,366
Gross value added	€m	6,483	6,913	7,913	11,902
Average persons engaged per enterprise	No.	12	12	10	11
Average turnover per enterprise	€m	5.0	4.5	4.1	6.0
Average gross value added per enterprise	€m	1.7	1.6	1.6	2.4
Average gross value added per person engaged	€	133,472	140,203	148,142	216,960
Total ICT					
Number of enterprises	No.	4,133	4,442	5,283	5,090
Persons engaged	No.	82,060	80,098	83,419	82,742
Turnover	€m	49,058	48,902	53,091	63,316
Gross value added	€m	12,183	12,951	14,692	19,022
Average persons engaged per enterprise	No.	20	18	16	16
Average turnover per enterprise	€m	11.9	11.0	10.0	12.4
Average gross value added per enterprise	€m	2.9	2.9	2.8	3.7
Average gross value added per person engaged	€	148,465	161,689	176,123	229,895

Source: Census of Industrial Production and Annual Services Inquiry

Table 2.2 Total industry and services, 2002 - 2005

	Unit	2002	2003	2004	2005
Total Industry					
Number of enterprises	No.	4,996	4,995	4,684	4,418
Persons engaged	No.	253,842	244,237	235,489	231,002
Turnover	€m	107,683	109,808	113,277	119,365
Gross value added	€m	39,526	40,701	40,031	38,758
Total Services					
Number of enterprises	No.	76,312	83,277	85,284	83,988
Persons engaged	No.	668,876	713,116	736,969	740,419
Turnover	€m	114,544	125,622	143,234	167,562
Gross value added	€m	30,163	33,927	41,858	45,871
Total Industry and Services					
Number of enterprises	No.	81,308	88,272	89,968	88,406
Persons engaged	No.	922,718	957,353	972,458	971,421
Turnover	€m	222,227	235,430	256,511	286,927
Gross value added	€m	69,689	74,628	81,889	84,629
Total ICT as a % of Total Industry and Services[1]					
Number of enterprises	%	5.0	5.0	5.9	5.8
Persons engaged	%	9.0	8.4	8.6	8.5
Turnover	%	22.0	20.8	20.7	22.1
Gross value added	%	17.0	17.4	17.9	22.5

Source: Census of Industrial Production and Annual Services Inquiry

[1] Total ICT (Table 2.1) as a % of Total Industry and Services (Table 2.2)

Table 2.3 Principal aggregates for ICT manufacturing and services sectors by nationality of ownership, 2005

	Unit	Irish	Foreign	Total
ICT Manufacturing				
Number of enterprises	No.	102	64	166
Persons engaged	No.	3,390	24,494	27,884
Turnover	€m	517	33,432	33,950
Gross value added	€m	143	6,976	7,120
Average persons engaged per enterprise	No.	33	383	168
Average turnover per enterprise	€m	5.1	522.4	204.5
Average gross value added per enterprise	€m	1.4	109.0	42.9
Average gross value added per person engaged	€	42,183	284,804	255,344
ICT Services				
Number of enterprises	No.	4,633	291	4,924
Persons engaged	No.	30,616	24,242	54,858
Turnover	€m	8,442	20,924	29,366
Gross value added	€m	3,302	8,601	11,902
Average persons engaged per enterprise	No.	7	83	11
Average turnover per enterprise	€m	1.8	71.9	6.0
Average gross value added per enterprise	€m	0.7	29.6	2.4
Average gross value added per person engaged	€	107,852	354,797	216,960
Total ICT				
Number of enterprises	No.	4,735	355	5,090
Persons engaged	No.	34,006	48,736	82,742
Turnover	€m	8,959	54,356	63,316
Gross value added	€m	3,445	15,577	19,022
Average persons engaged per enterprise	No.	7	137	16
Average turnover per enterprise	€m	1.9	153.1	12.4
Average gross value added per enterprise	€m	0.7	43.9	3.7
Average gross value added per person engaged	€	101,306	319,620	229,895

Source: Census of Industrial Production and Annual Services Inquiry

Table 2.4 Total industry and services by nationality of ownership, 2005

	Unit	Irish	Foreign	Total
Total Industry				
Number of enterprises	No.	3,877	541	4,418
Persons engaged	No.	122,274	108,728	231,002
Turnover	€m	26,702	92,663	119,365
Gross value added	€m	9,294	29,464	38,758
Total Services				
Number of enterprises	No.	81,963	2,025	83,988
Persons engaged	No.	624,643	115,775	740,419
Turnover	€m	106,546	61,017	167,562
Gross value added	€m	28,688	17,183	45,871
Total Industry and Services				
Number of enterprises	No.	85,840	2,566	88,406
Persons engaged	No.	746,917	224,503	971,421
Turnover	€m	133,248	153,680	286,927
Gross value added	€m	37,982	46,647	84,629
Total ICT as a % of Total Industry and Services[1]				
Number of enterprises	%	5.5	13.8	5.8
Persons engaged	%	4.6	21.7	8.5
Turnover	%	6.7	35.4	22.1
Gross value added	%	9.1	33.4	22.5

Source: Census of Industrial Production and Annual Services Inquiry

[1] Total ICT (Table 2.3) as a % of Total Industry and Services (Table 2.4)

Table 2.5 Composition of the ICT sectors by NACE, 2005

NACE Division[1]	Sector	Number of enterprises	Persons engaged	Turnover	Gross value added
	Unit	No.	No.	€m	€m
	ICT Manufacturing	**166**	**27,884**	**33,950**	**7,120**
30	Manufacture of office machinery and computers	45	12,733	17,639	1,990
32	Manufacture of radio, television and communication equipment and apparatus	34	7,868	3,267	1,585
3320	Manufacture of instruments and appliances for measuring, checking, testing, navigating and other purposes, except industrial process control equipment	38	2,218	478	192
3330, 2233, 3130	Manufacture of industrial process control equipment. Reproduction of computer media. Manufacture of insulated wire and cable	49	5,065	12,566	3,353
	ICT Services	**4,924**	**54,858**	**29,366**	**11,902**
72	Computer and related activities	4,242	29,938	10,605	5,017
5143, 5184, 5185, 6420, 7133	Wholesale of electrical household appliances and radio and television goods. Wholesale of computers, computer peripheral equipment and software. Wholesale of other office machinery and equipment. Telecommunications. Renting of office machinery and equipment (including computers)	683	24,920	18,761	6,886
	Total ICT	**5,090**	**82,742**	**63,316**	**19,022**

[1] See Appendix Three for key to NACE Rev 1.1 Classification

Source: Census of Industrial Production and Annual Services Inquiry

Table 2.6 Principal aggregates for manufacturing local units by region, 2005

	Unit	Border, Midland and Western	Southern and Eastern
ICT Manufacturing			
Number of local units	No.	44	128
Persons engaged	No.	4,662	23,640
Average persons engaged per local unit	No.	106	185
Total Manufacturing			
Number of local units	No.	1,310	3,184
Persons engaged	No.	58,605	159,198
Average persons engaged per local unit	No.	45	50
ICT Manufacturing as a % of Total Manufacturing			
Number of local units	%	3.4	4.0
Persons engaged	%	8.0	14.8

Source: Census of Industrial Production

Table 2.7 Principal aggregates for services local units by region, 2005

	Unit	Border, Midland and Western	Southern and Eastern
ICT Services			
Number of local units	No.	709	4,591
Persons engaged	No.	4,845	50,013
Average persons engaged per local unit	No.	7	11
Total Services			
Number of local units	No.	23,450	104,671
Persons engaged	No.	143,493	596,926
Average persons engaged per local unit	No.	6	6
ICT Services as a % of Total Services			
Number of local units	%	3.0	4.4
Persons engaged	%	3.4	8.4

Source: Annual Services Inquiry

Table 2.8 Principal aggregates for all ICT local units by region, 2005

	Unit	Border, Midland and Western	Southern and Eastern
Total ICT			
Number of local units	No.	753	4,719
Persons engaged	No.	9,507	73,653
Average persons engaged per local unit	No.	13	16
Total Manufacturing and Services			
Number of local units	No.	24,760	107,855
Persons engaged	No.	202,098	756,124
Average persons engaged per local unit	No.	8	7
Total ICT as a % of Total Manufacturing and Services			
Number of local units	%	3.0	4.4
Persons engaged	%	4.7	9.7

Source: Census of Industrial Production and Annual Services Inquiry

Chapter Three

Use of ICT by Enterprises

Introduction

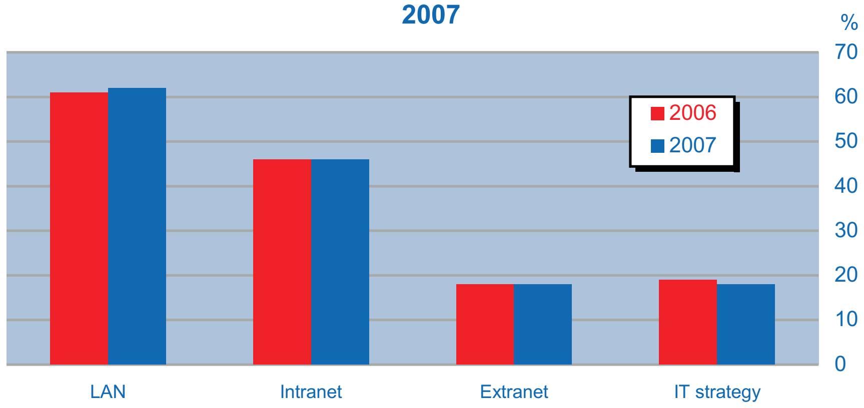
Virtually all enterprises use computers in one way or another today: 98% of enterprises in manufacturing, 98% in construction and 96% in services. The majority also use e-mail and the internet while 64% of all enterprises reported that they have a website or homepage. *See Table 3.1.*

The results were obtained from the March 2007 e-Commerce and ICT survey and are based on a sample of over 6,600 enterprises. Enterprises sampled include those with ten or more persons engaged in the manufacturing and selected services sectors, and those with twenty or more persons engaged in the construction sector. Additional work was undertaken in 2007 to survey a small sample of micro-enterprises (i.e. those enterprises with less than ten persons engaged) in all relevant sectors. The results for these micro-enterprises are not included in this publication but instead will be included in the CSO's *'Small Business in Ireland'* thematic report, due to be published in the second quarter of 2008. The main results of the survey are presented in Tables 3.1 to 3.4 while Tables 3.6 and 3.7 contain information on the number of respondents to the e-Commerce and ICT survey and other background information.

General use of ICT systems

In 2007, 62% of enterprises indicated that they used a Local Area Network (LAN) while 46% of enterprises stated they had an intranet. Almost a fifth (18%) of enterprises had an extranet (i.e. access by external users to some part of their intranet) in 2007. *See Figure 3.1.*

Figure 3.1 Percentage of enterprises using ICT systems, 2006 - 2007



Source: CSO - e-Commerce and ICT Survey

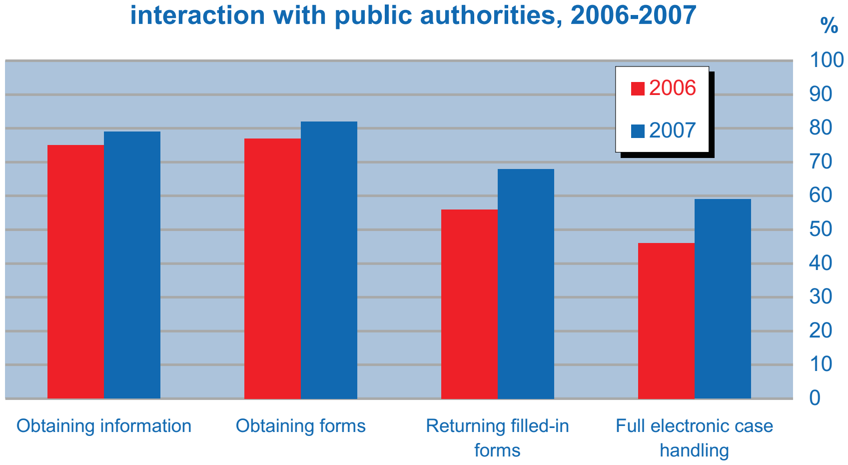
Tables 3.1 and 3.2 give an indication of the degree of integration of business processes using ICT. Invoicing and payment systems are used by 35% of enterprises in the manufacturing sector, by 18% of enterprises in the construction sector and by 29% in services. Thirteen percent of enterprises in services integrate their ICT systems with their suppliers business systems compared to 7% of enterprises in the manufacturing sector. *See Table 3.1.*

Use of the internet

Seventy percent of enterprises in manufacturing had a website in 2007 while 63% of enterprises in services had a website. In the construction sector, 53% of firms had a website in the same period. *Marketing the enterprise's products* was the main reason enterprises provided a website in 2007. *Information search* along with *Banking and financial services* were the main reasons enterprises used websites (as consumers) in 2007. *See Table 3.1.*

In addition, 82% of enterprises said they had downloaded forms from a public authority website in 2007, while 68% had returned completed forms online. In 2006, 56% of enterprises had completed an official form online. *See Figure 3.2 and Table 3.1.*

Figure 3.2 Percentage of enterprises using the internet for interaction with public authorities, 2006-2007



Source: CSO - e-Commerce and ICT Survey

Internet security

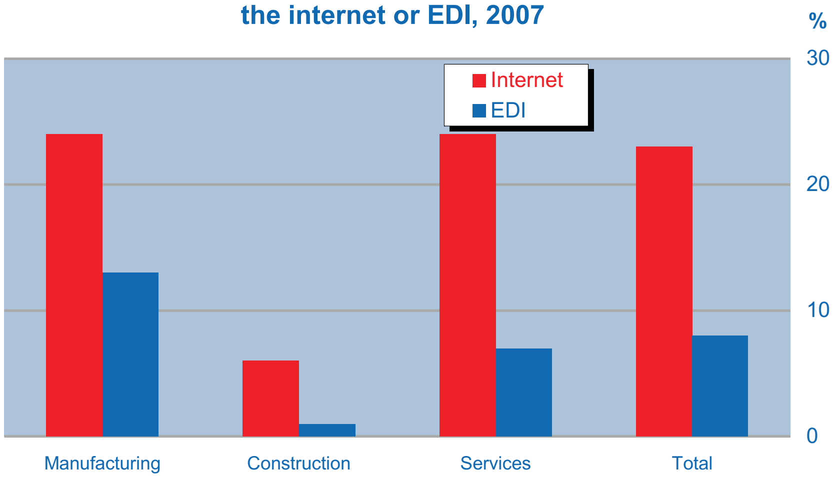
The use of IT security measures by enterprises generally rose again in 2007, with an increasing use of systems such as firewalls and secure servers, while the usage of virus checkers remained static, being used by 91% of enterprises. The percentage of enterprises using authentication methods such as PIN codes increased from 24% in 2006 to 27% in 2007. *See Tables 3.1 and 3.2.*

e-Commerce

The 2007 survey found that the percentage of enterprises conducting sales via e-Commerce (internet or EDI (Electronic Data Interchange)) was broadly similar to 2006 levels. In manufacturing, the percentage of enterprises with e-Commerce sales decreased slightly from 33% in 2006 to 32% in 2007. In construction the percentage of enterprises with e-Commerce sales increased from 6% to 8% while in services there was a slight decrease from 29% to 27% of enterprises selling via e-Commerce over the same period.

Sales by e-Commerce accounted for 19% of turnover in the manufacturing sector in 2007. These e-Commerce sales in manufacturing were split almost evenly between internet sales and EDI sales. In the services sector, sales via e-Commerce accounted for 21% of turnover. Again, e-Commerce sales were split evenly across internet sales and EDI sales in the services sector. *See Figure 3.3 and Table 3.3.*

Figure 3.3 Percentage of enterprises with e-Commerce sales via the internet or EDI, 2007

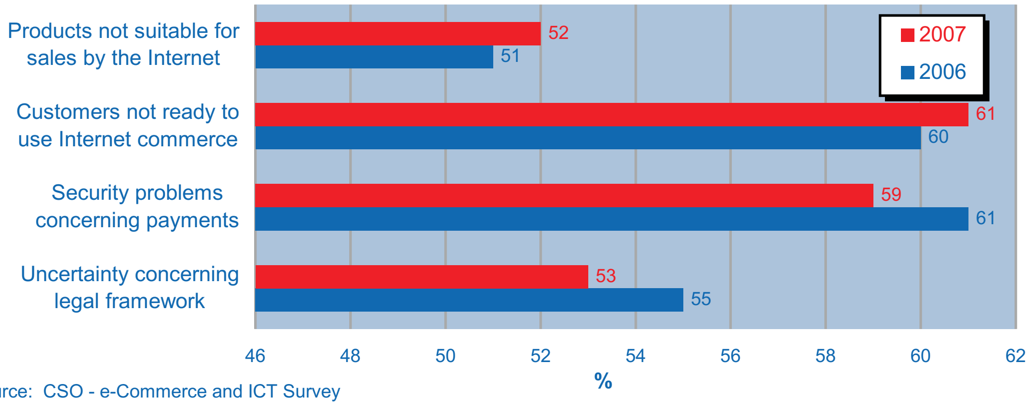


Source: CSO - e-Commerce and ICT Survey

Barriers to e-Commerce

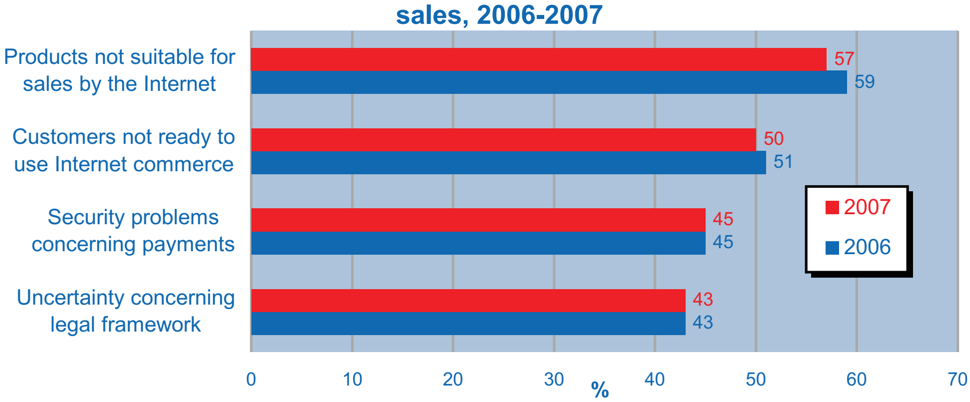
Businesses were also asked to rate the importance of potential barriers to e-Commerce. In 2007, enterprises already selling online again indicated that their main concerns were whether customers were ready to shop online and security problems concerning payments. Those enterprises not already selling online indicated that their main barrier was that their products were not suitable for sale online. *See Figures 3.4 and 3.5.*

Figure 3.4 Barriers to e-Commerce - Enterprises with internet sales, 2006-2007



Source: CSO - e-Commerce and ICT Survey

Figure 3.5 Barriers to e-Commerce - Enterprises without internet sales, 2006-2007



Source: CSO - e-Commerce and ICT Survey

ICT statistics from CSO's structural business inquiries

Some statistics on computer use have also been collected in the CSO's main annual surveys of industry and services. It is important to note the difference in coverage between the structural business surveys and the ICT enterprise survey. Table 3.5 relates to total industry and services while the ICT enterprise survey (Tables 3.1 – 3.4 and Tables 3.6 – 3.7) excludes the non-manufacturing element of industry, some services sectors, and very small enterprises. The results from the annual surveys are presented in Table 3.5.

Appendix 3 contains a description of the NACE Rev. 1.1 sectors used in Tables 3.2, 3.4 and 3.6.

Table 3.1 Main results of enterprise ICT survey, as percentage of all enterprises, March 2006 and 2007

		Manufacturing sectors		Construction sector		Selected services sectors		Total	
	Unit	2006	2007	2006	2007	2006	2007	2006	2007
Enterprises with 10 or more persons engaged[1]	**No.**	**2,759**	**2,631**	**736**	**728**	**8,724**	**8,406**	**12,219**	**11,765**
General information about ICT systems									
Using a computer	%	99	98	95	98	96	96	97	96
Using e-mail	%	96	97	92	97	93	93	93	94
Using intranet	%	47	47	38	41	47	46	46	46
Using LAN	%	62	65	51	52	62	62	61	62
Using extranet	%	17	18	6	10	19	19	18	18
Using dedicated ICT systems for managing orders	%	49	46	22	21	46	42	45	42
Have a written ICT strategy	%	20	20	10	8	19	18	19	18
Use of the Internet									
Using the Internet	%	98	97	93	97	94	94	94	95
Having a website or homepage	%	66	70	47	53	64	63	64	64
Purposes of using the Internet (as consumer)									
Market monitoring	%	46	42	28	33	44	43	44	42
Receiving digital products	%	35	-	23	-	30	-	31	-
Obtaining after sales services	%	32	-	19	-	31	-	31	-
Banking and financial services	%	84	85	82	85	80	81	81	82
Information search	%	92	92	84	90	86	86	87	88
Training and education	%	36	36	30	29	37	38	36	37
Interaction with public authorities via Internet									
For obtaining information	%	78	83	75	86	74	77	75	79
For obtaining forms	%	80	84	77	88	76	81	77	82
For returning filled-in forms	%	58	70	54	66	56	68	56	68
For full electronic case handling	%	44	58	36	58	47	60	46	59
Submit proposal by electronic tender system	%	19	21	32	29	20	21	21	21

See footnotes at end of table

Table 3.1 Main results of enterprise ICT survey, as percentage of all enterprises, March 2006 and 2007 - continued

		Manufacturing sectors		Construction sector		Selected services sectors		Total	
	Unit	2006	2007	2006	2007	2006	2007	2006	2007
Purposes of using the Internet (as provider)									
Marketing the enterprise's products	%	61	61	37	38	58	55	58	56
Facilitating access to catalogues and price lists	%	33	36	11	22	33	34	32	34
Customised page for repeat clients	%	10	-	5	-	12	-	11	-
Delivering digital products	%	6	-	1	-	10	-	9	-
Providing after sales support	%	16	20	4	7	17	20	16	19
Integration of ICT systems									
Reordering replacement supplies	%	21	20	7	8	21	21	20	20
Invoicing and payment systems	%	37	35	16	18	28	29	30	29
Managing production, logistics or service operations	%	28	26	7	6	18	19	20	20
Your suppliers' business system	%	8	7	3	6	14	13	12	11
Your customers' business system	%	9	9	2	4	8	8	8	8
Security facilities used									
Virus checking or protection software	%	95	93	89	94	90	90	91	91
Firewalls	%	80	83	73	75	79	80	79	81
Secure servers	%	60	63	42	52	61	59	59	60
Offsite data backup	%	51	50	34	41	45	45	46	46
Electronic digital signature for customer authenication	%	16	16	4	9	17	15	16	15
Other authentication mechanism (e.g. PIN code)	%	23	25	21	22	24	28	24	27
Encryption for confidentiality	%	18	-	6	-	20	-	19	-
Electronic sharing									
Uses an ERP software package	%	-	22	-	7	-	16	-	17
Capture, store and make available the information about clients	%	-	18	-	6	-	26	-	23
Analyse information about clients for marketing purposes	%	-	18	-	6	-	27	-	24

[1] The construction sector covers only private firms with 20 or more persons engaged

- Data not available

Source: CSO - e-Commerce and ICT Survey

Table 3.2 Main results of enterprise ICT survey as percentage of all enterprises by sector, March 2007

		Manufacturing sectors					Construction sector	Selected services sectors								Total
NACE Division[1]	Unit	15-22	23-25	26-28	29-37	Total	45	50-52	55.1-55.2	60-63	64	70-71 73-74	72	92	Total	
Enterprises with 10 or more persons employed[2]	No.	1,034	335	537	725	2,631	728	4,397	624	665	65	1,819	337	499	8,406	11,765
General information about ICT systems																
Using a computer	%	98	99	97	99	98	98	95	94	96	100	97	97	94	96	96
Using e-mail	%	96	98	94	98	97	97	91	94	94	100	97	97	89	93	94
Using intranet	%	47	52	31	55	47	41	42	41	56	76	52	79	31	46	46
Using LAN	%	63	77	55	71	65	52	57	53	67	81	72	92	57	62	62
Using extranet	%	18	24	11	20	18	10	16	15	24	28	21	54	6	19	18
Using dedicated ICT systems for managing orders	%	47	57	32	51	46	21	53	29	41	63	23	60	22	42	42
Have a written ICT strategy	%	17	31	14	25	20	8	13	12	19	49	29	50	9	18	18
Use of the internet																
Using the Internet	%	97	99	95	99	97	97	92	94	95	100	97	97	91	94	95
Having a website or homepage	%	67	76	63	78	70	53	53	89	59	95	70	95	75	63	64
Purposes of using the internet (as consumer)																
Market monitoring	%	41	45	34	49	42	33	39	69	47	50	38	61	46	43	42
Receiving digital products	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Obtaining after sales services	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Banking and financial services	%	82	88	83	88	85	85	80	79	78	91	86	91	76	81	82
Information search	%	91	97	88	95	92	90	81	85	88	95	94	97	87	86	88
Training and education	%	34	45	26	42	36	29	32	32	32	67	49	77	33	38	37
Interaction with public authorities via internet																
For obtaining information	%	81	89	77	85	83	86	72	75	80	84	88	92	69	77	79
For obtaining forms	%	82	89	83	86	84	88	77	78	83	79	90	90	78	81	82
For returning filled-in forms	%	71	80	62	69	70	66	67	66	58	70	74	82	64	68	68
For full electronic case handling	%	59	67	52	58	58	58	58	54	50	62	68	67	60	60	59
Submit proposal by electronic tender system	%	22	17	19	22	21	29	17	12	23	48	30	49	11	21	21

See footnotes at end of table

Table 3.2 Main results of enterprise ICT survey as percentage of all enterprises by sector, March 2007 - continued

		Manufacturing sectors					Construction sector	Selected services sectors								Total
NACE Division[1]	Unit	15-22	23-25	26-28	29-37	Total	45	50-52	55.1-55.2	60-63	64	70-71 73-74	72	92	Total	
Purposes of using the internet (as provider)																
Marketing the enterprise's products	%	58	61	57	69	61	38	44	86	52	86	62	91	66	55	56
Facilitating access to catalogues and price lists	%	32	36	29	46	36	22	33	62	31	60	22	48	45	34	34
Customised page for repeat clients	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Delivering digital products	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Providing after sales support	%	16	23	13	30	20	7	18	25	23	51	14	53	17	20	19
Integration of ICT systems																
Reordering replacement	%	16	32	13	26	20	8	31	8	14	22	8	20	4	21	20
Invoicing and payment systems	%	35	44	22	39	35	18	34	19	37	48	17	41	12	29	29
Managing production, logistics or service operations	%	24	35	15	35	26	6	21	9	27	37	11	36	8	19	20
Your suppliers' business system	%	6	10	5	8	7	6	18	2	16	16	5	14	1	13	11
Your customers' business system	%	11	8	5	11	9	4	9	2	15	15	6	16	1	8	8
Security facilities used																
Virus checking or protection software	%	92	96	92	95	93	94	88	92	89	95	95	96	89	90	91
Firewalls	%	82	92	76	87	83	75	76	78	79	100	88	96	77	80	81
Secure servers	%	63	68	55	66	63	52	53	59	56	84	70	85	57	59	60
Offsite data backup	%	51	54	39	54	50	41	40	35	46	60	60	69	29	45	46
Electronic digital signature for customer authenication	%	17	16	10	17	16	9	11	15	24	15	21	22	12	15	15
Other authentication mechanism (e.g. PIN code)	%	24	30	19	27	25	22	26	23	27	69	31	50	29	28	27
Encryption for confidentiality	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Electronic sharing																
Uses an ERP software package	%	17	37	12	28	22	7	20	7	15	25	11	27	5	16	17
Capture, store and make available the information about clients	%	17	23	12	22	18	6	19	30	28	43	30	60	35	26	23
Analyse information about clients for marketing purposes	%	18	24	12	21	18	6	23	42	30	36	25	48	35	27	24

[1] See Appendix Three for key to NACE Rev 1.1 Classification

[2] The construction sector covers only private firms with 20 or more persons engaged

- Data not available

Source: CSO - e-Commerce and ICT Survey

Table 3.3 Purchases and sales via e-Commerce, March 2006 and 2007

		Manufacturing sectors		Construction sector		Selected services sectors		Total	
	Unit	2006	2007	2006	2007	2006	2007	2006	2007
Enterprises with 10 or more persons engaged[1]	**No.**	**2,759**	**2,631**	**736**	**728**	**8,724**	**8,406**	**12,219**	**11,765**
Use of e-Commerce for purchases (as % of total enterprises)									
by Internet or EDI	%	61	61	42	43	60	54	59	55
by Internet	%	60	60	42	42	56	51	56	52
by EDI	%	7	6	2	1	11	9	9	8
Use of e-Commerce for sales (as % of total enterprises)									
by Internet or EDI	%	33	32	6	8	29	27	28	27
by Internet	%	25	24	6	6	24	23	23	23
by EDI	%	13	13	0	1	7	7	8	8
Total value of purchases	**€m**	**73,627**	**71,946**	**8,414**	**10,297**	**78,869**	**98,730**	**156,440**	**180,973**
Percentage of purchases by e-Commerce (as % of total purchases)									
by Internet or EDI	%	10	24	1	2	10	21	10	21
by Internet	%	4	15	1	2	5	6	4	9
by EDI	%	6	9	0	0	5	14	5	11
Total value of turnover	**€m**	**113,798**	**117,036**	**13,098**	**15,203**	**112,974**	**141,534**	**239,886**	**273,772**
Percentage of sales by e-Commerce (as % of total turnover)									
by Internet or EDI	%	22	19	0	1	13	21	17	19
by Internet	%	9	9	0	1	9	10	9	9
by EDI	%	13	10	0	0	4	10	8	10

[1] The construction sector covers only private firms with 20 or more persons engaged

Source: CSO - e-Commerce and ICT Survey

Table 3.4 Purchases and sales via e-Commerce by sector, March 2007

		Manufacturing sectors					Construction sector	Selected services sectors								Total
NACE Division[1]	Unit	15-22	23-25	26-28	29-37	Total	45	50-52	55.1-55.2	60-63	64	70-71 73-74	72	92	Total	
Enterprises with 10 or more persons engaged[2]	**No.**	**1,034**	**335**	**537**	**725**	**2,631**	**728**	**4,397**	**624**	**665**	**65**	**1,819**	**337**	**499**	**8,406**	**11,765**
Use of e-Commerce for purchases (as % of total enterprises)																
by Internet or EDI	%	58	68	53	67	61	43	50	52	60	68	58	88	40	54	55
by Internet	%	57	68	53	66	60	42	44	52	58	66	58	88	40	51	52
by EDI	%	8	4	1	9	6	1	14	1	7	13	3	12	2	9	8
Use of e-Commerce for sales (as % of total enterprises)																
by Internet or EDI	%	43	27	20	27	32	8	25	68	37	28	15	31	29	27	27
by Internet	%	30	21	19	21	24	6	19	68	34	28	13	28	27	23	23
by EDI	%	20	10	3	10	13	1	9	5	9	9	3	9	4	7	8
Total value of purchases	**€m**	**24,826**	**19,181**	**2,888**	**25,051**	**71,946**	**10,297**	**69,682**	**1,145**	**8,982**	**3,846**	**8,080**	**6,108**	**886**	**98,730**	**180,973**
Percentage of purchases by e-Commerce (as % of total purchases)																
by Internet or EDI	%	8	7	6	55	24	2	24	2	16	21	11	11	4	21	21
by Internet	%	5	5	6	33	15	2	5	2	11	15	10	8	4	6	9
by EDI	%	3	2	0	22	9	0	19	0	5	6	1	3	0	14	11
Total value of turnover	**€m**	**43,362**	**32,669**	**4,820**	**36,186**	**117,036**	**15,203**	**86,855**	**2,385**	**12,581**	**11,820**	**16,835**	**9,419**	**1,637**	**141,534**	**273,772**
Percentage of sales by e-Commerce (as % of total turnover)																
by Internet or EDI	%	30	3	3	23	19	1	23	20	39	6	12	6	5	21	19
by Internet	%	12	0	1	15	9	1	10	18	32	4	3	5	4	10	9
by EDI	%	18	3	2	8	10	0	14	2	7	2	8	0	0	10	10

[1] See Appendix Three for key to NACE Rev 1.1 Classification

[2] The construction sector covers only private firms with 20 or more persons engaged

Source: CSO - e-Commerce and ICT Survey

Table 3.5 Use of ICT by enterprises, 2004 - 2005

	Persons engaged	Total enterprises	With e-mail	With website	With orders via e-Commerce[1]	Total turnover	% of turnover by e-Commerce[1]
		Number	%	%	%	€m	%
Industry							
2004	3-9	1,867	68.0	35.9	27.3	1,213	7.4
	10+	2,817	90.8	64.4	34.8	111,160	21.6
	Total	4,684	81.7	53.1	31.8	112,373	21.4
2005	3-9	1,737	77.7	49.3	31.5	1,390	7.6
	10+	2,681	94.6	75.1	41.1	117,976	32.2
	Total	4,418	88.0	65.0	37.4	119,365	31.9
Services							
2004	1-9	73,215	33.2	13.3	8.9	32,218	3.1
	10+	12,069	66.8	42.7	22.0	111,016	11.3
	Total	85,284	37.9	17.5	10.8	143,234	9.4
2005	1-9	73,565	38.5	15.3	10.9	38,757	4.8
	10+	10,423	69.6	44.5	24.0	128,806	15.1
	Total	83,988	42.3	18.9	12.5	167,562	12.7
Total Industry and Services							
2004	1-9*	75,082	34.1	13.9	9.4	33,431	3.3
	10+	14,886	71.3	46.8	24.4	222,176	16.5
	Total	89,968	40.2	19.4	11.9	255,607	14.7
2005	1-9*	75,302	39.4	16.1	11.4	40,147	4.9
	10+	13,104	74.7	50.8	27.5	246,782	23.3
	Total	88,406	44.6	21.2	13.7	286,927	20.7

[1] e-Commerce includes by e-mail, EDI or internet

Source: Census of Industrial Production and Annual Services Inquiry

* Note: Industrial enterprises with less than 3 persons engaged not included

Table 3.6 Background statistics on the enterprise ICT survey by sector, March 2007

		Manufacturing sectors					Construction sector	Selected services sectors								Total
NACE Division[1]	Unit	15-22	23-25	26-28	29-37	Total	45	50-52	55.1-55.2	60-63	64	70-71 73-74	72	92	Total	
Enterprises with 10 or more persons engaged[2]																
Number of respondents to ICT survey	No.	478	189	276	396	1,339	138	909	173	130	27	462	93	96	1,890	3,367
Number of enterprises in population	No.	1,034	335	537	725	2,631	728	4,397	624	665	65	1,819	337	499	8,406	11,765
Number of persons engaged in population	No.	71,426	33,704	24,085	78,411	207,626	49,683	207,959	40,702	49,272	33,887	100,000	21,529	18,422	471,771	729,080
Total purchases	€m	24,826	19,181	2,888	25,051	71,946	10,297	69,682	1,145	8,982	3,846	8,080	6,108	886	98,730	180,973
Total turnover	€m	43,362	32,669	4,820	36,186	117,036	15,203	86,855	2,385	12,581	11,820	16,835	9,419	1,637	141,534	273,772

[1] See Appendix Three for key to NACE Rev 1.1 Classification

[2] The construction sector covers only private firms with 20 or more persons engaged

Source: CSO - e-Commerce and ICT Survey

Table 3.7 Background statistics on the enterprise ICT survey by size class, March 2007

		Size class (persons engaged)			
	Unit	10-49	50-249	250+	Total
Enterprises with 10 or more persons engaged[1]					
Number of respondents to ICT survey	No.	2,114	990	263	3,367
Number of enterprises in population	No.	9,016	2,336	413	11,765
Number of persons engaged in population	No.	186,624	225,951	316,505	729,080
Total purchases	€m	36,885	56,476	87,612	180,973
Total turnover	€m	53,790	84,018	135,964	273,772

[1] The construction sector covers only private firms with 20 or more persons engaged

Source: CSO - e-Commerce and ICT Survey

Chapter Four

Use of ICT by Households

Introduction

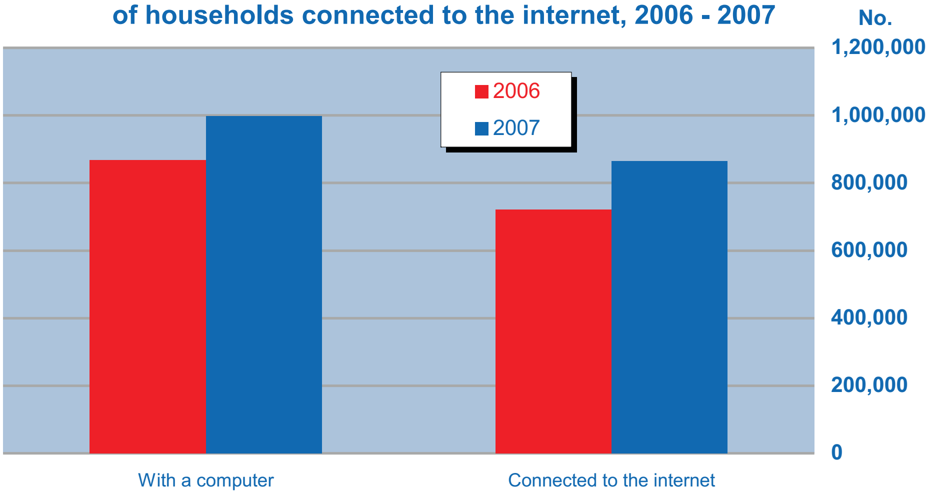
In February 2007, almost 1 million households in Ireland had a home computer. This was an increase of over 130,000 households since February 2006. These figures indicate that almost two in three households in Ireland have a home computer. Internet access also continued to increase over the period, with 865,500 households having a computer connected to the internet in February 2007. The percentage of households with a computer connected to the internet has increased from under 34% in 2003 to almost 57% in 2007. *See Table 4A and Figure 4.1.*

Table 4A Main trends in household ICT use, 2003 - 2007

	Unit	2003	2004	2005	2006	2007
All households	**'000**	**1,381.9**	**1,405.9**	**1,453.9**	**1,483.8**	**1,525.1**
Households with home computers	'000	582.8	649.4	797.7	867.5	998.0
% of all households	%	42.2	46.2	54.9	58.5	65.4
Households with computers connected to internet	'000	463.2	537.0	655.0	722.2	865.5
% of all households	%	33.5	38.2	45.1	48.7	56.8
% of all households with home computers	%	79.5	82.7	82.1	83.3	86.7

Source: CSO - Quarterly National Household Survey : June 2003, June 2004, June 2005, February 2006 and February 2007.

Figure 4.1 Number of households with computers and numbers of households connected to the internet, 2006 - 2007



Source: CSO - Quarterly National Household Survey

Regional analysis

In February 2007, the percentage of households with a home computer was higher in the Southern and Eastern (SE) region than in the Border, Midland and Western (BMW) region. Over 68% of households in the SE region owned a computer compared to 58% in the BMW region. Computer ownership in the SE region increased from 667,000 in February 2006 to 758,000 in February 2007. In the BMW region, the number of households with a home computer increased from 201,000 to 240,000 over the same period. *See Table 4.1*.

The percentage of households with an internet connection also continues to be higher in the SE region than in the BMW region. Some 60% of households in the SE region now have internet access. The corresponding figure for the BMW region is 48%. *See Table 4.2*.

Internet use

In excess of 1.92 million persons aged 16-74 indicated that they have ever used a computer while more than 1.74 million indicated that they have used the internet. Since February 2006, in percentage terms, computer and internet use has increased across every measured age group. While 71% of persons aged 16-24 have ever used a computer, a quarter of those aged 65-74 indicated that they had used a computer. Similarly, almost two thirds of those aged 16-24 have used the internet compared to 18% of those aged 65-74. Persons in the 25-34 age group again display the highest levels of computer and internet use. *See Table 4.3.*

Computer and internet usage were more prevalent in the SE region (62% and 57% respectively) than in the BMW region (56% and 50% respectively). Females again continue to have higher rates of computer and internet usage than their male counterparts. Consistent with previous years, levels of both computer and internet usage were highest amongst students followed by those at work. *See Table 4.3.*

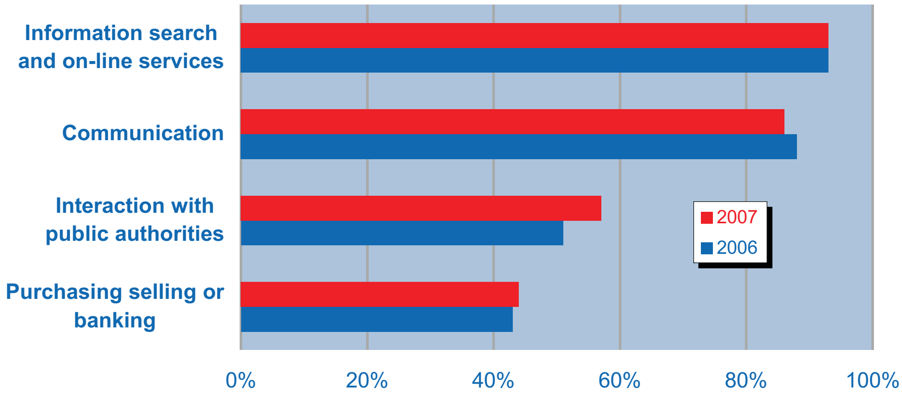
Over 1.68 million people had used a computer in the previous 3 months. Almost 1.15 million people use a computer every day or almost every day while almost 396,000 had used a computer at least once a week. During the same period over 1.53 million persons had used the internet. Over

856,000 used the internet on a daily basis and a further 500,000 persons used it at least once a week. The most common places to use a computer and the internet were at home and at work. *See Tables 4.4 and 4.5.*

Internet activity

The most popular activity on the internet related to *Information search and on-line services* with over 1.43 million respondents indicating that they had used the internet for this activity in the 3 months previous to the survey. The next most popular activity is *Communication* with 1.32 million respondents engaging in this activity. *See Figure 4.2 and Table 4.6.*

Figure 4.2 Use of the internet by persons with access to an internet connection in the previous 3 months, 2006 - 2007

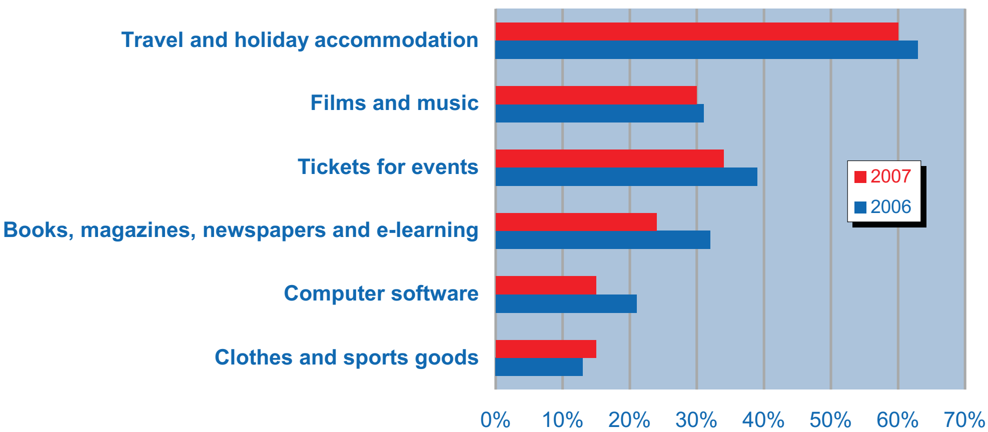


Source: CSO - Quarterly National Household Survey

Online purchases

In the 12 months prior to February 2007, almost 890,000 persons had ordered goods or services from the internet for private use compared with to 710,000 in 2006. The most popular type of goods and services ordered on the internet were *Travel and holiday accommodation* (529,700), *Tickets for events* (303,200) and purchasing *Films/music* (262,900). *See Figure 4.3 and Table 4.7.*

Figure 4.3 Persons ordering goods and services via the internet, 2006 - 2007



Source: CSO - Quarterly National Household Survey

Table 4.1 Households with a home computer, 2003 - 2007

	All households					Number of households with a computer permanently in the dwelling					Percentage of households with a computer permanently in the dwelling				
	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
Unit	'000	'000	'000	'000	'000	'000	'000	'000	'000	'000	%	%	%	%	%
Regional Authority															
Border, Midland and Western	368.8	376.8	389.9	397.7	411.0	125.4	141.3	188.9	200.8	240.0	34.0	37.5	48.4	50.5	58.4
Southern and Eastern	1,013.2	1,029.1	1,064.0	1,086.2	1,114.0	457.5	508.0	608.8	666.6	758.1	45.2	49.4	57.2	61.4	68.1
Sex of reference person															
Male	581.3	610.3	620.0	651.9	660.0	250.4	285.0	336.3	368.3	426.9	43.1	46.7	54.2	56.5	64.7
Female	800.7	795.6	833.9	832.0	865.1	332.4	364.3	461.3	499.2	571.2	41.5	45.8	55.3	60.0	66.0
Age group of reference person															
16-24 years	60.3	74.5	59.0	59.1	70.8	23.7	26.1	28.0	30.2	40.3	39.3	35.0	47.5	51.1	56.9
25-34 years	236.5	233.7	228.2	236.9	244.5	110.7	105.7	121.6	148.0	172.3	46.8	45.2	53.3	62.5	70.5
35-44 years	301.5	338.4	333.7	365.9	362.9	180.7	205.8	221.4	261.7	286.1	59.9	60.8	66.3	71.5	78.8
45-54 years	262.3	307.4	334.0	340.8	344.1	143.6	178.9	223.7	231.7	260.3	54.7	58.2	67.0	68.0	75.6
55-64 years	220.0	257.7	288.4	288.0	288.8	84.1	95.8	146.9	143.0	165.9	38.2	37.2	50.9	49.7	57.4
65-74 years	301.3	194.2	210.6	193.2	213.9	40.0	37.1	56.1	52.9	73.1	13.3	19.1	26.6	27.4	34.2
ILO Economic Status of reference person															
In employment	721.1	789.5	853.7	889.5	934.8	394.7	443.9	550.1	606.6	697.8	54.7	56.2	64.4	68.2	74.6
Unemployed	33.2	54.7	34.1	37.5	38.0	10.6	19.8	14.8	16.9	20.5	31.9	36.2	43.4	45.1	53.9
Not economically active	627.6	561.7	566.1	556.8	552.3	177.5	185.7	232.8	243.9	279.7	28.3	33.1	41.1	43.8	50.6
No. of persons employed in household															
None	388.8	339.6	324.0	314.9	307.9	50.5	62.2	77.6	75.0	103.3	13.0	18.3	24.0	23.8	33.5
1	419.1	447.0	476.2	490.0	508.0	179.0	195.2	244.5	277.0	318.5	42.7	43.7	51.3	56.5	62.7
2	419.0	461.3	480.9	516.6	516.9	260.0	293.4	344.1	388.2	417.7	62.1	63.6	71.6	75.1	80.8
3 or more	155.0	157.9	172.8	162.4	192.4	93.3	98.5	131.5	127.2	158.6	60.2	62.4	76.1	78.3	82.4
All households	**1,381.9**	**1,405.9**	**1,453.9**	**1,483.8**	**1,525.1**	**582.8**	**649.4**	**797.7**	**867.5**	**998.0**	**42.2**	**46.2**	**54.9**	**58.5**	**59.5**

Source: CSO - Quarterly National Household Survey : June 2003, June 2004, June 2005, February 2006 and February 2007.

Note: Data are subject to sampling and other survey errors, which are relatively greater in respect of smaller values.

Table 4.2 Households with an internet connection via personal computer, 2003 - 2007

	All households					Number of households with an internet connection via PC					Percentage of households with an internet connection via PC				
	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
Unit	'000	'000	'000	'000	'000	'000	'000	'000	'000	'000	%	%	%	%	%
Regional Authority															
Border, Midland and Western	368.8	376.8	389.9	397.7	411.0	96.7	114.0	151.3	161.1	196.8	26.2	30.3	38.8	40.5	47.9
Southern and Eastern	1,013.2	1,029.1	1,064.0	1,086.2	1,114.0	366.6	423.1	503.7	561.1	668.7	36.2	41.1	47.3	51.7	60.0
Sex of reference person															
Male	581.3	610.3	620.0	651.9	660.0	202.3	239.6	283.1	306.5	368.1	34.8	39.3	45.7	47.0	55.8
Female	800.7	795.6	833.9	832.0	865.1	260.9	297.5	371.8	415.7	497.4	32.6	37.4	44.6	50.0	57.5
Age group of reference person															
16-24 years	60.3	74.5	59.0	59.1	70.8	17.6	19.0	21.5	21.4	33.0	29.2	25.5	36.4	36.2	46.6
25-34 years	236.5	233.7	228.2	236.9	244.5	86.6	86.3	100.6	119.9	142.4	36.6	36.9	44.1	50.6	58.2
35-44 years	301.5	338.4	333.7	365.9	362.9	141.3	167.1	180.2	223.6	250.7	46.9	49.4	54.0	61.1	69.1
45-54 years	262.3	307.4	334.0	340.8	344.1	117.9	150.5	185.4	197.3	234.4	44.9	49.0	55.5	57.9	68.1
55-64 years	220.0	257.7	288.4	288.0	288.8	69.5	83.2	123.0	115.9	144.8	31.6	32.3	42.6	40.2	50.1
65-74 years	301.3	194.2	210.6	193.2	213.9	30.2	30.9	44.2	44.0	60.2	10.0	15.9	21.0	22.8	28.1
ILO Economic Status of reference person															
In employment	721.1	789.5	853.7	889.5	934.8	323.0	371.6	456.9	512.1	615.5	44.8	47.1	53.5	57.6	65.8
Unemployed	33.2	54.7	34.1	37.5	38.0	9.1	16.4	10.3	11.5	17.0	27.4	30.0	30.2	30.7	44.7
Not economically active	627.6	561.7	566.1	556.8	552.3	131.1	149.0	187.7	198.5	233.0	20.9	26.5	33.2	35.7	42.2
No. of persons employed in household															
None	388.8	339.6	324.0	314.9	307.9	37.8	46.1	57.1	54.6	80.6	9.7	13.6	17.6	17.3	26.2
1	419.1	447.0	476.2	490.0	508.0	137.8	158.1	195.2	224.0	271.5	32.9	35.4	41.0	45.7	53.4
2	419.0	461.3	480.9	516.6	516.9	211.6	249.6	297.2	338.4	377.6	50.5	54.1	61.8	65.5	73.1
3 or more	155.0	157.9	172.8	162.4	192.4	75.9	83.2	105.5	105.3	135.7	49.0	52.7	61.1	64.8	70.5
All households	**1,381.9**	**1,405.9**	**1,453.9**	**1,483.8**	**1,525.1**	**463.2**	**537.0**	**655.0**	**722.2**	**865.5**	**33.5**	**38.2**	**45.1**	**48.7**	**56.8**

Source: CSO - Quarterly National Household Survey : June 2003, June 2004, June 2005, February 2006 and February 2007.

Note: Data are subject to sampling and other survey errors, which are relatively greater in respect of smaller values.

Table 4.3 Computer and internet usage for persons aged 16-74[1], 2006 - 2007

	All persons		People who have used a computer				People who have used the internet				Not stated			
	2006	2007	2006		2007		2006		2007		2006		2007	
Unit	'000	'000	'000	%	'000	%	'000	%	'000	%	'000	%	'000	%
Regional Authority														
Border, Midland and Western	810.6	834.6	430.4	53.1	469.1	56.2	344.0	42.4	414.1	49.6	105.4	13.0	89.7	10.7
Southern and Eastern	2,274.7	2,336.3	1,290.6	56.7	1,454.8	62.3	1,140.6	50.1	1,326.1	56.8	381.3	16.8	331.8	14.2
Sex														
Male	1,548.4	1,596.2	828.3	53.5	935.8	58.6	731.1	47.2	862.6	54.0	270.3	17.5	229.7	14.4
Female	1,536.9	1,574.6	892.7	58.1	988.1	62.8	753.5	49.0	877.6	55.7	216.4	14.1	191.8	12.2
Age														
16-24 years	580.5	583.5	382.5	65.9	411.3	70.5	336.9	58.0	384.3	65.9	146.8	25.3	120.6	20.7
25-34 years	713.6	749.9	493.9	69.2	552.0	73.6	442.4	62.0	524.4	69.9	111.5	15.6	114.3	15.2
35-44 years	608.3	623.2	382.6	62.9	424.8	68.2	337.0	55.4	390.8	62.7	86.3	14.2	77.2	12.4
45-54 years	515.5	527.9	272.1	52.8	306.4	58.0	228.8	44.4	264.4	50.1	67.3	13.1	53.5	10.1
55-64 years	405.7	419.4	142.8	35.2	160.3	38.2	109.4	27.0	128.3	30.6	43.4	10.7	36.3	8.7
65-74 years	261.6	266.9	47.1	18.0	69.1	25.9	30.3	11.6	48.1	18.0	31.4	12.0	19.3	7.2
ILO Economic Status														
In employment	1,916.2	1,994.9	1,208.6	63.1	1,343.9	67.4	1,067.9	55.7	1,249.4	62.6	316.6	16.5	276.0	13.8
Unemployed	111.7	134.2	60.6	54.3	86.6	64.6	51.2	45.8	79.2	59.0	22.8	20.4	15.9	11.8
Not economically active	1,057.4	1,041.8	451.8	42.7	493.3	47.4	365.5	34.6	411.7	39.5	147.3	13.9	129.3	12.4
Principal Economic Status														
At work	1,857.6	1,930.6	1,171.9	63.1	1,287.9	66.7	1,030.9	55.5	1,193.0	61.8	299.5	16.1	271.0	14.0
Unemployed	129.0	131.9	60.7	47.1	75.5	57.3	49.1	38.1	66.1	50.1	26.9	20.9	18.4	13.9
Student	272.5	268.1	195.9	71.9	211.7	78.9	188.3	69.1	203.0	75.7	71.7	26.3	54.9	20.5
Home duties	510.0	506.3	195.1	38.3	211.6	41.8	148.0	29.0	171.0	33.8	50.7	9.9	51.1	10.1
Retired	195.7	212.9	61.1	31.2	88.6	41.6	42.0	21.5	69.1	32.4	23.7	12.1	12.1	5.7
Other	120.4	121.0	36.2	30.1	48.6	40.1	26.3	21.8	38.1	31.5	14.3	11.9	13.6	11.3
All persons aged 16-74	**3,085.3**	**3,170.9**	**1,721.0**	**55.8**	**1,923.9**	**60.7**	**1,484.6**	**48.1**	**1,740.2**	**54.9**	**486.7**	**15.8**	**421.1**	**13.3**

[1] This table is generated from a sub-sample of the QNHS and hence the results differ from the main QNHS results.

Source: CSO - Quarterly National Household Survey : February 2006 and February 2007.

Note: Data are subject to sampling and other survey errors, which are relatively greater in respect of smaller values.

Table 4.4 Use of computers classified by training activities, frequency and location of use, 2004 - 2007

'000

	2004	2005	2006	2007
Took a computer-related training course				
In the last 12 months	251.1	304.1	381.8	309.3
More that one year ago	556.3	810.4	825.7	992.2
Never	643.5	505.8	513.5	622.4
All persons who have ever used a computer	**1,450.9**	**1,620.4**	**1,721.0**	**1,923.9**
Frequency of use in the previous 3 months				
Every day or almost every day	714.4	806.3	935.6	1,145.6
At least once a week (but not every day)	351.9	363.9	391.7	395.8
At least once a month (but not every week)	98.9	107.3	103.1	98.5
Less than once a month	40.3	39.9	55.0	41.5
Location of use in the previous 3 months[1]				
Home	813.6	921.1	1,072.1	1,337.8
Place of work (other than home)	624.6	702.5	774.2	763.6
Place of education	181.7	124.9	202.3	193.4
Another person's home	-	52.2	60.6	61.7
Other places	58.6	81.9	75.7	119.9
All persons who used a computer in the previous 3 months	**1,205.5**	**1,317.5**	**1,485.4**	**1,681.5**

[1] Respondents could give more than one response to this question hence the sum of the categories does not equal the total.

- Data not available

Source: CSO - Quarterly National Household Survey : June 2004, June 2005, February 2006 and February 2007.

Note: Data are subject to sampling and other survey errors, which are relatively greater in respect of smaller values.

Table 4.5 Use of internet in the previous three months, classified by frequency and location of use, 2004 - 2007

'000

	2004	2005	2006	2007
Frequency of use				
At least once a day	368.8	521.3	638.5	856.4
At least once a week (but not every day)	431.5	406.8	463.7	500.1
At least once a month (but not every week)	132.6	139.6	141.7	143.6
Less than once a month	47.2	52.5	49.1	34.4
Location of use[1]				
Home	659.0	772.2	918.7	1,189.4
Place of work (other than home)	437.6	523.0	589.1	603.9
Place of education	129.6	107.6	171.1	160.6
Neighbour, friend or relative's house	34.3	52.4	54.8	75.3
Other	9.9	86.5	85.7	132.4
All persons who used the internet in previous 3 months	**980.1**	**1,120.2**	**1,292.9**	**1,534.5**

[1] Respondents could give more than one response to this question hence the sum of the categories does not equal the total.

Source: CSO - Quarterly National Household Survey : June 2004, June 2005, February 2006 and February 2007.

Note: Data are subject to sampling and other survey errors, which are relatively greater in respect of smaller values.

Table 4.6 Activities[1] on the internet in the previous 3 months, 2004 - 2007

'000

	2004	2005	2006	2007
Communication	**815.3**	**944.5**	**1,142.0**	**1,319.2**
Sending and receiving e-mails	804.5	934.6	1,132.3	1,277.1
Telephoning/video conferencing	57.9	87.6	145.1	194.2
Other (use of chat sites etc.)	72.9	83.4	155.4	252.0
Information search and on-line services	**821.9**	**1,010.5**	**1,205.7**	**1,433.9**
Finding information about goods and services	646.5	877.2	1,071.3	1,190.6
Travel and accommodation	531.7	733.9	938.2	1,045.4
Web radio/web television	73.8	118.0	222.2	255.4
Playing/downloading games, images and or music	136.1	181.7	272.5	339.7
Downloading software	-	138.8	231.0	268.7
Reading/downloading newspapers or magazines	156.7	123.8	192.4	265.2
Looking for a job/sending job applications	96.2	71.0	147.5	173.4
Seeking health related information	-	-	200.6	331.9
Selling or banking	**-**	**396.6**	**559.2**	**678.8**
Internet banking	-	387.3	530.2	651.9
Selling goods or services	-	22.7	103.1	92.9
Interaction with public authorities	**417.8**	**535.4**	**658.6**	**872.7**
Obtaining information from web sites	336.7	439.0	545.6	697.9
Downloading official forms	257.1	357.2	487.0	593.9
Sending completed forms	188.1	280.0	366.3	519.9
All persons who used the internet in previous 3 months[1]	**980.1**	**1,120.2**	**1,292.9**	**1,534.5**

[1] Respondents could give more than one response to this question hence the sum of the categories does not equal the total.

- Data not available

Source: CSO - Quarterly National Household Survey : June 2004, June 2005, February 2006 and February 2007.

Note: Data are subject to sampling and other survey errors, which are relatively greater in respect of smaller values.

Table 4.7 Purchases[1] on the internet, 2004 - 2007

'000

	2004	2005	2006	2007
Types of goods and services ordered in last 12 months[2]				
Food/groceries	17.1	35.5	50.8	44.9
Household goods	-	40.8	57.5	69.1
Films/music	88.5	158.1	221.0	262.9
Books/magazines/newspapers/e-learning material	95.2	135.2	223.8	214.0
Clothes/sports goods	21.6	52.5	92.3	137.3
Computer software	17.9	60.6	148.2	131.9
Computer hardware	18.6	26.5	66.2	50.8
Electronic equipment	18.4	40.5	79.4	96.8
Share purchases/financial services/insurance	5.9	14.6	35.1	40.9
Travel and holiday accommodation	209.4	317.6	450.1	529.7
Tickets for events	63.7	157.0	273.6	303.2
Lotteries/betting	2.9	9.1	15.1	17.9
Other	39.2	28.3	34.6	43.9
All persons who have ever purchased on the internet in the last 12 months	**485.5**	**580.7**	**709.2**	**889.5**

[1] Purchases includes both purchasing and ordering of goods and services.

[2] Respondents could give more than one response to this question hence the sum of the categories does not equal the total.

Source: CSO - Quarterly National Household Survey : June 2004, June 2005, February 2006 and February 2007.

Note: Data are subject to sampling and other survey errors, which are relatively greater in respect of smaller values.

Chapter Five

Connecting to the Internet

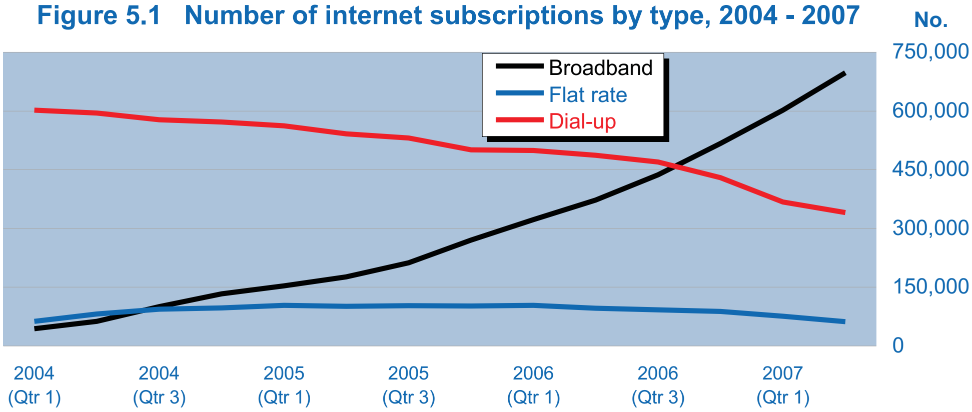
Introduction

This chapter presents information on the methods used to connect to the internet. The aggregate data on narrowband and broadband connections at State level has been provided by the Commission for Communications Regulation (ComReg). The CSO ICT surveys are also used to provide additional data on both enterprises and households.

Aggregate narrowband and broadband connections

There has been rapid growth in the uptake of broadband since 2004. There were just over 63,000 broadband subscribers in the second quarter of 2004, but this increased to 698,000 subscribers by the same period of 2007. In the second quarter of 2007, 63% of all subscribers connecting to the internet used a broadband connection. The number of narrowband connections continued to decrease, down to just over 400,000 connections by the second quarter of 2007. *See Figure 5.1 and Tables 5.1 and 5.2.*

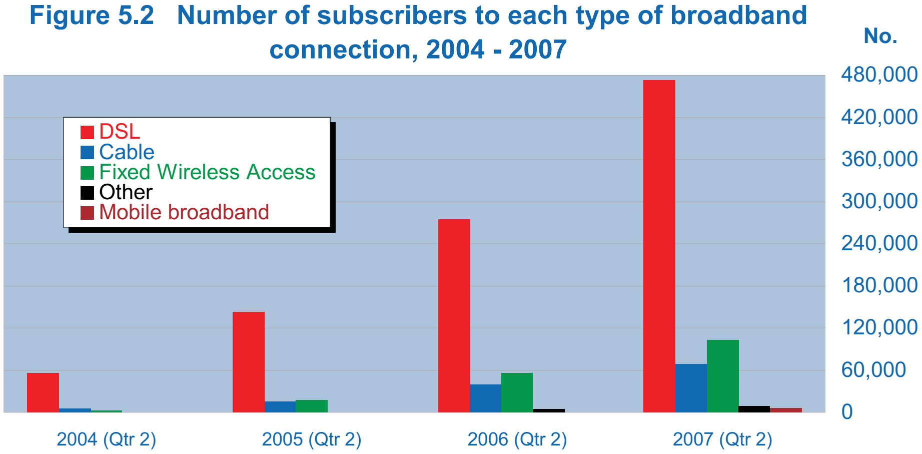
Figure 5.1 Number of internet subscriptions by type, 2004 - 2007



Source: ComReg

Almost 68% of broadband subscribers used Digital Subscriber Lines (DSL) for their connection in the second quarter of 2007, compared to 74% of broadband subscribers using DSL in the same period of 2006. The share of broadband subscribers using fixed wireless access grew marginally from 14% to 15% over the same period while the share of broadband subscribers connecting via a cable connection fell from 11% to 10%. ComReg also estimated that there were 45,000 subscribers connecting to the internet using mobile broadband in the second quarter of 2007, accounting for 6% of broadband connections in the period. *See Figure 5.2 and Tables 5.1 and 5.2.*

Figure 5.2 Number of subscribers to each type of broadband connection, 2004 - 2007

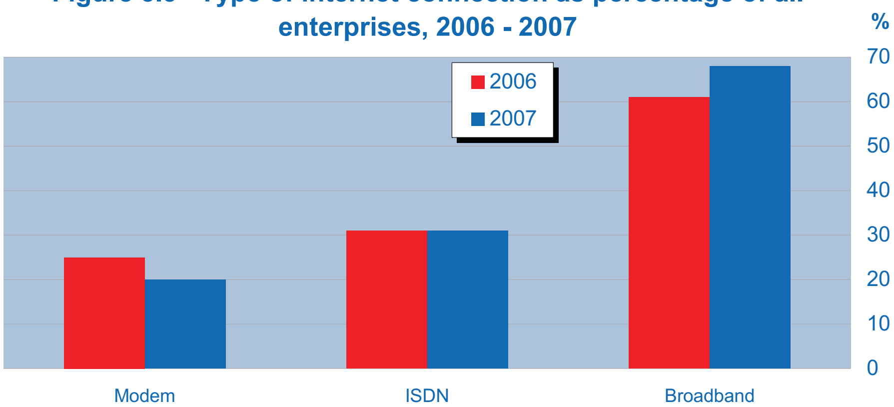


Source: ComReg
Note: Mobile figures only available for 2007; Other figures only available for 2006, 2007

Enterprises

In 2007, 68% of enterprises had a broadband connection, compared to 61% in 2006. Modem connections decreased over the same period from 25% in 2006 to 20% in 2007, while ISDN connections remained static at 31%. Broadband usage is now highest in the manufacturing sector at 71% in 2007; broadband usage in the services sector was 67% while in construction broadband usage was 64%. Enterprises who use broadband are more than three times as likely to have employees who e-work and they are also more than twice as likely to make purchases by the internet or EDI. In general enterprises who use broadband show greater levels of e-business activity and higher degrees of integration of their ICT systems. *See Figure 5.3 and Table 5.3.*

Figure 5.3 Type of internet connection as percentage of all enterprises, 2006 - 2007



Source: CSO - e-Commerce and ICT Survey

Households

The number of households with access to the internet on home computers continued to increase, with 57% of all households now connected to the internet. Of those 865,500 households connected to the internet, almost 54% were connected via a broadband connection in 2007. This is the first time figures have indicated that the number of households connected to the internet via a broadband connection exceeds the number connected by Modem/ISDN or other means. *See Table 5A.*

Table 5A Main trends in household ICT usage, 2004 - 2007

	Unit	2004	2005	2006	2007
All households	'000	**1,405.9**	**1,453.9**	**1,483.8**	**1,525.1**
Households with home computers	'000	649.4	797.7	867.3	998.0
% of all households	%	46.2	54.9	58.5	65.4
Households with computers connected to internet	'000	537.0	655.0	722.1	865.5
% of all households	%	38.2	45.1	48.7	56.8
% of households with home computers	%	82.7	82.1	83.3	86.7
Type of internet connection[1]					
Modem/ISDN	'000	503.6	552.1	523.7	386.3
Broadband	'000	40.4	106.9	193.5	467.3
Other/don't know	'000	13.9	48.1	35.1	18.9

[1] Some households may have more than one internet connection and use devices other than computers to connect to the internet

Source: CSO - Quarterly National Household Survey : June 2004, June 2005, February 2006 and February 2007

Note: Data are subject to sampling and other survey errors, which are relatively greater in respect of smaller values

On a regional level, results continue to show a significantly higher uptake of broadband in the Southern and Eastern (SE) region when compared to the Border, Midlands and Western (BMW) region. Fifteen percent of households in the BMW region had a broadband connection to the internet compared to 37% of households in the SE region. *See Table 5B.*

Table 5B Type of household connections to the internet[1], 2004 - 2007

'000

	2004	2005	2006	2007
Number of households				
Border, Midlands, Western	376.8	389.9	397.7	411.0
Southern and Eastern	1,029.1	1,064.0	1,086.2	1,114.0
Total number of households	**1,405.9**	**1,453.9**	**1,483.9**	**1,525.1**
Modem/ISDN				
Border, Midlands, Western	114.1	140.6	142.8	134.1
Southern and Eastern	389.7	411.5	380.9	252.2
Total Modem/ISDN	**503.6**	**552.1**	**523.8**	**386.3**
Broadband				
Border, Midlands, Western	2.9	11.6	18.4	60.6
Southern and Eastern	37.4	95.4	175.2	406.7
Total Broadband	**40.4**	**106.9**	**193.5**	**467.3**
Other/Don't know				
Border, Midlands, Western	3.1	11.3	6.7	4.4
Southern and Eastern	10.8	36.8	28.5	14.5
Total Other/Don't Know	**13.9**	**48.1**	**35.1**	**18.9**

[1] Some households may have more than one internet connection and use devices other than computers to connect to the internet

Source: CSO - Quarterly National Household Survey : June 2004, June 2005, February 2006 and February 2007

Note: Data are subject to sampling and other survey errors, which are relatively greater in respect of smaller values

In 2007, almost 50% of households with an internet connection that did not have a broadband connection indicated they did not have a broadband connection because it was not available in their area. On a regional level, over 67% of these internet connected, but not broadband connected, households in the BMW region indicated that broadband was not available in their area, compared to 40% in the SE region. *See Table 5C.*

Table 5C Reasons for households not having broadband but having internet connection at home, 2007

	Border, Midland and Western		Southern and Eastern		Total	
Unit	'000	%	'000	%	'000	%
Reason						
Too expensive	13.9	10.1	39.9	15.3	53.8	13.5
No need	23.4	17.0	69.0	26.5	92.3	23.2
Not available in my area	92.7	67.4	105.3	40.4	198.1	49.7
Can access broadband elsewhere	3.4	2.5	16.3	6.3	19.7	4.9
Other	10.5	7.6	41.1	15.8	51.6	13.0
Total[1]	**137.5**	**100.0**	**260.7**	**100.0**	**398.2**	**100.0**

[1] Respondents could give more than one response to this question hence the sum of the categories does not equal the total.

Source: CSO - Quarterly National Household Survey : February 2007.

Note: Data are subject to sampling and other survey errors, which are relatively greater in respect of smaller values.

Table 5.1 Numbers of subscribers to the internet by type of connection, 2004 - 2007 (Qtr 2)

	Unit	2004	2005	2006	2007
Narrowband	No.	**677,000**	**643,000**	**583,500**	**403,000**
Dial-up	No.	595,000	542,000	487,000	341,000
Flat Rate	No.	82,000	101,000	96,500	62,000
Broadband	No.	**63,100**	**176,300**	**372,200**	**698,000**
DSL	No.	55,600	143,400	275,200	472,700
Cable	No.	5,400	14,900	39,900	68,800
Fixed Wireless Access	No.	2,200	18,000	52,600	102,500
Mobile Broadband	No.	-	-	-	45,000[e]
Other	No.	-	-	4,500	9,000
All Subscribers	No.	**740,100**	**819,300**	**955,700**	**1,101,000**

Source: ComReg.

[e] estimate

Table 5.2 Market shares of connection types for internet subscribers, 2004 - 2007 (Qtr 2)

	Unit	2004	2005	2006	2007
Narrowband	%	**91.5**	**78.5**	**61.1**	**36.6**
Dial-up	%	87.9	84.3	83.5	84.6
Flat Rate	%	12.1	15.7	16.5	15.4
Broadband	%	**8.5**	**21.5**	**38.9**	**63.4**
DSL	%	88.0	81.3	73.9	67.7
Cable	%	8.5	8.5	10.7	9.9
Fixed Wireless Access	%	3.5	10.2	14.1	14.7
Mobile Broadband	%	-	-	-	6.4
Other	%	-	-	1.2	1.3
All Subscribers	%	**100.0**	**100.0**	**100.0**	**100.0**

Source: ComReg.

Table 5.3 External connection to the internet, as a percentage of all enterprises, March 2006 and March 2007

		Manufacturing sectors		Construction sector		Selected services sectors		Total	
	Unit	2006	2007	2006	2007	2006	2007	2006	2007
Enterprises with 10 or more persons engaged[1]	No.	2,759	2,631	736	728	8,724	8,406	12,219	11,765
Type of external connection to the Internet[2]									
Modem	%	25	21	21	23	26	20	25	20
ISDN	%	32	31	28	37	31	31	31	31
Broadband	%	61	71	54	64	61	67	61	68
Broadband connection as % of all enterprises[2]									
DSL	%	36	41	26	39	39	44	38	43
DSL < 2Mb/sec	%	14	18	11	21	15	17	14	18
DSL > 2Mb/sec	%	23	26	16	21	28	30	26	28
Other fixed wire based connection	%	*	16	*	8	*	15	*	15
Other fixed wireless connection	%	*	25	*	24	*	22	*	23
Enterprises with broadband									
Using extranet	%	23	23	9	13	26	25	24	23
Having employees who e-work[3]	%	38	37	32	38	42	40	41	39
Using dedicated ICT systems for managing orders	%	60	54	25	25	52	48	52	48
Purchases by Internet or EDI	%	70	69		56	72	65	70	65
Sales by Internet or EDI	%	38	34	9	9	34	33	33	32
Enterprises without broadband									
Using extranet	%	9	7	3	4	9	7	8	7
Having employees who e-work[3]	%	15	13	13	12	10	11	12	12
Using dedicated ICT systems for managing orders	%	30	26	18	14	37	31	34	29
Purchases by Internet or EDI	%	47	42	29	19	42	31	42	32
Sales by Internet or EDI	%	25	27	3	5	22	15	21	17

[1] Results for the construction industry covers only private firms with 20 or more persons engaged

[2] Enterprises may have more than one Internet connection. Similarly, those with broadband may use more than one type of connection.

[3] Enterprises who have employees who regularly work part of their time (at least 1/2 day per week) away from the premises and use electronic networks to communicate with the enterprise's ICT system.

* Due to a change in the survey question, comparable information is not available for 2006.

Source: CSO - e-Commerce and ICT Survey

Table 5.4 External connection to the internet, as a percentage of all enterprises, by sector, March 2007

		Manufacturing sectors					Construction sector	Selected services sectors								Total
NACE Division[1]	Unit	15-22	23-25	26-28	29-37	Total	45	50-52	55.1-55.2	60-63	64	70-71 73-74	72	92	Total	
Enterprises with 10 or more persons engaged[2]	**No.**	**1,034**	**335**	**537**	**725**	**2,631**	**728**	**4,397**	**624**	**665**	**65**	**1,819**	**337**	**499**	**8,406**	**11,765**
Type of external connection to the Internet[3]																
Modem	%	23	16	20	22	21	23	22	24	19	23	14	12	18	20	20
ISDN	%	37	23	33	26	31	37	33	39	34	39	24	28	21	31	31
Broadband	%	69	81	63	76	71	64	61	61	65	84	77	86	70	67	68
Broadband connection as % of all enterprises[3]																
DSL	%	41	46	32	45	41	39	40	32	42	46	54	61	51	44	43
DSL < 2Mb/sec	%	18	19	15	18	18	21	16	15	17	18	16	30	23	17	18
DSL > 2Mb/sec	%	26	29	19	29	26	21	25	21	28	37	40	43	30	30	28
Other fixed wire based connection	%	14	24	10	20	16	8	12	12	18	56	19	39	7	15	15
Other fixed wireless connection	%	23	24	30	24	25	24	20	30	25	32	22	33	22	22	23
Enterprises with broadband																
Using extranet	%	24	25	15	24	23	13	22	16	35	34	25	58	7	25	23
Having employees who e-work[4]	%	37	48	25	40	37	38	37	15	46	77	48	82	8	40	39
Using dedicated ICT systems for managing orders	%	54	62	41	59	54	25	60	35	52	63	28	65	29	48	48
Purchases by Internet or EDI	%	66	73	63	73	69	56	63	62	75	75	66	89	51	65	65
Sales by Internet or EDI	%	46	27	18	30	34	9	32	80	49	33	17	32	36	33	32
Enterprises without broadband																
Using extranet	%	7	16	3	7	7	4	7	13	3	.	4	33	6	7	7
Having employees who e-work[4]	%	14	28	9	13	13	12	8	6	8	.	26	68	2	11	12
Using dedicated ICT systems for managing orders	%	30	35	15	27	26	14	41	20	19	58	7	33	6	31	29
Purchases by Internet or EDI	%	41	49	37	48	42	19	30	36	32	29	31	79	14	31	32
Sales by Internet or EDI	%	36	26	23	17	27	5	13	47	14	.	6	26	12	15	17

[1] See Appendix Three for key to NACE Rev 1.1 Classification

[2] Results for the construction industry covers only private firms with 20 or more persons engaged

[3] Enterprises may have more than one Internet connection. Similarly, those with broadband may use more than one type of connection.

[4] Enterprises who have employees who regularly work part of their time (at least 1/2 day per week) away from the premises and use electronic networks to communicate with the enterprise's ICT system.

Source: CSO - e-Commerce and ICT Survey

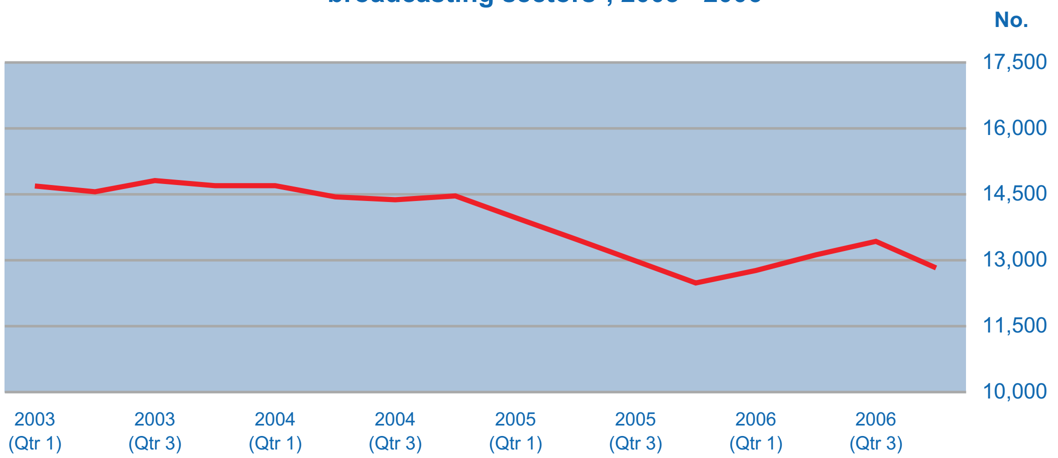
Chapter Six

Telecommunications

Introduction

This chapter presents information, supplied by the Commission for Communications Regulation (ComReg), on the telecommunications sector in Ireland. The fixed, mobile and broadcasting sectors employed, on average, 13,000 people during 2006. Overall revenues in the sector were €4.3 billion in the period. This represented an increase of over 9% in revenue compared with €3.9 billion in 2005, following a slight decrease the previous year. *See Figures 6.1 and 6.2 and Table 6.1.*

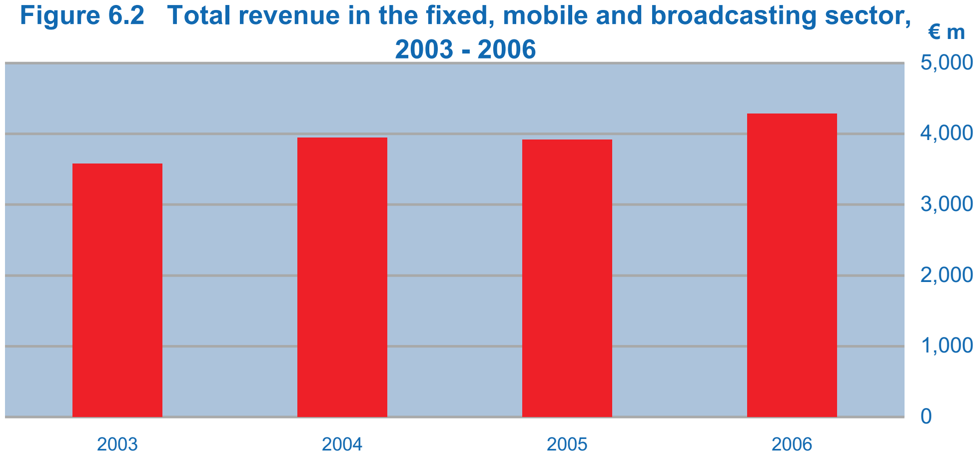
Figure 6.1 Number of persons employed in the fixed, mobile and broadcasting sectors[1], 2003 - 2006



Source: ComReg

[1] Data for 2005 (Qtr 1, Qtr 2 and Qtr 3) are an estimate

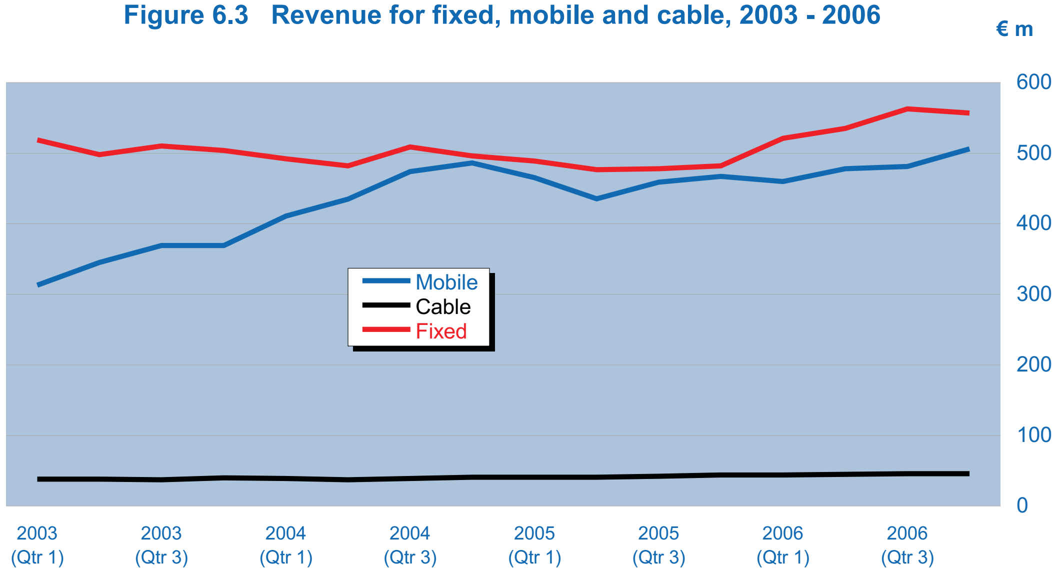
Figure 6.2 Total revenue in the fixed, mobile and broadcasting sector, 2003 - 2006



Source: ComReg

Revenues from fixed lines increased in 2006 after decreasing in both 2004 and 2005. Total revenue from fixed lines was €2.2 billion in 2006 while total revenue from the mobile sector was €1.9 billion. *See Figure 6.3 and Table 6.1.*

Figure 6.3 Revenue for fixed, mobile and cable, 2003 - 2006

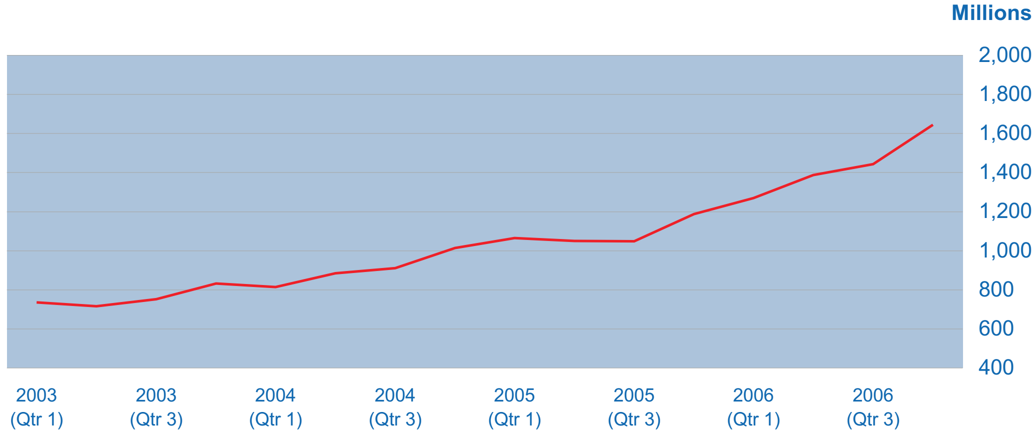


Source: ComReg

The total volume of voice calls (fixed and mobile) increased from 15.5 billion minutes in 2005 to 17.2 billion minutes in 2006, an increase of 11%. The total volume of fixed telephone voice time was nearly 10.1 billion minutes in 2006 and this represents an increase of 3.5% on the corresponding figure for 2005. These call volume minutes are made up of national and international calls, calls to mobile phones and other calls (including calls made from payphones). The volume of mobile voice calls increased by 24% from 2005 to 2006, increasing from 5.7 billion minutes to 7.1 billion minutes. While mobile calls represented 32% of all voice calls in 2003, this share had increased to over 41% of all voice calls in 2006. *See Table 6.1.*

According to ComReg, there were over 5.7 billion SMS messages sent in Ireland in 2006, an increase of over 89% compared to the 3 billion SMS messages sent in 2003. *See Figure 6.4 and Table 6.1.*

Figure 6.4 Number of SMS messages sent, 2003 - 2006



Source: ComReg

Fixed Market

There were just over 2.1 million fixed telephone access paths in the second quarter of 2007 compared to 2 million in the same period of 2004. The number of fixed telephone access paths increased by 3% between the second quarter of 2006 and the same period of 2007. *See Table 6.2.*

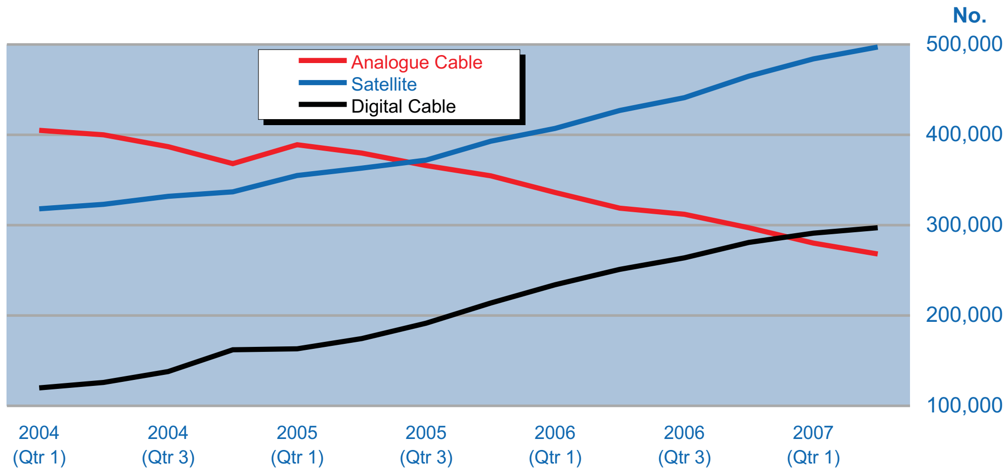
Mobile Market

The total number of mobile subscribers in the second quarter of 2007 was over 4.8 million. Pre-paid subscribers made up three-quarters of this market. The mobile penetration rate (based on active SIM cards as a percentage of total population) for Ireland has increased from 103% in the second quarter of 2006 to 114% in the same quarter of 2007. *See Table 6.2.*

Broadcasting

In the second quarter of 2007, 794,000 pay television subscribers had a digital subscription via satellite or digital cable, representing almost 75% of all pay television subscribers in the period. By comparison, in the second quarter of 2004, 53% of pay television subscribers had a digital subscription. *See Figure 6.5 and Table 6.2.*

Figure 6.5 Number of subscribers to pay television, 2004 - 2007



Source: ComReg

Table 6.1 Selected telecommunications and broadcasting data, 2003 - 2006

	Unit	2003	2004	2005	2006
Average Persons Employed[1]	**No.**	**14,688**	**14,494**	**13,229**	**13,038**
Revenues					
Fixed	€m	2,031	1,979	1,925	2,176
Mobile	€m	1,396	1,806	1,826	1,925
Cable	€m	153	156	168	181
Total	€m	**3,580**	**3,941**	**3,919**	**4,282**
Volumes					
Fixed telephone voice	'000 mins	9,302,701	9,659,809	9,758,858	10,099,000
Mobile voice	'000 mins	4,305,193	4,783,741	5,698,581	7,085,000
Total (fixed and mobile) Voice	'000 mins	**13,607,894**	**14,443,550**	**15,457,439**	**17,184,000**
Mobile SMS	Millions	**3,035**	**3,624**	**4,351**	**5,744**

1 Average annual employment is based on average of quarterly employment figures - Data for 2005 (Qtr 1, Qtr 2 and Qtr 3) are an estimate
Source: ComReg

Table 6.2 Selected telecommunications and broadcasting data, 2004 - 2007 (Qtr 2)

	Unit	2004	2005	2006	2007
Fixed					
Total fixed access paths[1]	'000	2,024	2,047	2,039	2,105
Mobile					
Post-paid subscribers	'000	920	965	1,055	1,236
Pre-paid subscribers	'000	2,578	2,866	3,317	3,592
Total Mobile	'000	**3,499**	**3,831**	**4,372**	**4,828**
Mobile penetration rates[2]	%	87	93	103	114
Television					
Number of subscribers by platform	'000	**1,340**	**1,427**	**1,458**	**1,458**
of which					
Analogue cable	'000	400	380	319	268
Satellite	'000	323	363	427	497
Digital cable	'000	126	174	251	297
Free-to-air[3]	'000	491	510	461	396

1 Total number of direct and indirect fixed PSTN and ISDN access paths. Individual ISDN lines may have multiple access paths.
2 Based on active SIMs as a percentage of the total population.
3 Free-to-Air television broadcasts are sent unencrypted and may be received via any suitable receiver. Although these channels are described as 'free', the viewer does pay for them by payment of a licence fee.

Chapter Seven

International Comparisons

Introduction

This chapter presents some international comparisons in respect of various aspects of the Information Society. These international comparisons show how Ireland compares with other countries in respect of selected aspects of the Information Society. The latest European Union (EU) results from the enterprise and household surveys are presented.

Use of ICT by Enterprises

In 2007, 33% of enterprises in Denmark indicated that they received orders on-line in the previous year. Results for the United Kingdom showed that 29% of enterprises received orders on-line, while Ireland and Sweden were ranked third with both having 27% of enterprises reporting that they received orders on-line in the previous year. The EU27 average was 15%. *See Table 7.1.*

Table 7.1 Percentage of enterprises who received orders on-line during the previous year, 2004 - 2007

	Unit	2004	2005	2006	2007
European Union (EU27)	**%**	**13**	**12**	**14**	**15**
Belgium	%	18	16	15	18
Bulgaria	%	3	:	2	1
Czech Republic	%	11	13	8	9
Denmark	%	25	32	34	33
Germany	%	18	16	18	24
Estonia	%	8	8	14	7
Greece	%	6	7	7	:
Spain	%	2	3	8	8
France	%	:	:	:	:
Ireland	**%**	**19**	**21**	**23**	**27**
Italy	%	7	3	3	2
Cyprus	%	5	4	6	7
Latvia	%	:	1	2	2
Lithuania	%	5	6	13	14
Luxembourg	%	11	10	11	13
Hungary	%	6	4	9	4
Malta	%	:	16	14	16
Netherlands	%	17	14	23	26
Austria	%	12	10	15	18
Poland	%	4	5	9	9
Portugal	%	6	9	7	9
Romania	%	:	:	2	3
Slovenia	%	15	12	11	10
Slovakia	%	6	7	:	5
Finland	%	17	17	14	15
Sweden	%	20	23	24	27
United Kingdom	%	29	25	30	29

: Data not available.

Source: Eurostat.

Use of ICT by Households

The Netherlands again had the highest rate of internet access in households in the EU in 2007 with 83% of all households in the Netherlands having access to the internet. In Sweden, 79% of all households had internet access, while the corresponding figures in Denmark and Luxembourg were 78% and 75% respectively. In Ireland, 57% of all households had internet access, compared to the EU27 average for 2007 of 54%. This is the second successive year in which Ireland has been ahead of this EU27 average. *See Table 7.2.*

Table 7.2 Percentage of households having access to the Internet at home[1], 2004 - 2007

	Unit	2004	2005	2006	2007
European Union (EU27)	**%**	**40**	**48**	**49**	**54**
Belgium	%	:	50	54	60
Bulgaria	%	10	:	17	19
Czech Republic	%	19	19	29	35
Denmark	%	69	75	79	78
Germany	%	60	62	67	71
Estonia	%	31	39	46	53
Greece	%	17	22	23	25
Spain	%	34	36	39	45
France	%	34	:	41	49
Ireland	**%**	**40**	**47**	**50**	**57**
Italy	%	34	39	40	43
Cyprus	%	53	32	37	39
Latvia	%	15	31	42	51
Lithuania	%	12	16	35	44
Luxembourg	%	59	65	70	75
Hungary	%	14	22	32	38
Malta	%	:	:	:	:
Netherlands	%	:	78	80	83
Austria	%	45	47	52	60
Poland	%	26	30	36	41
Portugal	%	26	31	35	40
Romania	%	6	:	14	22
Slovenia	%	47	48	54	58
Slovakia	%	23	23	27	46
Finland	%	51	54	65	69
Sweden	%	:	73	77	79
United Kingdom	%	56	60	63	67

[1] Measures all means a household may have of accessing the internet

: Data not available.

Source: Eurostat.

Connecting to the Internet

The percentage of Irish enterprises with a broadband connection has more than doubled from 32% in 2004 to 68% in 2007. However, of those countries for which data are available, only Romania, Lithuania, Poland, Latvia and Bulgaria reported a lower percentage of enterprises using broadband compared to Ireland. The EU27 average for 2007 was 77%. Finland had the highest rate of enterprises with broadband connections with a penetration rate of 91% in 2007. In addition, Spain, France, Malta, Sweden, the Netherlands and Belgium all had rates in excess of 85%. *See Table 7.3.*

Table 7.3 Percentage of enterprises with a broadband connection, 2004 - 2007

	Unit	2004	2005	2006	2007
European Union (EU27)	**%**	**46**	**62**	**73**	**77**
Belgium	%	70	78	84	86
Bulgaria		28	32	57	61
Czech Republic	%	38	52	69	77
Denmark	%	80	82	83	80
Germany	%	54	62	73	80
Estonia	%	68	67	76	78
Greece	%	21	44	58	:
Spain	%	72	76	87	90
France	%	:	:	86	89
Ireland	**%**	**32**	**48**	**61**	**68**
Italy	%	23	57	70	76
Cyprus	%	35	40	55	69
Latvia	%	45	48	59	57
Lithuania	%	50	57	57	53
Luxembourg	%	48	64	76	81
Hungary	%	:	48	61	70
Malta	%	:	78	83	89
Netherlands	%	54	71	82	87
Austria	%	55	61	69	72
Poland	%	28	43	46	53
Portugal	%	49	63	66	76
Romania	%	7	:	31	37
Slovenia	%	62	74	75	79
Slovakia	%	25	48	61	76
Finland	%	71	81	89	91
Sweden	%	:	83	89	87
United Kingdom	%	50	65	77	78

: Data not available.

Source: Eurostat.

The number of households in Ireland with a broadband connection as a percentage of households with internet access more than doubled from 26% in 2006, to 54% in 2007. Of those countries for which data are available, only Greece, Romania and Cyprus reported a lower percentage when compared to Ireland. The highest levels of households with a broadband connection as a percentage of households with internet access at home were recorded in Belgium (94%) and Estonia (90%). *See Table 7.4.*

Table 7.4 Households with a broadband connection as a percentage of households with Internet access at home, 2004 - 2007

	Unit	2004	2005	2006	2007
European Union (EU27)	**%**	**32**	**48**	**62**	**77**
Belgium	%	:	81	89	94
Bulgaria	%	39	:	59	81
Czech Republic	%	23	27	57	80
Denmark	%	52	68	80	89
Germany	%	30	38	50	70
Estonia	%	66	77	80	90
Greece	%	1	3	17	29
Spain	%	45	58	75	88
France	%	:	:	74	87
Ireland	**%**	**7**	**16**	**26**	**54**
Italy	%	:	34	41	58
Cyprus	%	4	14	34	52
Latvia	%	37	46	53	63
Lithuania	%	32	73	56	77
Luxembourg	%	28	52	63	77
Hungary	%	41	49	68	86
Malta	%	:	:	:	:
Netherlands	%	:	69	82	89
Austria	%	36	50	63	77
Poland	%	32	51	60	72
Portugal	%	47	63	68	77
Romania	%	:	:	37	36
Slovenia	%	22	40	62	76
Slovakia	%	15	31	43	57
Finland	%	42	67	82	87
Sweden	%	:	55	66	85
United Kingdom	%	28	52	70	85

: Data not available.

Source: Eurostat.

Telecommunications

Irish mobile users continue to be amongst the highest users of Short Message Service (SMS) messages in the EU in 2005. On a per capita basis, almost 1,060 SMS messages (4,351 million SMS messages with an estimated population of 4.11 million) were sent per head of population in Ireland in 2005. Of the other EU countries for which data relating to 2005 are available, only Cyprus, Denmark and Lithuania recorded higher rates of SMS messages sent per capita. *See Table 7.5 and Figure 7.1.*

Table 7.5 Total number of SMS messages sent, 2002 - 2005

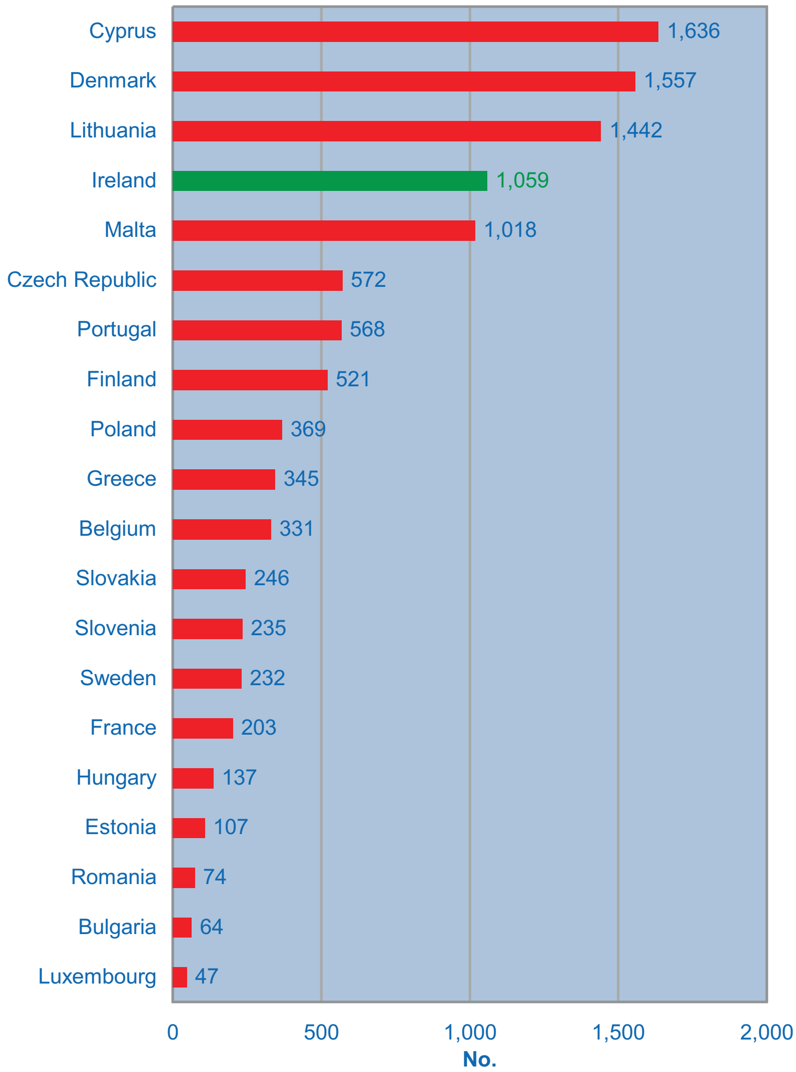
	Unit	2002	2003	2004	2005
European Union (EU27)	**Millions**	**:**	**:**	**:**	**:**
Belgium	Millions	2,455	2,722	2,898	3,459
Bulgaria	Millions	:	332	445	495
Czech Republic	Millions	:	5,130	5,711	5,846
Denmark	Millions	2,019	3,989	6,554	8,423
Germany	Millions	17,000	19,500	20,100	:
Estonia	Millions	75	94	112	145
Greece	Millions	3,858	3,958	3,880	3,827
Spain	Millions	10,000	11,736	12,801	:
France	Millions	5,523	8,188	10,335	12,712
Ireland	**Millions**	**2,400**	**3,035**	**3,624**	**4,351**
Italy	Millions	:	:	:	:
Cyprus	Millions	330	755	961	1,226
Latvia	Millions	:	:	:	:
Lithuania	Millions	:	897	1,388	4,939
Luxembourg	Millions	:	17	20	22
Hungary	Millions	1,151	1,177	1,205	1,381
Malta	Millions	233	365	392	410
Netherlands	Millions	2,051	2,523	:	:
Austria	Millions	1,200	1,297	1,587[e]	1,634[e]
Poland	Millions	3,185	5,294	7,988	14,070
Portugal	Millions	2,110	2,203	2,564	5,978
Romania	Millions	:	414	909	1,612
Slovenia	Millions	334	392	413	469
Slovakia	Millions	800[e]	1,340	1,224	1,324
Finland	Millions	142	1,650	2,194	2,728
Sweden	Millions	1,325	1,816	2,045	2,088
United Kingdom	Millions	:	:	:	:

: Data not available.

e Estimated value

Source: Eurostat.

Figure 7.1 Number of SMS messages sent per capita, 2005



Source: Eurostat

Appendix One

Data Sources

Census of Industrial Production

This census is conducted annually by the CSO and covers all enterprises which are wholly or primarily engaged in industrial production and which have three or more persons engaged. The results cover mining, quarrying, manufacturing, electricity, gas and water supply. The information collected includes details of turnover, inputs, stocks, capital assets and employment. Since 1999, some questions on the use of information technology have also been included. The results for the industrial sector contained in Chapter 2 and Table 3.5 have been updated for 2004, to take account of minor revisions to the 2004 Census of Industrial Production. *Results from the Census of Industrial Production appear in Chapter 2 and Table 3.5.*

Annual Services Inquiry

This is an annual inquiry to enterprises in the retail, wholesale, real estate, renting, business services and other selected sectors, i.e. covering NACE Rev. 1.1 sections G, H, I, K and O. It covers all size classes and the results are estimated from a sample of about a quarter of all enterprises in the relevant sectors. The information collected relates to turnover, inputs, stocks, capital assets and employment. This survey has also included some information technology questions since 1999. The results for the services sector contained in Chapter 2 and Table 3.5 have been updated for 2004, to take account of minor revisions to the 2004 Annual Services Inquiry. *Results from the Annual Services Inquiry appear in Chapter 2 and Table 3.5*

Quarterly National Household Survey (QNHS)

This is a continuous survey in which 3,000 households are interviewed each week to give a total sample of 39,000 households each quarter. The survey asks demographic and labour force questions, which are the basis for the CSO's quarterly labour force figures. The survey also includes modules on social and other topics from time to time. The module on ICT and e-Commerce usage was first included in June 2003 and was repeated in June 2004, June 2005 and February 2006. In the first quarter of 2007, a sample of just under 6,000 households was included for the purposes of the ICT and e-Commerce module. It included questions relating to the household and questions asked of each person aged 16 to 74. The grossing procedure aligns the distribution of persons covered in the sample with independently determined population estimates at the level of sex, age group and region. The results are subject to sampling and other survey errors. Sampling errors have a relatively larger effect on smaller estimates and on the interpretation of some year-on-year trends. The reference quarters for survey results are: Q1 - December to February, Q2- March to May, Q3 - June to August and Q4 - September to November. When comparing the 2007 and 2006 results with earlier year's results, the change in the reference period should be taken into account. Similar, but less detailed, modules on home computing were included in the survey in Q3/1998 and Q4/2000. A module on teleworking was included in Q3/2002. *Results from the QNHS module on Home Computing appear in Chapter 4.*

Enterprise Survey of e-commerce and ICT

This survey was first conducted by the CSO in October 2002 and since then has been conducted in March of each year. The results presented in this report are for the March 2007 survey. The survey generally covers manufacturing enterprises and enterprises in a range of services sectors with ten or more persons engaged, and enterprises in the construction sector with twenty or more persons engaged. Bars and restaurants were not surveyed. Additional work was undertaken in 2007 to survey a small sample of micro-enterprises (i.e. those enterprises with less than ten persons engaged) in all relevant sectors. *The results for enterprises with ten or more persons engaged are included in Chapter 3 and Tables 5.3 and 5.4.*

NACE Rev. 1.1 Classification

This is the EU classification of economic activity. Information on the sections of NACE covered in the Census of Industrial Production, the Annual Services Inquiry and in the Enterprise Survey of e-Commerce and ICT is shown in Appendix 2 while a detailed list of NACE divisions is given in Appendix 3.

International Comparisons

The international comparisons in Chapter 7 are based on information from Eurostat. Further data are available at http://epp.eurostat.ec.europa.eu.

i2010: European Information Society 2010

This is a European initiative to foster growth and jobs in the information society and media industries. i2010 is a comprehensive strategy for modernising and deploying all EU policy instruments to encourage the development of the digital economy: regulatory instruments, research and partnerships with industry. The household (QNHS) and enterprise surveys on ICT will be repeated annually under EU Regulation (EC) No. 808/2004. These two surveys will be the source for harmonised statistics at EU level and for the production of statistical indicators required under this initiative.

Appendix Two

Sectors in CSO Enterprise Surveys

NACE Rev. 1.1 Section and Divisions	Description	Census of Industrial Production	Annual Services Inquiry	E-Commerce and ICT survey
C (10-14)	Mining and quarrying	✔		–
D (15-37)	Manufacturing	✔		✔
E (40-41)	Electricity, gas and water	✔		–
F (45)	Construction			✔
G (50-52)	Motor trades; wholesale; retail; repairs		✔	✔
H (55)	Hotels, bars and restaurants		✔	✔[1]
I (60-64)	Transport, storage and communications		✔	✔
J (65-67)	Financial intermediation		✔[2]	✔[2]
K (70-74)	Real estate, renting and business activities		✔	✔
L (75)	Public administration and defence; social security		–	–
M (80)	Education		–	–
N (85)	Health and social work		–	–
O (90-93)	Other community, social and personal services		✔[3]	✔[3]
Size classes (persons engaged)				
1-2		–	✔	✔[4]
3-9		✔	✔	✔[4]
10 or more		✔	✔	✔[4]

1 Hotels were included in the e-Commerce/ICT survey; bars and restaurants were not included.

2 The information collected on Financial Intermediation is in a different format from other sectors and is not included in this report.

3 The sectors covered under this heading relate to recreation (cinemas, sport events, etc) and to personal services (hairdressing etc.). Only Recreational, Cultural and Sporting activity sectors are included in Tables 3.1 to 3.4 and Tables 3.6 to 3.7.

4 The e-Commerce and ICT survey generally covers manufacturing enterprises and enterprises in a range of services sectors with ten or more persons engaged, and enterprises in the construction sector with twenty or more persons engaged. Bars and restaurants were not surveyed. Additional work was undertaken in 2007 to survey a small sample of micro-enterprises (i.e. those enterprises with less than ten persons engaged) in all relevant sectors. The results for enterprises with ten or more persons engaged are included in Chapter 3 and Tables 5.3 and 5.4.

Appendix Three

Key to NACE Rev. 1.1 Classification

Industry – Divisions 10 to 41

10*	Mining of coal and lignite; extraction of peat
11*	Extraction of crude petroleum and natural gas; service activities incidental to oil and gas extraction, excluding surveying
12*	Mining of uranium and thorium ores
13*	Mining of metal ores
14*	Other mining and quarrying
15	Manufacture of food products and beverages
16	Manufacture of tobacco products
17	Manufacture of textiles
18	Manufacture of wearing apparel; dressing and dyeing of fur
19	Tanning and dressing of leather; manufacture of luggage, handbags, saddlery, harness and footwear
20	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials
21	Manufacture of pulp, paper and paper products
22	Publishing, printing and reproduction of recorded media
23	Manufacture of coke, refined petroleum products and nuclear fuel
24	Manufacture of chemicals and chemical products
25	Manufacture of rubber and plastic products
26	Manufacture of other non-metallic mineral products
27	Manufacture of basic metals
28	Manufacture of fabricated metal products, except machinery and equipment
29	Manufacture of machinery and equipment n.e.c.
30	Manufacture of office machinery and computers
31	Manufacture of electrical machinery and apparatus n.e.c.

*Not included in results of e-Commerce/ICT survey.

32 Manufacture of radio, television and communication equipment and apparatus

33 Manufacture of medical, precision and optical instruments, watches and clocks

34 Manufacture of motor vehicles, trailers and semi-trailers

35 Manufacture of other transport equipment

36 Manufacture of furniture; manufacturing n.e.c.

37 Recycling

40* Electricity, gas, steam and hot water supply

41* Collection, purification and distribution of water

Construction – Division 45

45 Construction

Services – Divisions 50 to 93

50 Sale, maintenance and repair of motor vehicles and motorcycles; retail sale of automotive fuel

51 Wholesale trade and commission trade, except of motor vehicles and motorcycles

52 Retail trade, except of motor vehicles and motorcycles; repair of personal and household goods

55 Hotels and restaurants
55.1 Hotels
55.2 Camping sites and other provision of short-stay accommodation
55.3* Restaurants
55.4* Bars
55.5* Canteens and catering

60 Land transport; transport via pipelines

61 Water transport

62 Air transport

63 Supporting and auxiliary transport activities; activities of travel agencies

64 Post and telecommunications

65 Financial intermediation, except insurance and pension funding

65.11* Central banking
65.12 Other monetary intermediation
65.21* Financial leasing
65.22 Other credit granting
65.23* Other financial intermediation n.e.c.

66 Insurance and pension funding, except compulsory social security

66.01 Life insurance
66.02* Pension funding
66.03 Non-life insurance

67* Activities auxiliary to financial intermediation

70 Real estate activities

71 Renting of machinery and equipment without operator and of personal and household goods

72 Computer and related activities

73 Research and development

74 Other business activities

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*Not included in results of e-Commerce/ICT survey.

75*	Public administration and defence; compulsory social security
80*	Education
85*	Health and social work
90*	Sewage and refuse disposal, sanitation and similar activities
91*	Activities of membership organisations n.e.c.
92	Recreational, cultural and sporting activities
93*	Other service activities

*Not included in results of e-Commerce/ICT survey.

Appendix Four

Technical Explanations

Broadband	High-speed, always-on internet access running with a speed of greater than 128Kbps. It is able to carry very large amounts of information.
Digital products or services	Goods/services that can be ordered and delivered directly to a computer over the internet, eg music, videos, games, computer software, online newspapers, consulting services etc.
DSL	Digital Subscriber Line. DSL technologies are designed to increase bandwidth available over standard copper telephone wires. Includes IDSL, HDSL, SDSL, ADSL, RADSL, VDSL, DSL-Lite and xDSL.
Electronic commerce (e-commerce)	Transactions conducted over IP-based networks and over other computer mediated networks. The goods and services are ordered over those networks, but the payment and ultimate delivery of the goods or service may be conducted on or off-line. Orders received via telephone, facsimile and non-interactive e-mails are not counted as electronic commerce.
Electronic Data Interchange (EDI)	Electronic exchange of forms, such as for orders, between geographically dispersed locations.
E-mail	Electronic transmission of messages.
Extranet	A secure extension of an intranet that allows external users to access some parts of an organisation's intranet.
Information Technology (IT)	All aspects of managing and processing information with computers within companies.
Internet	Relates to IP-based networks: www, extranet over the internet, EDI over the Internet and Internet-enabled mobile phones.
Intranet	An internal company communications network using IP-based communications within an organisation.
ISDN	Integrated Services Digital Network.

LAN Local Area Network. This relates to your company's computer network, usually within an office, building or closed geographical area.

Mbps Megabyte per second.

Modem Device that converts outgoing digital signals from a computer to analogue signals which can be transmitted via conventional copper telephone line, and which converts incoming analogue signals to digital.

Online payment An online payment is an integrated order-payment transaction.

Website Location on the World Wide Web identified by a Web address. A collection of Web files on a particular subject that includes a beginning file call a homepage. Information is encoded with specific languages (HTM., XML, Java) readable with a Web browser, like Netscape's Navigator or Microsoft's Internet Explorer.