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DETAILED TABLES

2002 EDITION

E-Commerce in Europe

Results of the pilot surveys carried out in 2001

Data 2000/2001

EUROPEAN COMMISSION

eurostat

THEME 4
Industry, trade and services

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FOREWORD

Electronic commerce (e-commerce) became a buzzword as the information society developed rapidly throughout the 1990s, but in fact it has a longer history having started as electronic data interchange (EDI). The Internet has made e-commerce available to a wider user group, notably smaller enterprises and households. Amongst the business community the search for increased productivity and efficiency is expected to lead to even more enterprises adopting e-commerce as a way of doing business in the future. Whilst an ever growing awareness of the opportunities, technological developments in infrastructure and access devices, and falling access costs will facilitate this, fears about security and a lack of skills could hold it back.

The Lisbon European Council of March 2000 set the ambitious objective for Europe to become within ten years the most competitive and dynamic economy in the world. The Lisbon strategy reinforced the response to the knowledge-based society within existing processes and launched the eEurope 2002 Action Plan in June 2000. One of the key actions was to accelerate the use of e-commerce. In March 2001 the Commission launched the “Go digital” initiative with the aim “to help SMEs to adopt e-business”.

In November 2001 the Commission adopted a Communication on “the impact of the e-Economy on European enterprises: economic analysis and policy implications” reviewing the state-of-play in the e-Economy and highlighting the main policy challenges. In May 2002 it adopted a Communication on “eEurope 2005: an Information Society for all” which will further contribute to the implementation of the Lisbon strategy.

The eEurope 2002 Action Plan included a benchmarking exercise. At present this relies on business and consumer opinion surveys for e-commerce data, but it is foreseen that data will be provided by Eurostat in the future. In order to meet this need, Eurostat, with the statistical authorities of the EU Member States, and in co-ordination with the OECD, have worked to develop standards to measure e-commerce within the business community.

This publication reports on the results of a pilot survey in this area. The pilot survey was undertaken by 13 of the EU Member States and Norway. The surveys were generally carried out during the first half of 2001. In excess of 100,000 enterprises were contacted and the response rate was close to 50%. The surveys concentrated on the measurement of e-commerce as regards sales and purchases by enterprises via the Internet and other computer mediated networks, as well as also looking at the use of key information and communication technologies.

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E-commerce in Europe,
results of a statistical pilot study
This publication has been prepared under the responsibility of unit D5 of Eurostat, responsible for "Information society and tourism statistics". The opinions expressed are those of the individual authors alone and do not necessarily reflect the position of the European Commission.

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1. DEFINING AND MEASURING E-COMMERCE

1. DEFINING AND MEASURING E-COMMERCE

For the purposes of this publication electronic commerce (e-commerce) is defined, in line with the definition developed by the OECD, as the trading of goods and services over computer mediated networks; the payment and/or delivery of the products may or may not be made over such a network. What distinguishes e-commerce from traditional commerce is primarily the way in which information is exchanged and processed: instead of being exchanged through direct personal contact, information is transmitted via a digital network, or some other electronic channel.

PRE-INTERNET E-COMMERCE

The widely reported emergence of Internet commercial applications in the first half of the 1990s should not hide the relatively long history of e-commerce in the business community. In fact, enterprises already started adopting e-commerce in the early 1970s, using an industry standard called *Electronic Data Interchange* (EDI). As a structured way of exchanging data between companies, EDI mainly allowed enterprises to automate their purchasing procedures, for example, by linking large retailers' stores to their suppliers, limiting the recourse to paperwork and automating the restocking of goods. The adoption of just-in-time production processes by manufacturing enterprises further fuelled the recourse to EDI, which became particularly important in sectors with large procurement volumes, for example, food processing and car manufacturing. EDI, however, had several shortcomings that make it generally confined to large enterprises; most important was the requirement to set-up an expensive, private or dedicated network connection between parties. In addition, EDI operates in a relatively fixed framework, leaving no opportunity for discussion or negotiation.

THE ADVENT OF THE INTERNET

In the 1990s, the extremely rapid penetration of Internet connections amongst businesses and households alike gave light to a new business paradigm. For enterprises, the Internet signified a more far-reaching and fundamental change than EDI had done. As a global network, the Internet has the advantage of ubiquity, and this is combined with a low cost of access and operation, ease of use, flexibility and interactivity. In fact, as cost savings are considered a compelling motivation for enterprises to engage in e-business, the move from first generation applications, such as EDI, to second generation Internet-based e-business applications is generally acknowledged to result in further cost savings[1]. In addition, e-business applications are seen as enabling enterprises to respond more rapidly and flexibly to market signals and offer better customer service. Security, however, has proven to be the biggest concern, as evidenced by the pilot study (*see chapter 2*), and this may have slowed down the development of Internet applications somewhat.

Internet can work both inside and outside enterprises, under the form of *intranet* and *extranet*. Both terms refer to networks based on Internet standards, but intranets are designed for use within a single organisation, while extranets are used to share information with external parties, for example, other organisations or customers. As all major operating systems already feature Internet networking software, intranets are rapidly replacing proprietary networks and prove generally simpler and cheaper to administer. Moreover, they are based on open technology, which makes them easy to customise, but also more vulnerable to security breaches. Extranets are generally an extension of the organisation's intranet that is adapted to allow access by external users; they carry out most e-commerce activity.

The Internet is transforming the way people do business. It offers new models for buying, selling and providing customer service, which are re-defining traditional relationships between buyers and sellers. The Internet makes it possible for buyers and sellers to come together in more efficient ways and creates new marketplaces and opportunities for the re-organisation of economic processes. It is also changing the way products are customised, distributed and exchanged and how businesses and consumers search for and acquire products.

(1) See "The impact of the e-economy on European enterprises: economic analysis and policy implications", Communication from the Commission to the Council and the European Parliament, COM (2001) 711 final.

Table 1.1: E-commerce and other examples of applications over computer mediated networks

	Government	Business	Consumer
Government	G2G E.g. co-ordination	G2B E.g. information	G2C E.g. information
Business	B2G E.g. procurement	B2B E.g. e-commerce	B2C E.g. e-commerce
Consumer	C2G E.g. tax compliance	C2B E.g. price comparison	C2C E.g. auctions

Source: "E-commerce: Impact and Policy Challenges", OECD Economics Department Working Papers no. 252.

Table 1.2: Internet e-commerce in Western Europe, 2001 (1)

	Value (billion EUR)	Share in total (%)
B2C	23	13
B2B	149	87
Total	172	100

(1) EU-15, CH and NO.
Source: EITO 2002

E-COMMERCE AMONGST OTHER E-APPLICATIONS

Different types of e-commerce (and similar) transactions can be defined and these are shown in table 1.1. Reference is often made to B2B (business to business), when enterprises do business with each other, and B2C (business to consumer) when they sell to consumers (households) using the Internet. These are the most commonly discussed forms of e-commerce and those covered by the present pilot survey. But applications based on computer mediated networks encompass a wider spectrum of activities and information exchanges. For example, Internet technology is being used by governments for the transmission or receipt of information (G2B, G2C) to improve convenience and to lower the cost of payment systems and tax compliance (C2G). Moreover, the establishment of on-line auctions has spawned the creation of e-commerce amongst consumers (C2C), whilst another market segment concerns applications where consumers make bids for a product, leaving the supplier to decide whether to accept the offers or not (C2B).

According to EITO estimates, e-commerce on the Internet was valued at 172 billion EUR in 2001 in Western Europe (see table 1.2). The bulk of e-commerce activity (87% in 2001) is in the area of B2B transactions and this is not expected to change greatly in the next few years.

E-MARKETPLACES

One notable evolution seen in recent years in the field of B2B e-commerce is the emergence of e-marketplaces. These are generally specialist Internet based brokers of goods or services in a community of many buyers and many sellers, although private marketplaces also exist that are managed by one customer. B2B marketplaces connect buyers and sellers through a hub where on-line transactions can be executed.

E-marketplaces can be viewed from the vertical or horizontal perspective. A vertical e-marketplace provides goods and services to a specific industry, whilst horizontal e-marketplaces provide goods and services across many industries, for example, systems for payment services, logistical services, or office supplies.

2. E-COMMERCE IN EUROPE

2. E-COMMERCE IN EUROPE

SOURCE AND REFERENCE PERIOD

Chapters 2 and 3 provide results from the Eurostat pilot survey on e-commerce carried out in 2001. Some details on the methodology are given in chapter 5.

Data refer in general to the position when the surveys were conducted, normally during the first half of 2001. Again, details are available in chapter 5. Indicators that show the ownership of equipment or use of certain technologies refer to the moment of the survey. Exceptions are the indicators concerning the usage of Intranets and EDI as well as web access where the surveys collected information on the year since when these technologies had been used; this publication shows the rate of usage at the end of 2000. Indicators that refer to turnover reflect the situation in the reference year 2000.

COMPARISON OF GLOBAL AND SIZE-CLASS DATA WITH DATA PRESENTED BY ACTIVITY

In this chapter, data are presented for a sum (or average) of all EU Member States participating in the pilot survey and this is labelled in the tables and figures as “All”. Note that the results for Ireland are excluded from this sum as data is available only for the sample and has not been grossed-up to be representative of the target population. These data are available as a global figure and also with breakdowns between large enterprises and small and medium-sized enterprises (SMEs) and with a separate breakdown by activity. In general, the data for the two size classes are consistent with the global figure as they have normally been compiled with the same country coverage. The data with the breakdown by NACE have often been compiled with a more restricted country coverage than the global (and size class) figures because of weaker data availability. Hence, a direct comparison between the data by activity and the global figures can not be made. For this reason, most of the tables and figures providing data by activity include a second global figure labelled as the “NACE average”. This “NACE average” has been compiled using an identical country coverage as presented for the activity breakdown. Furthermore, it has been compiled for all activities covered by the pilot survey except NACE Section J. As such the “NACE average” provides a more valid comparison with each NACE Section than does the global figure (“All”).

INDEX

2.1 ICT PENETRATION

USE OF IT TECHNOLOGIES

At the beginning of the third millennium, information technology (IT) hardware has made its way into virtually every European enterprise. The results of the pilot survey show that computers were present, on average, in more than nine out of ten enterprises (92%), regardless of their size and nearly all large enterprises had computers.

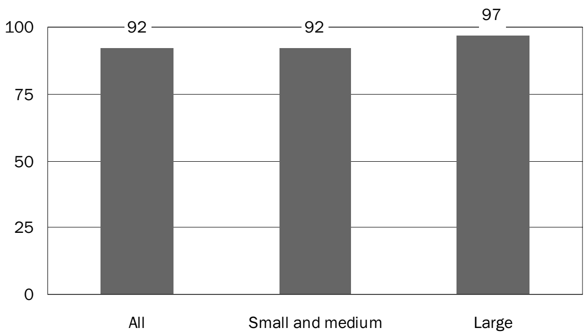
Some sectors, however, relied less on IT than others. Notably hotels and restaurants (NACE Section H) were in this category, where more than one-quarter of the surveyed enterprises did not have computers. This may be explained by the large number of small hotels, restaurants and cafes, where computers may not be regarded as an indispensable tool. Transport services enterprises (87%) also displayed an equipment rate slightly lower than the average across all NACE breakdowns (89%). In contrast, computers have become an important tool for distributive trades and business services enterprises, as evidenced by their very high equipment rates, equal to 94% and 93% respectively. Within manufacturing sectors, the chemical, rubber and machinery industries (Sub-sections DG, DH and DK) displayed a higher recourse to IT equipment (over 95%) than more traditional, labour-intensive sectors such as textile and leather manufacturing (Sub-sections DB and DC; lower than 80%).

Table 2.1.1: Use of computers in the EU, first half 2001 (% of enterprises using computers) (1)

	All	Small and medium	Large	NACE average	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Business services
Use computers	92	92	97	89	89	94	72	87	93

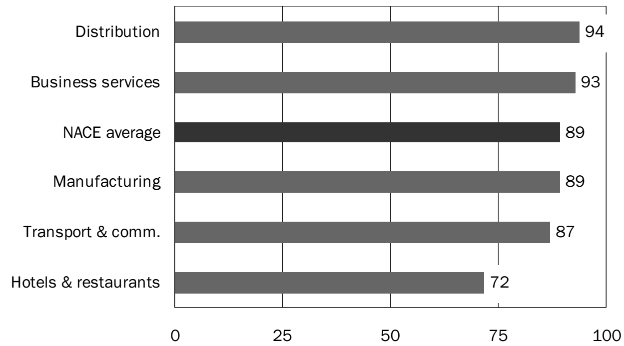
(1) All participating Member States; size class breakdown excluding NL for large enterprises; activity breakdown excluding D and S.
Source: E-commerce database, Eurostat

Figure 2.1.1: Use of computers by enterprise size class, first half 2001 (% of enterprises using computers) (1)



(1) All participating Member States; size class breakdown excluding NL for large enterprises.
Source: E-commerce database, Eurostat

Figure 2.1.2: Use of computers by NACE Sections, first half 2001 (% of enterprises using computers) (1)



(1) All participating Member States, excluding D and S.
Source: E-commerce database, Eurostat

Table 2.1.2: Use of computers in the manufacturing sector, first half 2001 (% of enterprises using computers) (1)

NACE	Sub-section	(%)
DA	Food, beverages and tobacco	88
DB	Textiles	73
DC	Leather	78
DD	Wood	90
DE	Pulp, paper, publishing and printing	95
DF	Coke, refined petroleum and nuclear fuel	94
DG	Chemicals and man-made fibres	97
DH	Rubber and plastics	96
DI	Other non-metallic mineral products	91
DJ	Basic metals and fabricated metal products	91
DK	Machinery and equipment n.e.c.	95
DL	Electrical and optical equipment	94
DM	Transport equipment	94
DN	Manufacturing n.e.c.	89

(1) All participating Member States, excluding D, FIN and S;
Sub-section DC excludes DK, L and NL; Sub-sections DD and DI exclude NL;
Sub-section DF excludes L and A; Sub-section DG excludes DK and NL;
Sub-section DH excludes DK.
Source: E-commerce database, Eurostat

Table 2.1.3: Use of computers in the Member States, first half 2001 (% of enterprises using computers) (1)

	(%)
All	92
DK	95
D	96
EL	85
E	91
I	86
L	91
NL	88
A	92
P	89
FIN	98
S	97
UK	92

(1) All includes each Member State for which data is available in the table.
Source: E-commerce database, Eurostat

USE OF INTRANETS

Intranets are networks based on Internet standards, but designed for use within an organisation. Over one-third of surveyed enterprises (36%) declared having an intranet, a share that reached 60% amongst large enterprises (34% in SMEs). Business services enterprises were the biggest users compared to the average across all NACE breakdowns. Within manufacturing, the sector of fuel products was the most networked one, with 54% of enterprises reporting intranet use, far ahead of chemical enterprises (43%).

USE OF EDI

Historically, EDI was the first e-commerce instrument to appear in enterprises. At the time of the pilot survey, 19% of enterprises used EDI and 10% were planning to implement it in 2001. As already noted, EDI required the use of a private or dedicated network connection, whose set-up and maintenance costs limited its use primarily to large enterprises. According to the pilot survey, 42% of large enterprises chose to use EDI, against only 17% of SMEs. The possibility to integrate EDI into Internet technologies lowers financial barriers and may increase its use amongst SMEs.

Table 2.1.4: Use of intranets and EDI, end 2000 (% of enterprises using intranets and EDI) (1)

	All	Small and medium	Large	NACE average	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Business services
Used intranet:	36	34	60	29	27	34	12	31	35
did not use, but planned to in 2001	9	8	19	7	6	9	4	6	8
did not use & did not plan to (or non-response)	55	57	21	64	67	57	85	63	57
Used EDI:	19	17	42	14	12	18	6	18	16
did not use, but planned to in 2001	10	9	22	4	4	6	:	:	4
did not use & did not plan to (or non-response) (2)	70	72	36	80	83	74	90	76	78

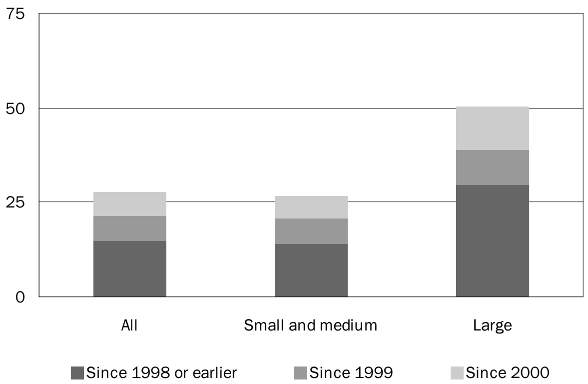
(1) All participating Member States; size class breakdown excluding NL for large enterprises; activity breakdown excluding D and S.
(2) Excluding DK.
Source: E-commerce database, Eurostat

Table 2.1.5: Use of intranets and EDI, end 2000 (% of enterprises using intranets and EDI) (1)

	All	Small and medium	Large	NACE average	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Business services
Used intranet:									
since 2000	6	6	12	5	5	6	1	4	3
since 1999	7	7	9	5	5	5	1	5	3
since 1998 or earlier	15	14	30	8	8	10	3	9	7
Used EDI:									
since 2000	3	3	6	2	1	3	0	3	1
since 1999	3	3	5	1	1	2	0	1	1
since 1998 or earlier	8	7	24	4	3	5	2	6	3

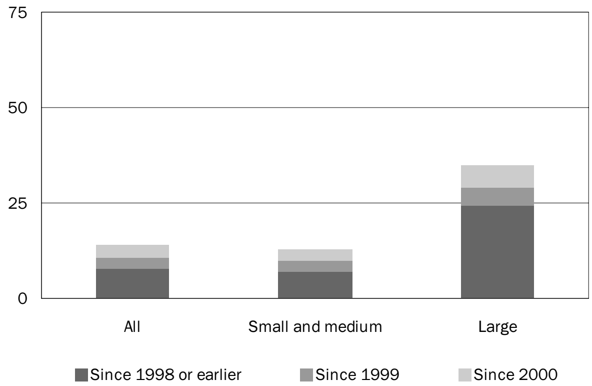
(1) All participating Member States excluding DK, NL, FIN, S and UK; activity breakdown excluding D.
Source: E-commerce database, Eurostat

Figure 2.1.3: Use of intranets by enterprise size class, end 2000 (% of enterprises using intranets) (1)



(1) All participating Member States, excluding DK, NL, FIN, S and UK.
Source: E-commerce database, Eurostat

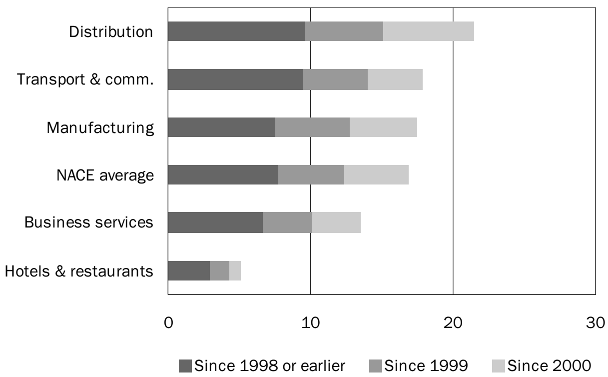
Figure 2.1.4: Use of EDI by enterprise size class, end 2000 (% of enterprises using EDI) (1)



(1) All participating Member States, excluding DK, NL, FIN, S and UK.
Source: E-commerce database, Eurostat

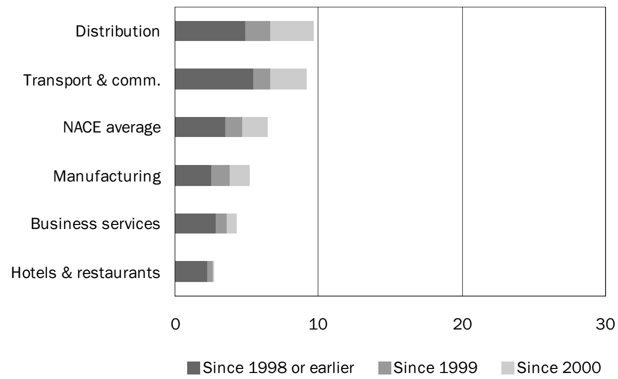
Transport services and distributive trades are the biggest users of EDI, with usage rate in surveyed enterprises equal to 18% in both cases; the average across all NACE breakdowns was 14%. This highlights the role of EDI as an answer to the logistical needs of businesses. With the exception of hotels and restaurants, service sectors make generally higher use of EDI than manufacturing enterprises. Usage rates reached 16% in business services enterprises, against 12% in manufacturing enterprises. Among manufacturing activities, however, the pilot survey shows that some manufacturing sectors are major users of EDI, mainly for the manufacture of fuel products (37%, NACE Sub-section DF), transport equipment (20%, NACE Sub-section DM) and food, drink and tobacco products (17%, NACE Sub-section DA), as opposed to textiles, wood products (both 7%, NACE Sub-sections DB and DD) or leather products (3%, NACE Sub-section DC).

Figure 2.1.5: Use of intranets by NACE Section, end 2000 (% of enterprises using intranets) (1)



(1) All participating Member States, excluding DK, D, NL, FIN, S and UK.
Source: E-commerce database, Eurostat

Figure 2.1.6: Use of EDI by NACE Section, end 2000 (% of enterprises using EDI) (1)



(1) All participating Member States, excluding DK, D, NL, FIN, S and UK.
Source: E-commerce database, Eurostat

Table 2.1.6: Use of intranets in the manufacturing sector, end 2000 (% of enterprises using intranets) (1)

NACE	Sub-section	Used intranet
DA	Food, beverages and tobacco	25
DB	Textiles	16
DC	Leather	11
DD	Wood	16
DE	Pulp, paper, publishing and printing	34
DF	Coke, refined petroleum and nuclear fuel	54
DG	Chemicals and man-made fibres	43
DH	Rubber and plastics	31
DI	Other non-metallic mineral products	25
DJ	Basic metals and fabricated metal products	26
DK	Machinery and equipment n.e.c.	37
DL	Electrical and optical equipment	40
DM	Transport equipment	37
DN	Manufacturing n.e.c.	24

(1) All participating Member States, excluding D, FIN and S;
Sub-section DC excludes DK, L and NL; Sub-sections DD and DI exclude NL;
Sub-section DF excludes L and A; Sub-section DG excludes DK and NL;
Sub-section DH excludes DK.
Source: E-commerce database, Eurostat

Table 2.1.7: Use of EDI in the manufacturing sector, end 2000 (% of enterprises using EDI) (1)

NACE	Sub-section	Used EDI
DA	Food, beverages and tobacco	17
DB	Textiles	7
DC	Leather	3
DD	Wood	7
DE	Pulp, paper, publishing and printing	14
DF	Coke, refined petroleum and nuclear fuel	37
DG	Chemicals and man-made fibres	15
DH	Rubber and plastics	12
DI	Other non-metallic mineral products	8
DJ	Basic metals and fabricated metal products	12
DK	Machinery and equipment n.e.c.	13
DL	Electrical and optical equipment	14
DM	Transport equipment	20
DN	Manufacturing n.e.c.	11

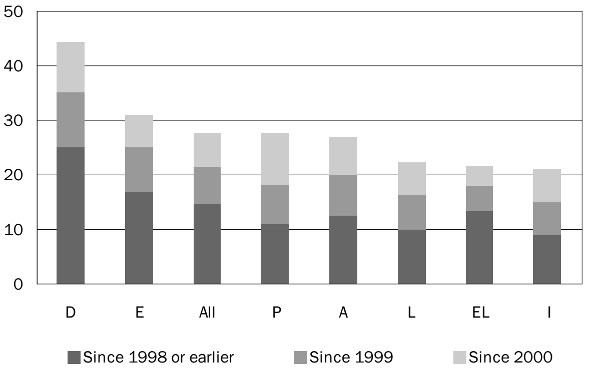
(1) All participating Member States, excluding D, FIN and S;
Sub-section DC excludes DK, L and NL; Sub-sections DD and DI exclude NL;
Sub-section DF excludes L and A; Sub-section DG excludes DK and NL;
Sub-section DH excludes DK.
Source: E-commerce database, Eurostat

Table 2.1.8: Use of intranets and EDI in the Member States, end 2000 (% of enterprises) (1)

	All	DK	D	EL	E	I	L	NL	A	P	FIN	S	UK
Used intranet:	36	29	44	22	31	21	22	73	27	28	26	41	27
since 2000	6	:	9	4	6	6	6	:	7	9	:	:	:
since 1999	7	:	10	5	8	6	6	:	7	7	:	:	:
since 1998 or earlier	15	:	25	13	17	9	10	:	12	11	:	:	:
did not use, but planned to in 2001	9	7	12	5	7	5	10	3	7	8	9	10	9
did not use & did not plan to (or non-response)	55	64	44	74	62	74	68	24	66	65	65	49	64
Used EDI:	19	19	25	5	4	5	17	57	15	20	16	15	15
since 2000	3	:	5	1	1	1	2	:	3	6	:	:	:
since 1999	3	:	6	2	1	1	3	:	4	3	:	:	:
since 1998 or earlier	8	:	14	3	2	3	12	:	8	10	:	:	:
did not use, but planned to in 2001	10	9	17	2	2	3	8	14	5	7	6	5	5
did not use & did not plan to (or non-response)	70	:	58	93	95	92	76	29	80	73	78	79	81

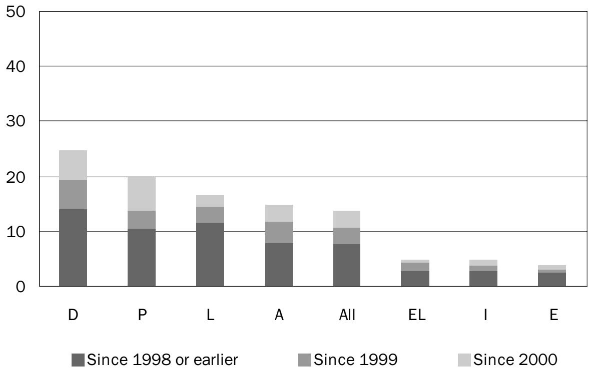
(1) All includes each Member State for which data is available in the table for each individual variable.
Source: E-commerce database, Eurostat

Figure 2.1.7: Use of intranets in the Member States, end 2000 (% of enterprises using intranet) (1)



(1) All includes each Member State for which data is available in the graph for each individual variable; DK, NL, FIN, S and UK, not available.
Source: E-commerce database, Eurostat

Figure 2.1.8: Use of EDI in the Member States, end 2000 (% of enterprises using EDI) (1)



(1) All includes each Member State for which data is available in the graph for each individual variable; DK, NL, FIN, S and UK, not available.
Source: E-commerce database, Eurostat

WEB ACCESS AND PRESENCE

Over two-thirds of surveyed enterprises had a connection to the world-wide-web (68%), a share rising to 81% amongst large enterprises.

At the time of the pilot survey, 46% of enterprises had their own web-site and 17% had a presence on a third-party web-site. Please note that these shares can not be simply added as this will double-count enterprises that had both. The proportion of enterprises using a third-party solution for their web presence was similar for large enterprises (19%) and SMEs (17%); whilst the share of large enterprises that have their own web-site reached 80%, it was only 44% for SMEs.

Interestingly, enterprises active in the sector of hotels and restaurants, that showed weak computer penetration, low use of EDI and intranet and little web access, had a web presence similar to that of the other surveyed sectors, with 26% of enterprises having their own web-site (higher than the manufacturing average of 24%) and 17% of enterprises using third-party web-sites (more than in other service sectors).

The results of the pilot survey concerning third-party web presence should be interpreted with some caution as it is believed that the questions on this subject may have been interpreted by some respondents as third-party design, maintenance or hosting.

Table 2.1.9: Web access, end 2000 (% of enterprises) (1)

	All	Small and medium	Large	NACE average	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Business services
Enterprise web access:									
had access	68	67	81	68	68	71	47	67	73
had no access, but planned to for 2001	14	14	13	9	8	10	12	7	9
had no access & did not plan to (or non-response) (2)	18	18	6	23	24	18	40	25	18

(1) All participating Member States; size class breakdown excluding NL for large enterprises; activity breakdown excluding D and S.
(2) Excluding DK.
Source: E-commerce database, Eurostat

Table 2.1.10: Web access, end 2000 (% of enterprises) (1)

	All	Small and medium	Large	NACE average	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Business services
Enterprise web access:									
since 2000	15	15	11	15	16	18	9	14	9
since 1999	16	16	22	14	17	16	9	12	10
since 1998 or earlier	21	20	35	16	17	17	10	19	15

(1) All participating Member States, excluding DK, NL, FIN, S and UK; activity breakdown excluding D.
Source: E-commerce database, Eurostat

Table 2.1.11: Web-sites, first half 2001 (% of enterprises) (1)

	All	Small and medium	Large	NACE average	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Business services
Enterprise ownership of a web-site:									
had their own	46	44	80	29	24	29	26	29	40
did not have, but planned to in 2001	14	14	8	11	10	12	8	10	15
did not have & did not plan to (or non-response)	41	42	12	60	66	59	66	60	45

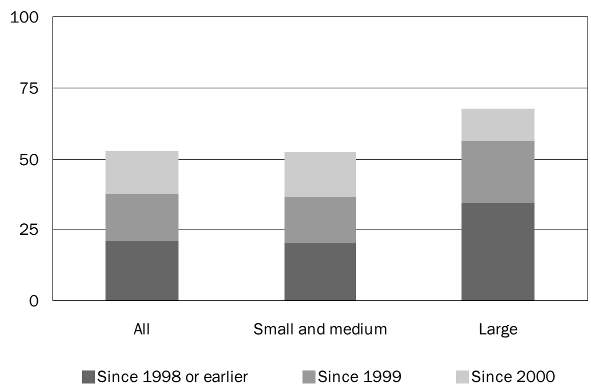
(1) All participating Member States; size class breakdown excluding NL for large enterprises; activity breakdown excluding D and S.
Source: E-commerce database, Eurostat

Table 2.1.12: Third party web-sites, first half 2001 (% of enterprises) (1)

	All	Small and medium	Large	NACE average	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Business services
Enterprises with a third party web-site:									
had one	17	17	19	15	18	14	17	10	10
did not have one, but planned to in 2001	4	4	2	5	5	5	:	5	3
did not have & did not plan to (or non-response)	71	71	77	70	68	69	74	71	74

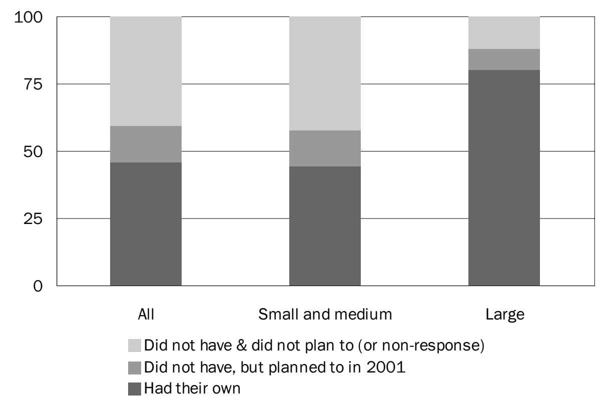
(1) All participating Member States, excluding DK, NL, FIN and S; activity breakdown excluding D.
Source: E-commerce database, Eurostat

Figure 2.1.9: Web access by enterprise size class, end 2000 (% of enterprises with web access) (1)



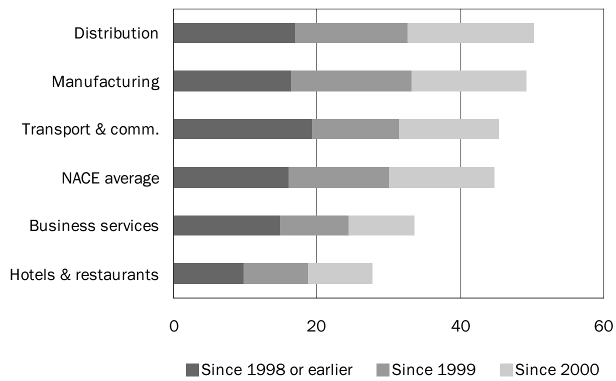
(1) All participating Member States, excluding DK, NL, FIN, S and UK.
Source: E-commerce database, Eurostat

Figure 2.1.10: Web-site ownership by enterprise size class, first half 2001 (% of enterprises) (1)



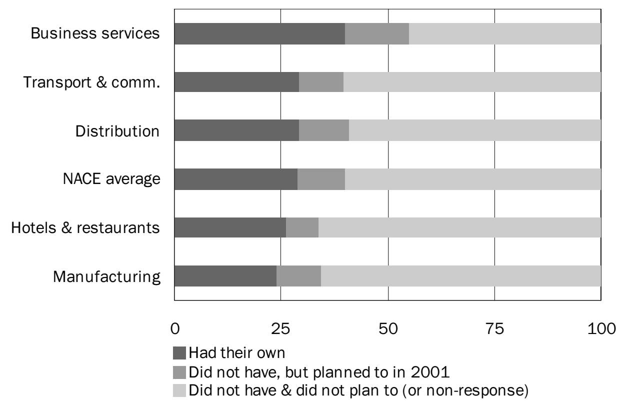
(1) All participating Member States; size class breakdown excluding NL for large enterprises.
Source: E-commerce database, Eurostat

Figure 2.1.11: Web access by NACE Section, end 2000 (% of enterprises with web access) (1)



(1) All participating Member States, excluding DK, D, NL, FIN, S and UK.
Source: E-commerce database, Eurostat

Figure 2.1.12: Web site ownership by NACE Section, first half 2001 (% of enterprises with their own web site) (1)



(1) All participating Member States excluding D and S.
Source: E-commerce database, Eurostat

Table 2.1.13: Web access in the manufacturing sector, end 2000 (% of enterprises with web access) (1)

NACE	Sub-section	Had web access
DA	Food, beverages and tobacco	66
DB	Textiles	49
DC	Leather	51
DD	Wood	61
DE	Pulp, paper, publishing and printing	77
DF	Coke, refined petroleum and nuclear fuel	87
DG	Chemicals and man-made fibres	86
DH	Rubber and plastics	75
DI	Other non-metallic mineral products	72
DJ	Basic metals and fabricated metal products	66
DK	Machinery and equipment n.e.c.	82
DL	Electrical and optical equipment	80
DM	Transport equipment	74
DN	Manufacturing n.e.c.	64

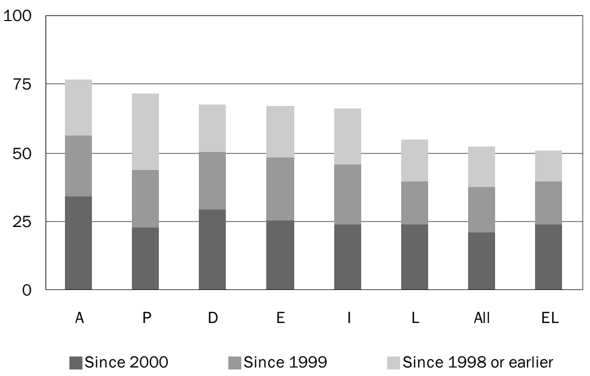
(1) All participating Member States, excluding D, FIN and S;
Sub-section DC excludes DK, L and NL; Sub-sections DD and DI exclude NL;
Sub-section DF excludes L and A; Sub-section DG excludes DK and NL;
Sub-section DH excludes DK.
Source: E-commerce database, Eurostat

Table 2.1.14: Web access and presence in the Member States, end 2000 (% of enterprises) (1)

	All	DK	D	EL	E	I	L	NL	A	P	FIN	S	UK
Had web access:	68	87	67	51	67	66	55	65	76	72	91	90	63
since 2000	15	:	17	11	19	20	15	:	20	28	:	:	:
since 1999	16	:	21	16	23	22	15	:	22	21	:	:	:
since 1998 or earlier	21	:	29	24	25	24	24	:	34	23	:	:	:
did not, but planned to in 2001	14	3	21	8	7	8	18	11	11	10	4	:	11
did not & did not plan to (or non-response)	18	:	11	41	26	26	27	25	12	18	5	:	25
Had own web-site:	46	63	67	29	7	9	41	35	54	30	60	68	50
did not have, but planned to in 2001	14	13	16	11	5	5	12	54	14	4	18	11	16
did not have & did not plan to (or non-response)	41	24	16	60	88	86	47	12	32	66	22	21	34
Had third party web-site:	17	:	21	8	29	26	13	:	26	2	:	:	11
did not have, but planned to in 2001	4	:	3	1	14	5	3	:	3	2	:	:	3
did not have & did not plan to (or non-response)	71	:	76	90	58	69	85	:	71	95	:	:	86

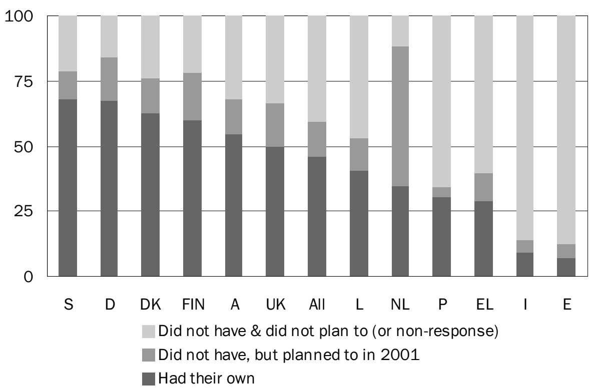
(1) All includes each Member State for which data is available in the table for each individual variable.
Source: E-commerce database, Eurostat

Figure 2.1.13: Web access in the Member States, end 2000 (% of enterprises with web access) (1)



(1) All includes each Member State for which data is available in the graph for each individual variable; DK, NL, FIN, S and UK, not available.
Source: E-commerce database, Eurostat

Figure 2.1.14: Web site ownership in the Member States, first half 2001 (% of enterprises with their own web site) (1)



(1) All includes each Member State for which data is available in the graph for each individual variable.
Source: E-commerce database, Eurostat

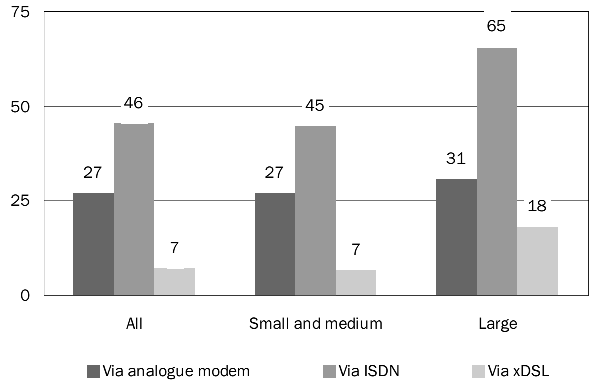
METHOD OF INTERNET CONNECTION

Different solutions are available when connecting to external networks. Amongst the wired solutions, a distinction can be made between on the one hand dial-up and dedicated leased lines and on the other hand the type of technology used, analogue or digital connection, with the latter further differentiated between narrowband (such as ISDN) and broadband (for example xDSL or cable). Analogue connections (normally this is dial-up access) are the traditional way of accessing the Internet, and the slowest. ISDN access is a digital form, and is somewhat faster transferring information at up to 64 kilobits/sec. per channel (the pilot survey did not specify whether this technology was used by dial-up access or using a dedicated leased line). xDSL also relies on a standard telephone line (either analogue or ISDN), but uses technology that allows broadband data transfer. Other types of broadband connections are also available, such as cable access. Finally, wireless connections show increasing popularity, using mobile phones or other devices with wireless connections.

Internet access using an ISDN connection was the most popular method of making an Internet connection. It was the solution chosen by 46% of enterprises that were surveyed, 65% of large ones and 45% of SMEs. Over one-quarter of enterprises (27%) still relied on slower analogue connections, but 14% had embraced broadband technology, almost equally shared between xDSL and other broadband solutions. Large enterprises were the first to move in this direction, with 18% using xDSL (against 7% amongst SMEs) and 27% using other broadband connections (against 6% for SMEs). Mobile phone access to the Internet reported shares similar to those for xDSL: with 7% of enterprises using it, 17% amongst large ones and 6% amongst SMEs.

A study of the access means used within different economic sectors reveals no significant variations, other than two exceptions. Hotels and restaurants (17%) had a lower recourse to ISDN than the average across all NACE breakdowns (32%) and there was a much higher than average use of broadband connections in transport services (15%) and business services (16%) compared to the average across all NACE breakdowns (11%).

Figure 2.1.15: Type of Internet connection by enterprise size class, first half 2001 (% of enterprises with a certain type of connection) (1)



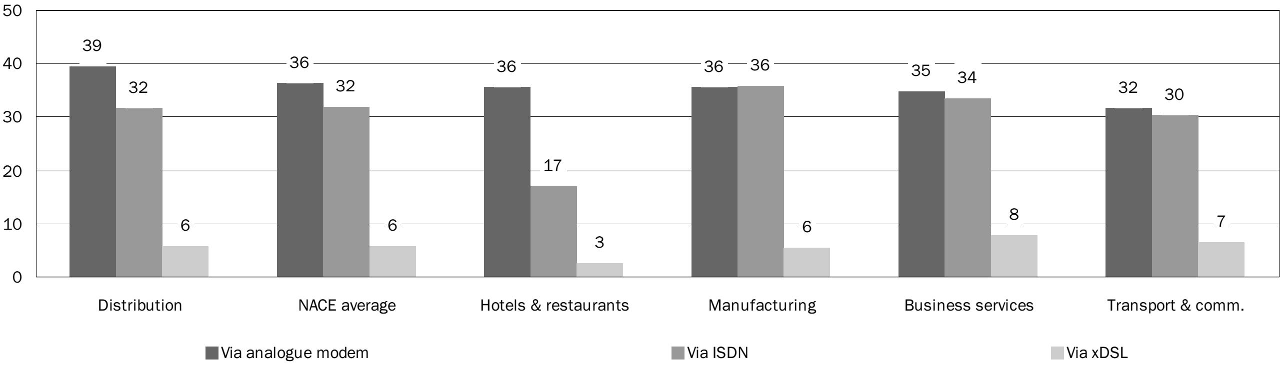
(1) All participating Member States, excluding DK, NL and S.
Source: E-commerce database, Eurostat

Table 2.1.15: Type of Internet connection, first half 2000 (% of enterprises with a certain type of connection) (1)

	All	Small and medium	Large	NACE average	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Business services
Via mobile phone	7	6	17	3	3	3	2	3	4
Via analogue modem	27	27	31	36	36	39	36	32	35
Via ISDN	46	45	65	32	36	32	17	30	34
Via xDSL	7	7	18	6	6	6	3	7	8
Via other broadband connection (> 2 Mbps)	7	6	27	5	3	6	1	8	8

(1) All participating Member States, excluding DK, NL and S; activity breakdown excluding D.
Source: E-commerce database, Eurostat

Figure 2.1.16: Type of Internet connection by NACE Section, first half 2001 (% of enterprises with a certain type of connection) (1)



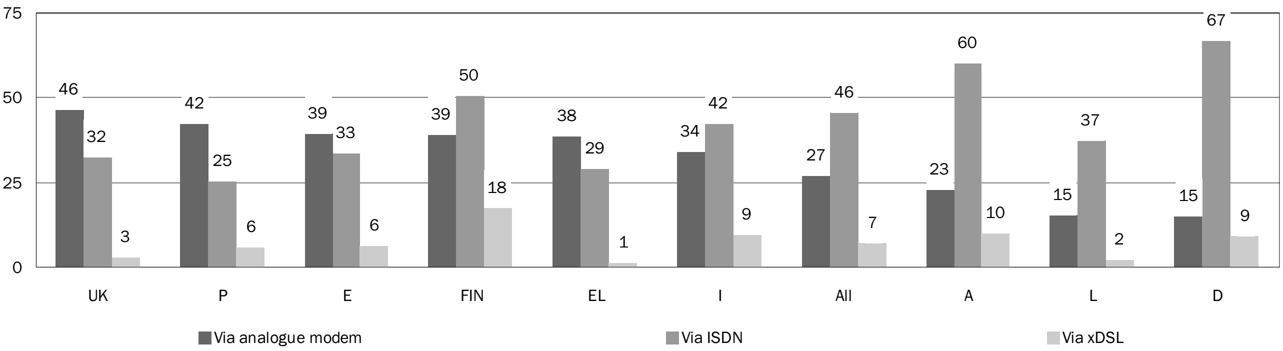
(1) All participating Member States, excluding DK, D, NL and S.
Source: E-commerce database, Eurostat

Table 2.1.16: Type of Internet connection in the Member States, first half 2001 (% of enterprises with a certain type of connection) (1)

	All	DK	D	EL	E	I	L	NL	A	P	FIN	S	UK
Via mobile phone	7	:	12	2	2	2	4	:	8	5	10	:	3
Via analogue modem	27	:	15	38	39	34	15	:	23	42	39	:	46
Via ISDN	46	:	67	29	33	42	37	:	60	25	50	:	32
Via xDSL	7	:	9	1	6	9	2	:	10	6	18	:	3
Via other broadband connection (> 2 Mbps)	7	:	10	3	2	2	18	:	8	11	17	:	5

(1) All includes each Member State for which data is available in the table for each individual variable.
Source: E-commerce database, Eurostat

Figure 2.1.17: Type of Internet connection in the Member States, first half 2001 (% of enterprises with a certain type of connection) (1)



(1) All includes each Member State for which data is available in the graph for each individual variable; DK, NL and S, not available.
Source: E-commerce database, Eurostat

PERCEPTION OF BARRIERS TO USING INTERNET

The results of the pilot survey supported the view that enterprises were mainly concerned about the security issues of a connection to the Internet, as opposed to being doubtful about the (potential) benefits of such a connection. Lack of security, and notably the fear of viruses and hackers, was cited by 66% of enterprises as an important problem of having an Internet connection, and much more frequently by large enterprises (83%) than by SMEs (66%). In addition, more than half (55%) of the enterprises surveyed cited technical issues (slow or unstable data communication) as a barrier to Internet access.

In contrast, a lack of perceived benefits was cited by only 40% of enterprises as a barrier to using the Internet, whilst lost working time (for example, irrelevant surfing by personnel) appeared as a bigger problem for larger enterprises (cited by 50% of them) than for SMEs (41%).

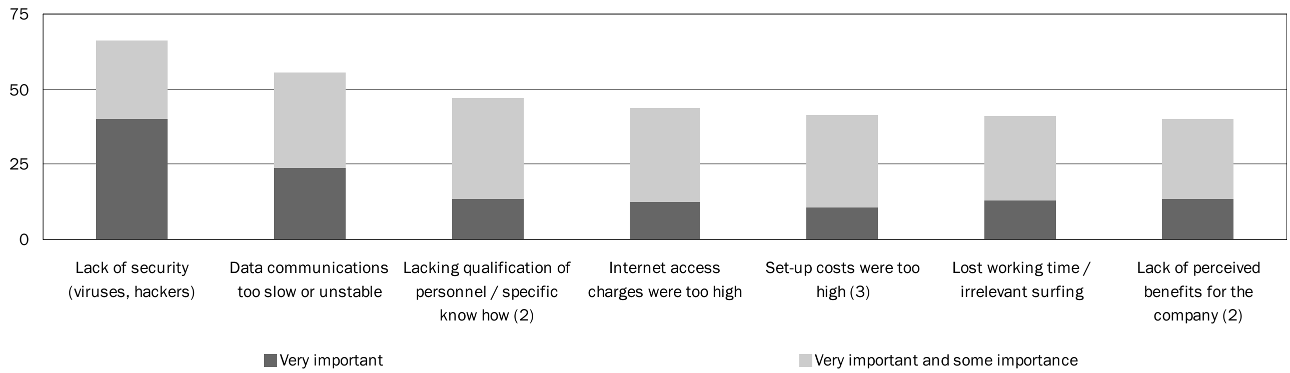
It is important to note that the shares related to perceptions of barriers and benefits are calculated on the total number of enterprises without distinguishing between the opinions of enterprises with and without experience of Internet access.

Table 2.1.17: Barriers to using the Internet, first half 2001 (% of enterprises reporting barrier as important) (1)

	(%)
Set-up costs were too high (2)	41
Internet access charges were too high	44
Lacking qualification of personnel / specific know how (3)	47
Lack of perceived benefits for the company (3)	40
Lost working time / irrelevant surfing	41
Data communications too slow or unstable	55
Lack of security (viruses, hackers)	66

(1) All participating Member States, excluding NL.
(2) Excluding FIN.
(3) Excluding S.
Source: E-commerce database, Eurostat

Figure 2.1.18: Barriers to using the Internet, first half 2001 (% of enterprises) (1)



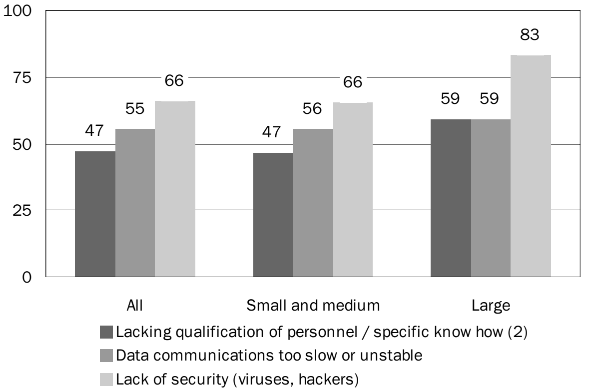
(1) All participating Member States excluding NL.
(2) Excluding S.
(3) Excluding FIN.
Source: E-commerce database, Eurostat

Table 2.1.18: Barriers to using the Internet, first half 2001 (% of enterprises reporting barrier as important) (1)

	All	Small and medium	Large	NACE average	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Business services
Set-up costs were too high (2)	41	41	50	39	37	43	31	40	40
Internet access charges were too high	44	44	44	43	40	47	38	42	44
Lacking qualification of personnel / specific know how (3)	47	47	59	41	38	47	38	40	39
Lack of perceived benefits for the company (3)	40	40	38	41	41	44	34	39	41
Lost working time / irrelevant surfing	41	41	50	36	34	40	:	36	41
Data communications too slow or unstable	55	56	59	51	51	55	37	51	51
Lack of security (viruses, hackers)	66	66	83	58	59	61	42	55	62

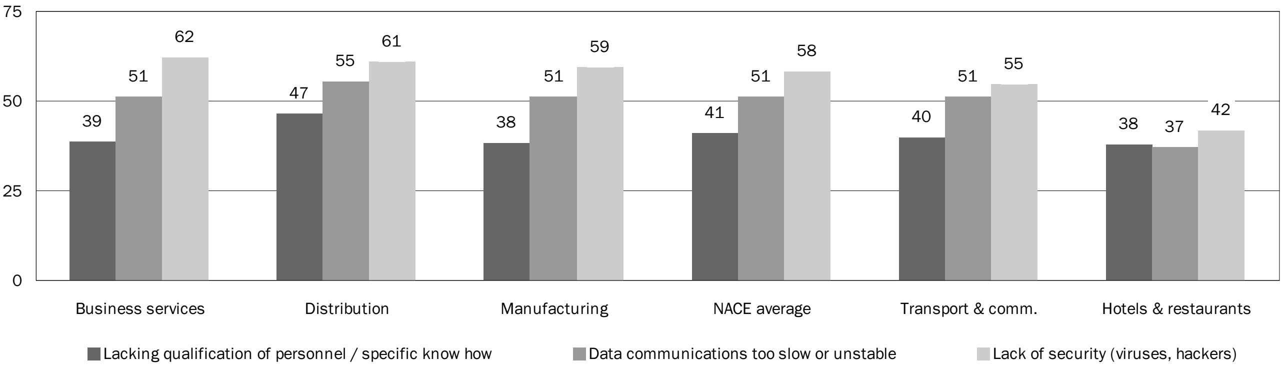
(1) All participating Member States, excluding NL; activity breakdown excluding D and S.
(2) Excluding FIN.
(3) Excluding S.
Source: E-commerce database, Eurostat

Figure 2.1.19: Barriers to using the Internet by enterprise size class, first half 2001 (% of enterprises) (1)



(1) All participating Member States, excluding NL.
(2) Excluding S.
Source: E-commerce database, Eurostat

Figure 2.1.20: Barriers to using the Internet by NACE Section, first half 2001 (% of enterprises) (1)



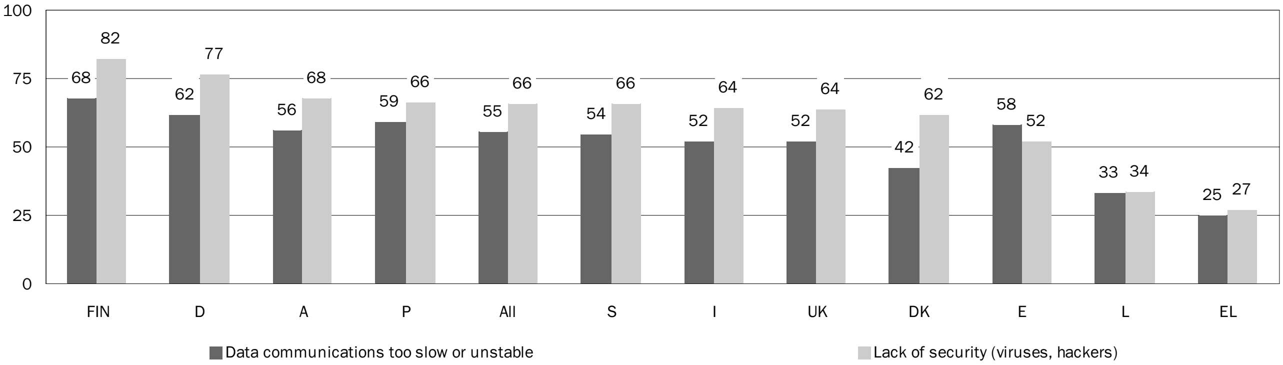
(1) All participating Member States excluding D, NL and S.
Source: E-commerce database, Eurostat

Table 2.1.19: Barriers to using the Internet by Member State, first half 2001 (% of enterprises) (1)

	All	DK	D	EL	E	I	L	NL	A	P	FIN	S	UK
Set-up costs were too high	41	50	43	16	35	33	25	:	43	50	:	66	51
Internet access charges were too high	44	42	45	14	44	34	27	:	44	56	67	54	51
Lacking qualification of personnel / specific know how	47	36	57	22	30	39	25	:	48	54	73	:	49
Lack of perceived benefits for the company	40	42	40	17	40	37	20	:	37	46	66	:	53
Lost working time / irrelevant surfing	41	44	47	19	15	32	23	:	35	50	68	48	52
Data communications too slow or unstable	55	42	62	25	58	52	33	:	56	59	68	54	52
Lack of security (viruses, hackers)	66	62	77	27	52	64	34	:	68	66	82	66	64

(1) All includes each Member State for which data is available in the table for each individual variable.
Source: E-commerce database, Eurostat

Figure 2.1.21: Barriers to using the Internet by Member State, first half 2001 (% of enterprises) (1)



(1) All includes each Member State for which data is available in the graph for each individual variable; NL, not available.
Source: E-commerce database, Eurostat

2.2 PURCHASES

USE OF E-PURCHASING

Over one-quarter of surveyed enterprises (26%) used e-commerce (both via EDI and Internet) to purchase at least some of the goods and services they needed for their activity. In addition, some 8% of enterprises had plans to introduce e-purchasing via Internet during 2001. Recourse to e-purchasing seemed strongly related to the size of the enterprise. Almost half (47%) of the large enterprises surveyed declared using e-commerce to make purchases against only one-quarter of SMEs (25%). Furthermore, certain sectors displayed a far greater use of e-purchasing than others; this was notably the case for business services (29% of enterprises) and distributive trades (20%), as opposed to manufacturing (13%) or hotels and restaurants (11%); the average across all NACE breakdowns was 18%.

Within the manufacturing sector, enterprises active in the manufacture of electrical and optical equipment (28%, NACE Sub-section DL), the manufacture of fuel products (27%, NACE Sub-section DF) and the manufacture of paper and publishing (23%, NACE Sub-section DE) clearly stood out as the main users of e-purchasing. It is surprising not to find amongst this list two activities that had displayed a high use of EDI, namely the manufacture of food, beverages and tobacco products, and transport equipment, where e-purchasing procedures were reported in 7% and 17% of enterprises.

GROWTH OF THE INTERNET FOR E-PURCHASING

Internet has been a recent development in the procurement strategy of most enterprises. At the date of the pilot survey, most enterprises using e-purchasing via Internet had only been using this channel for less than 2 years: 14% for less than two years and only 3% for more than two years. Whilst the proportion of enterprises using the Internet for e-purchasing for more than two years at the date of the survey was relatively similar for SMEs and large enterprises, this has changed. Among large enterprises 31% had started using Internet e-purchasing within the two years prior to the survey, compared to 13% among SMEs.

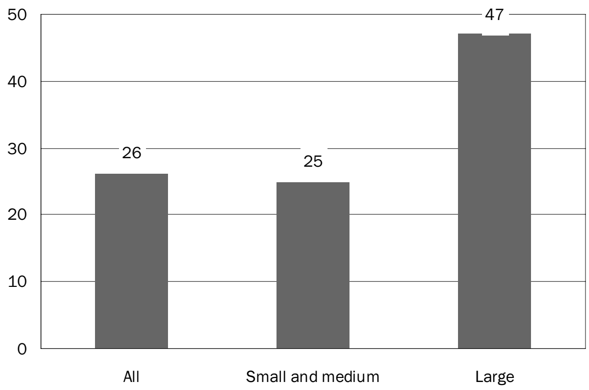
Looking at the penetration of Internet e-purchasing across the different sectors of the economy allows the identification of early and late adopters of e-commerce technology. Distributive trades enterprises clearly appear as early adopters: some 2% of them declared being users of Internet e-purchasing for more than two years and 6% for less than two years; these were higher adoption rates than in any other NACE Section. Transport services and business services also boasted a longer than average history of Internet e-purchasing, both with 2% of enterprises using Internet as a procurement tool for more than two years. Two sectors, in contrast, appear as late converts: manufacturing and hotels and restaurants, where usage rates were still below average, despite strong growth, particularly for manufacturing.

Table 2.2.1: Use of e-purchasing, first half 2001 (% of enterprises) (1)

	All	Small and medium	Large	NACE average	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Business services
Used e-commerce:									
to make purchases	26	25	47	18	13	20	11	17	29
did not use, but planned to in 2001 via Internet (2)	8	8	10	9	7	11	8	8	7
made e-purchases via Internet for less than a year (3)	7	6	11	2	2	3	1	3	3
made e-purchases via Internet for 1-2 years (4)	7	7	20	2	2	3	1	2	2
made e-purchases via Internet for >2 years (4)	3	3	2	2	1	2	1	2	2

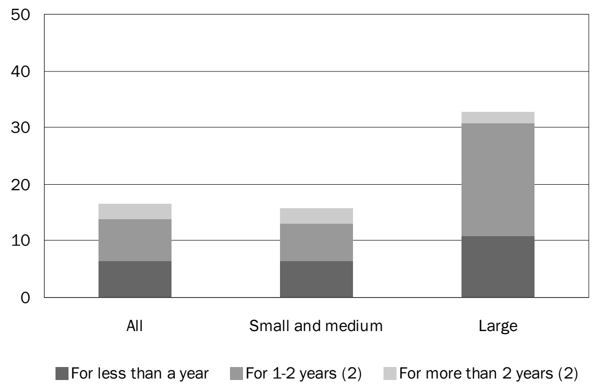
(1) All participating Member States; size class breakdown excluding NL for large enterprises; activity breakdown excluding D and S.
(2) Excluding S. (3) Excluding DK, NL, FIN and S. (4) Excluding DK, NL, FIN, S and UK.
Source: E-commerce database, Eurostat

Figure 2.2.1: Use of e-purchasing by enterprise size class, first half 2001 (% of enterprises using e-purchasing) (1)



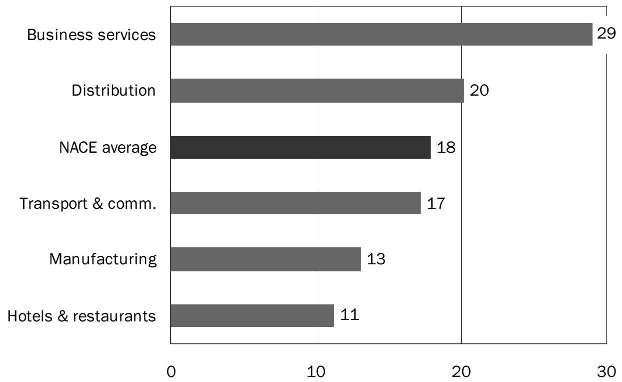
(1) All participating Member States; size class breakdown excluding NL for large enterprises.
Source: E-commerce database, Eurostat

Figure 2.2.2: Use of Internet e-purchasing by enterprise size class, first half 2001 (% of enterprises using e-purchasing) (1)



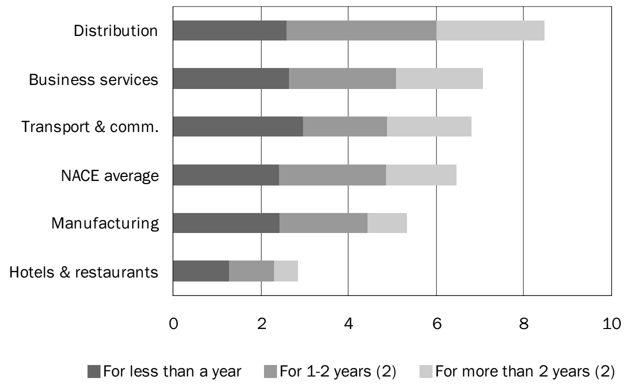
(1) All participating Member States, excluding DK, NL, FIN and S.
(2) Excluding UK.
Source: E-commerce database, Eurostat

Figure 2.2.3: Use of e-purchasing by NACE Section, first half 2001 (% of enterprises using e-purchasing) (1)



(1) All participating Member States, excluding D and S.
Source: E-commerce database, Eurostat

Figure 2.2.4: Use of Internet e-purchasing by NACE Section, first half 2001 (% of enterprises using e-purchasing) (1)



(1) All participating Member States, excluding DK, D, NL, FIN and S.
(2) Excluding UK.
Source: E-commerce database, Eurostat

Table 2.2.2: Use of e-purchasing in the manufacturing sector, first half 2001 (% of enterprises using e-purchasing) (1)

NACE	Sub-section	Used e-purchasing
DA	Food, beverages and tobacco	7
DB	Textiles	6
DC	Leather	4
DD	Wood	6
DE	Pulp, paper, publishing and printing	23
DF	Coke, refined petroleum and nuclear fuel	27
DG	Chemicals and man-made fibres	16
DH	Rubber and plastics	19
DI	Other non-metallic mineral products	7
DJ	Basic metals and fabricated metal products	11
DK	Machinery and equipment n.e.c.	17
DL	Electrical and optical equipment	28
DM	Transport equipment	17
DN	Manufacturing n.e.c.	11

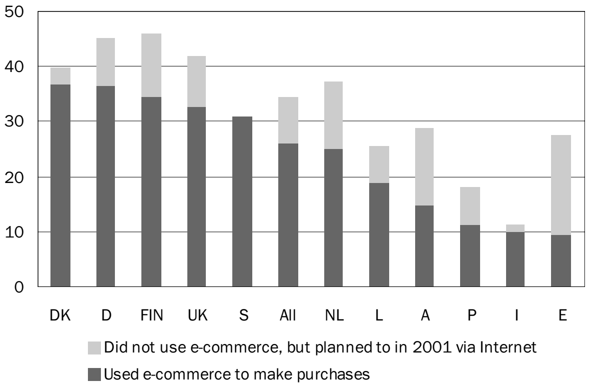
(1) All participating Member States, excluding D, FIN and S;
Sub-section DC excludes DK, L and NL; Sub-sections DD and DI exclude NL;
Sub-section DF excludes L and A; Sub-section DG excludes DK and NL;
Sub-section DH excludes DK.
Source: E-commerce database, Eurostat

Table 2.2.3: Use of e-purchasing in the Member States, first half 2001 (% of enterprises) (1)

	All	DK	D	EL	E	I	L	NL	A	P	FIN	S	UK
Used e-commerce:													
to make purchases	26	37	37	5	9	10	19	25	15	11	35	31	33
did not use, but planned to in 2001 via Internet	8	3	9	5	18	1	7	12	14	7	11	:	9
made e-purchases via Internet for less than a year	7	:	13	2	3	5	5	:	5	3	:	:	0
made e-purchases via Internet for 1-2 years	7	:	14	2	4	3	9	:	5	4	:	:	:
made e-purchases via Internet for >2 years	3	:	5	1	3	2	5	:	4	3	:	:	:

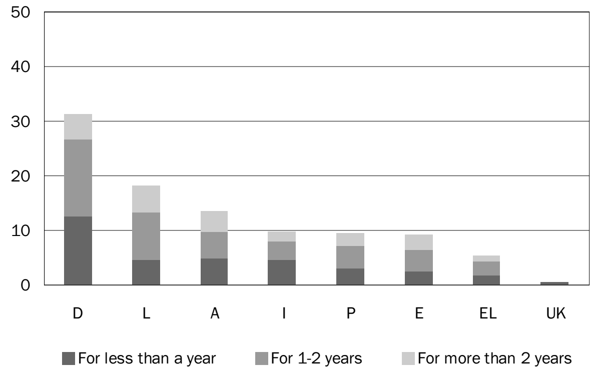
(1) All includes each Member State for which data is available in the table for each individual variable.
Source: E-commerce database, Eurostat

Figure 2.2.5: Use of e-purchasing in the Member States, first half 2001 (% of enterprises) (1)



(1) All includes each Member State for which data is available in the graph for each individual variable; S, not available for did not use e-commerce but planned to in 2001 via Internet.
Source: E-commerce database, Eurostat

Figure 2.2.6: Use of Internet e-purchasing in the Member States, first half 2001 (% of enterprises) (1)



(1) DK, NL, FIN and S, not available; UK, only available for less than a year.
Source: E-commerce database, Eurostat

VALUE OF E-PURCHASING

In total, e-purchasing (including all networks, Internet or not) represented a very small share of total purchases made by enterprises: less than one-fifth of enterprises (18%) made 1% or more of their total purchases, while just 5% of enterprises made 10% or more of their purchases through e-purchasing.

Only 2% of enterprises made 25% or more of their purchases through e-purchasing. Around 1% of enterprises made 50% or more of their purchases through e-purchasing, however this share was higher in Finland and the United Kingdom (3%).

Table 2.2.4: Extent of the use of Internet e-purchasing in the Member States, 2000 (% of enterprises) (1)

	All	Small and medium	Large	NACE average	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Business services
Use of Internet e-purchasing:									
for 1% or more of purchases	18	18	32	10	7	10	5	9	18
for 2% or more of purchases	11	11	14	6	4	6	3	7	12
for 5% or more of purchases	8	8	7	5	3	5	2	6	9
for 10% or more of purchases	4	4	3	2	1	3	1	3	4
for 25% or more of purchases	1	1	0	1	1	1	:	1	1
for 50% or more of purchases	0	0	0	0	0	1	:	1	0

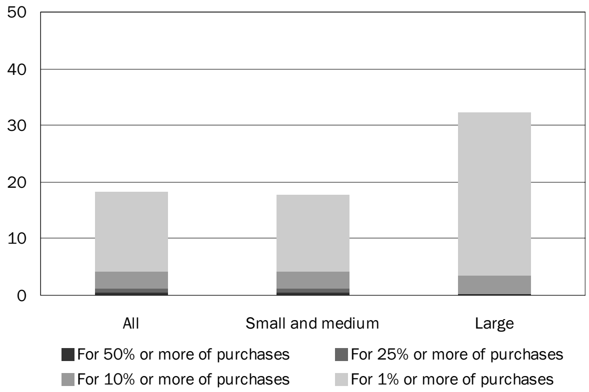
(1) All participating Member States, excluding NL; activity breakdown excluding D and S.
Source: E-commerce database, Eurostat

Table 2.2.5: Extent of the use of e-purchasing in the Member States, 2000 (% of enterprises) (1)

	All	Small and medium	Large	NACE average	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Business services
Use of Internet and EDI e-purchasing:									
for 1% or more of purchases	18	17	33	10	7	13	6	10	17
for 2% or more of purchases	11	11	15	7	4	9	3	7	12
for 5% or more of purchases	8	8	8	6	3	8	3	6	10
for 10% or more of purchases	5	5	4	4	2	7	1	4	4
for 25% or more of purchases	2	2	1	2	1	4	0	2	1
for 50% or more of purchases	1	1	1	1	0	3	:	2	1

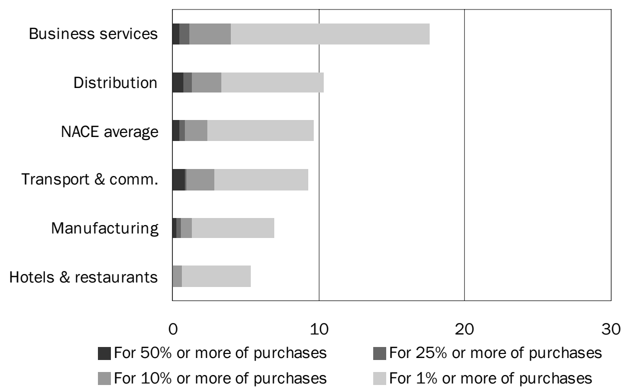
(1) All participating Member States, excluding DK, NL and S; activity breakdown excluding D.
Source: E-commerce database, Eurostat

Figure 2.2.7: Extent of use of Internet e-purchasing by enterprise size class, 2000 (% of enterprises using Internet e-purchasing) (1)



(1) All participating Member States, excluding NL.
Source: E-commerce database, Eurostat

Figure 2.2.8: Extent of use of Internet e-purchasing by NACE Section, 2000 (% of enterprises using Internet e-purchasing) (1)



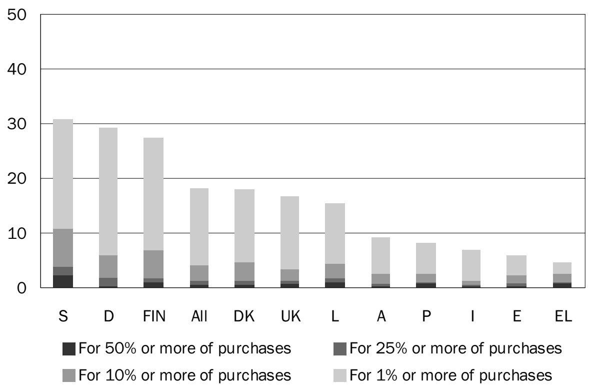
(1) All participating Member States, excluding D, NL and S;
25% or more and 50% or more not available for Hotels and restaurants.
Source: E-commerce database, Eurostat

Table 2.2.6: Extent of the use of e-purchasing in the Member States, 2000 (% of enterprises using e-purchasing) (1)

	All	DK	D	EL	E	I	L	NL	A	P	FIN	S	UK
Use of Internet e-purchasing:													
for 1% or more of purchases	18	18	29	5	6	7	15	:	9	8	28	31	17
for 2% or more of purchases	11	12	17	4	3	5	9	:	7	5	20	22	10
for 5% or more of purchases	8	8	12	3	3	3	8	:	4	4	15	18	8
for 10% or more of purchases	4	5	6	3	2	1	4	:	2	2	7	11	3
for 25% or more of purchases	1	1	2	1	1	0	2	:	1	1	2	4	1
for 50% or more of purchases	0	1	0	1	0	0	1	:	0	1	1	2	1
Use of Internet and EDI e-purchasing:													
for 1% or more of purchases	18	:	29	5	6	7	16	:	11	9	30	:	20
for 2% or more of purchases	11	:	17	4	3	5	10	:	8	6	23	:	14
for 5% or more of purchases	8	:	12	3	3	3	8	:	6	5	18	:	12
for 10% or more of purchases	5	:	6	3	3	2	5	:	4	4	10	:	7
for 25% or more of purchases	2	:	2	1	1	0	3	:	2	2	4	:	4
for 50% or more of purchases	1	:	0	1	1	0	2	:	1	2	3	:	3

(1) All includes each Member State for which data is available in the table for each individual variable.
Source: E-commerce database, Eurostat

Figure 2.2.9: Extent of use of Internet e-purchasing in the Member States, 2000 (% of enterprises using Internet e-purchasing) (1)



(1) All includes each Member State for which data is available in the graph for each individual variable; NL, not available.
Source: E-commerce database, Eurostat

USE OF E-PURCHASING BY FUNCTION

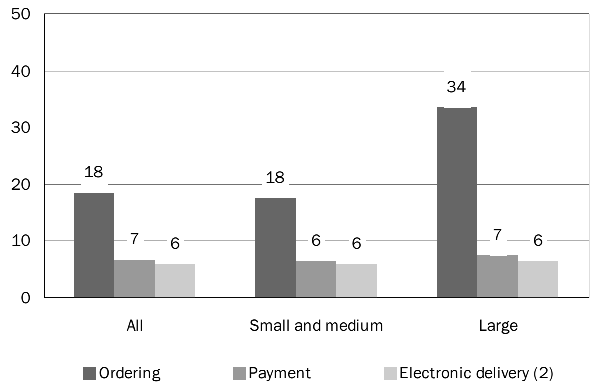
E-commerce may be used at several different stages of a transaction, including ordering, payment and electronic delivery, the latter in the case of weightless merchandise such as software, documents or services. Note that for this survey sending or receiving orders via manually written e-mails was not considered as e-commerce.

Ordering was by far the most common e-purchasing process used by enterprises. Some 18% of them declared having ordered goods or services via the Internet, a share that reached 34% for large enterprises.

Amongst e-purchasing processes, electronic payment may require specific efforts, including building a secure environment and establishing the trust of both parties as regards the security and confidentiality of the data exchanged. This may partly explain why electronic payment was generally much less frequent than ordering. Only 7% of enterprises paid via Internet for the goods and services purchased. The quite broad gap between ordering and payment in the case of the Internet may be explained by the security issues with respect to this type of e-commerce.

Approximately one in ten enterprises active in distributive trades, transport services and business services use the Internet as a tool for purchase ordering.

Figure 2.2.10: E-purchasing processes by enterprise size class, first half 2001 (% of enterprises performing different e-purchasing processes via Internet) (1)



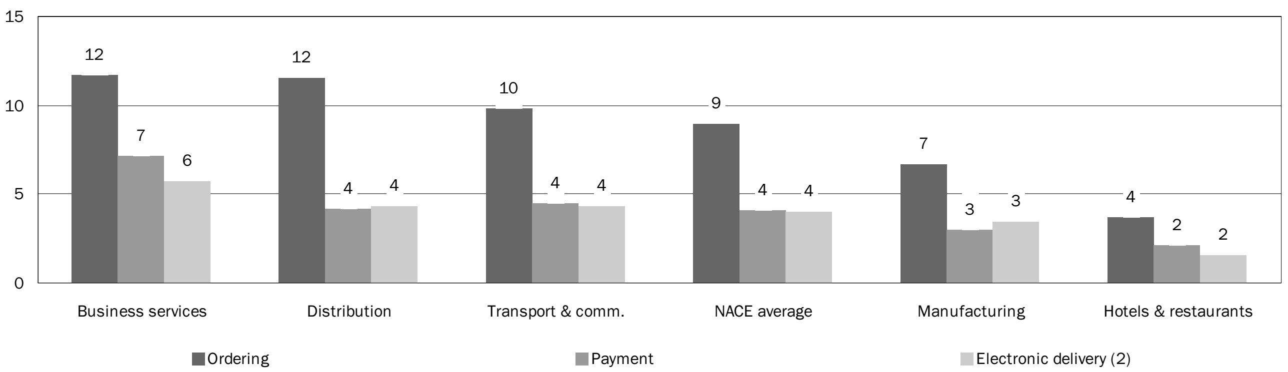
(1) All participating Member States, excluding UK; size class breakdown excluding NL for large enterprises.
(2) Excluding NL; the data for electronic delivery for DK, FIN and S are not comparable with other countries for methodological reasons.
Source: E-commerce database, Eurostat

Table 2.2.7: E-purchasing processes, first half 2001 (% of enterprises performing different e-purchasing processes)

	All	Small and medium	Large	NACE average	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Business services
E-purchasing processes via Internet:									
ordering	18	18	34	9	7	12	4	10	12
payment	7	6	7	4	3	4	2	4	7
electronic delivery (2)	6	6	6	4	3	4	2	4	6

(1) All participating Member States, excluding UK; size class breakdown excluding NL for large enterprises; activity breakdown excluding D and S.
(2) Excluding NL; the data for electronic delivery for DK, FIN and S are not comparable with other countries for methodological reasons.
Source: E-commerce database, Eurostat

Figure 2.2.11: E-purchasing processes by NACE Section, first half 2001 (% of enterprises performing different e-purchasing processes via Internet) (1)



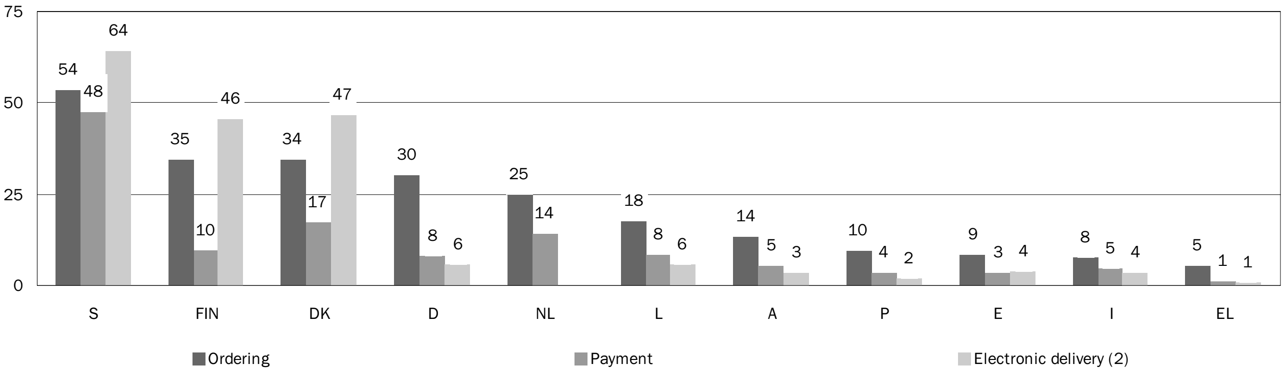
(1) All participating Member States, excluding D, S and UK.
(2) Excluding NL; the data for electronic delivery for DK and FIN are not comparable with other countries for methodological reasons.
Source: E-commerce database, Eurostat

Table 2.2.8: E-purchasing processes in the EU, first half 2001
(% of enterprises performing different e-purchasing processes)

	DK	D	EL	E	I	L	NL	A	P	FIN	S	UK
E-purchasing processes via Internet:												
ordering	34	30	5	9	8	18	25	14	10	35	54	:
payment	17	8	1	3	5	8	14	5	4	10	48	:
electronic delivery (1)	47	6	1	4	4	6	:	3	2	46	64	:
E-purchasing processes via EDI:												
ordering	:	8	0	0	0	2	:	2	2	:	:	:
payment	:	6	0	0	0	2	:	2	1	:	:	:
electronic delivery (1)	:	2	0	0	0	0	:	1	1	:	:	:

(1) The data for electronic delivery for DK, FIN and S are not comparable with other countries for methodological reasons.
Source: E-commerce database, Eurostat

Figure 2.2.12: Internet e-purchasing processes in the Member States, first half 2001
(% of enterprises performing different e-purchasing processes via Internet) (1)



(1) UK, not available.
(2) The data for electronic delivery for DK, FIN and S are not comparable with other countries for methodological reasons; NL, not available.
Source: E-commerce database, Eurostat

2.3 SALES

USE OF E-SALES

The pilot survey shows that enterprises were generally less active in selling than in purchasing by electronic means. Indeed, only 18% of surveyed enterprises declared using e-commerce to make sales (using EDI and/or Internet). However, 11% of enterprises had plans to start using Internet e-commerce as a channel for sales in 2001.

As with e-purchasing, large enterprises were much more prone to engage in e-sales than smaller ones. Some 42% of large enterprises declared using e-commerce to make sales against only 17% of SMEs.

Enterprises in the sector of hotels and restaurants appeared as the most frequent users of electronic distribution channels, with 15% of them active in e-sales, a remarkable result when compared to the relatively low IT equipment rate and the weak recourse to e-commerce for purchases evidenced in earlier sections of this publication. The hotels and restaurants sector was also the only NACE (at the Section level) amongst those surveyed where the e-sales usage rate was greater than the corresponding e-purchasing rate. Across all NACE breakdowns the average share of enterprises making e-sales was 10%.

In contrast, e-sales attracted only 8% of manufacturing enterprises, a proportion lower than in any service sector. At the level of NACE Sub-sections, almost one in four enterprises engaging in the manufacture of fuel products had implemented e-sales processes (24%, NACE Sub-section DF). This high proportion comes as a confirmation of the high penetration of e-commerce in this sector and mirrors the result recorded in terms of e-purchasing. The same cannot be said about the manufacturing of electrical and optical equipment that recorded the highest frequency of e-purchasing amongst manufacturing activities, whilst just more than one in ten enterprises were engaged in e-sales (12%).

COMPARISON OF EDI AND THE INTERNET FOR E-SALES

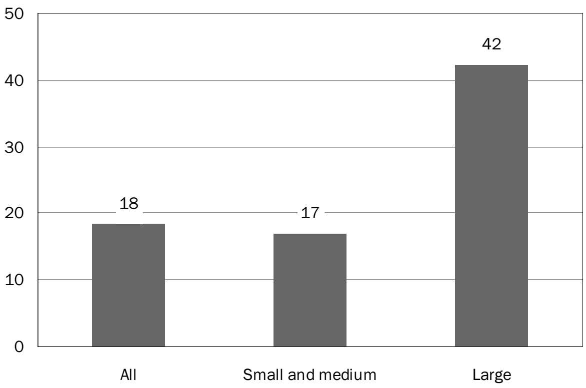
A small proportion of enterprises had been selling via the Internet for more than two years (2%) but the proportion has been growing quickly over time, with 5% using the Internet for e-sales for the last one or two years, and 6% having embraced it during the year prior to the pilot survey.

Table 2.3.1: Use of e-sales, first half 2001 (% of enterprises making e-sales) (1)

	All	Small and medium	Large	NACE average	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Business services
Used e-commerce:									
to make sales	18	17	42	10	8	11	15	12	9
did not use, but planned to in 2001 via Internet	11	11	16	9	9	11	7	10	9
made e-sales for less than a year (2)	6	5	15	1	1	2	1	3	1
made e-sales for 1-2 years (3)	5	5	8	1	1	2	4	1	1
made e-sales for >2 years (3)	2	2	4	1	0	0	2	1	0

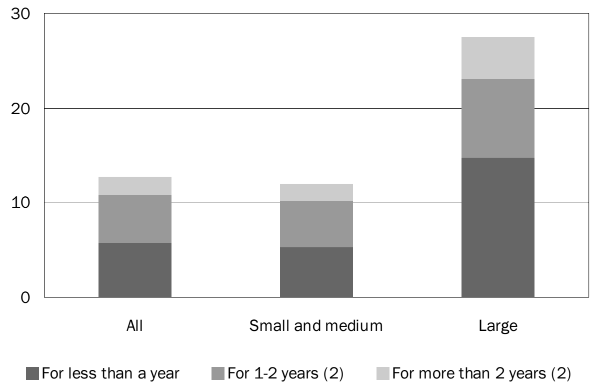
(1) All participating Member States; size class breakdown excluding NL for large enterprises; activity breakdown excluding D and S.
(2) Excluding DK, NL, FIN and S.
(3) Excluding DK, NL, FIN, S and UK.
Source: E-commerce database, Eurostat

Figure 2.3.1: Use of e-sales by enterprise size class, first half 2001 (% of enterprises making e-sales) (1)



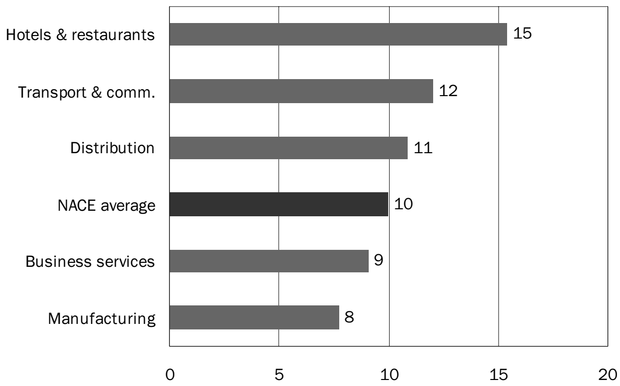
(1) All participating Member States; size class breakdown excluding NL for large enterprises.
Source: E-commerce database, Eurostat

Figure 2.3.2: Use of Internet e-sales by enterprise size class, first half 2001 (% of enterprises making e-sales) (1)



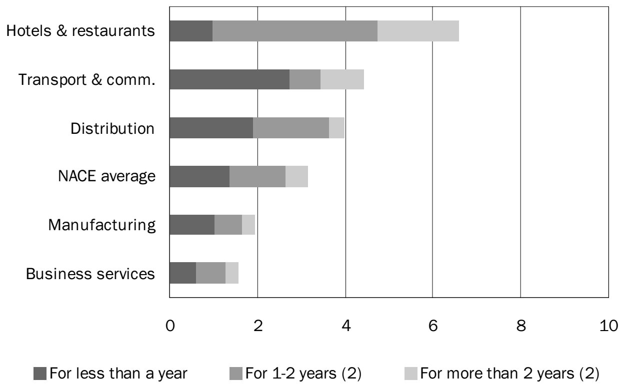
(1) All participating Member States, excluding DK, NL, FIN and S.
(2) Excluding UK.
Source: E-commerce database, Eurostat

Figure 2.3.3: Use of e-sales by NACE Section, first half 2001 (% of enterprises making e-sales) (1)



(1) All participating Member States, excluding D and S.
Source: E-commerce database, Eurostat

Figure 2.3.4: Use of Internet e-sales by NACE Section, first half 2001 (% of enterprises making e-sales) (1)



(1) All participating Member States, excluding DK, D, NL, FIN and S.
(2) Excluding UK.
Source: E-commerce database, Eurostat

Table 2.3.2: Use of e-sales in the manufacturing sector, first half 2001 (% of enterprises making e-sales) (1)

NACE Sub-section		Used e-sales
DA	Food, beverages and tobacco	9
DB	Textiles	4
DC	Leather	3
DD	Wood	5
DE	Pulp, paper, publishing and printing	13
DF	Coke, refined petroleum and nuclear fuel	24
DG	Chemicals and man-made fibres	10
DH	Rubber and plastics	12
DI	Other non-metallic mineral products	4
DJ	Basic metals and fabricated metal products	6
DK	Machinery and equipment n.e.c.	8
DL	Electrical and optical equipment	12
DM	Transport equipment	12
DN	Manufacturing n.e.c.	7

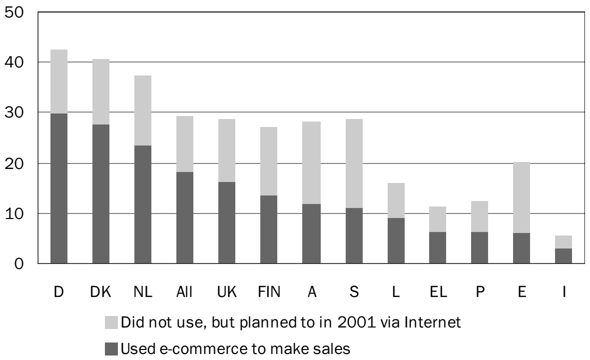
(1) All participating Member States, excluding D, FIN and S;
Sub-section DC excludes DK, L and NL; Sub-sections DD and DI exclude NL;
Sub-section DF excludes L and A; Sub-section DG excludes DK and NL;
Sub-section DH excludes DK.
Source: E-commerce database, Eurostat

Table 2.3.3: Use of e-sales in the Member States, first half 2001 (% of enterprises) (1)

	All	DK	D	EL	E	I	L	NL	A	P	FIN	S	UK
Used e-commerce:													
to make sales	18	28	30	6	6	3	9	23	12	6	14	11	16
did not use, but planned to in 2001 via Internet	11	13	13	5	14	2	7	14	16	6	13	17	12
did not use, but planned to in 2001 via EDI	1	:	2	1	1	0	0	:	2	0	:	:	:
made e-sales via Internet for less than a year	6	:	12	3	2	2	3	:	3	2	:	:	0
made e-sales via Internet for 1-2 years	5	:	10	2	3	1	4	:	5	2	:	:	:
made e-sales via Internet for >2 years	2	:	4	1	1	1	2	:	3	1	:	:	:
made e-sales via EDI for less than a year	0	:	0	0	0	1	0	:	0	0	:	:	:
made e-sales via EDI for 1-2 years	1	:	1	0	0	0	0	:	0	1	:	:	:
made e-sales via EDI for >2 years	2	:	4	0	1	0	1	:	1	0	:	:	:

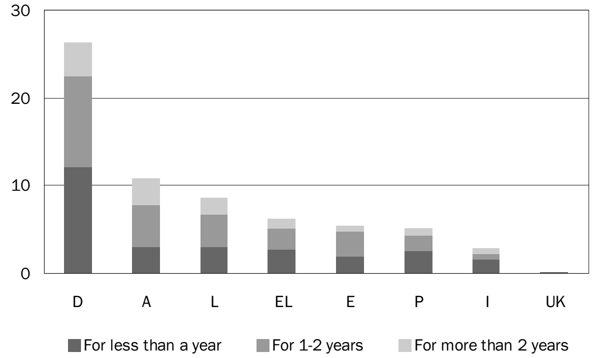
(1) All includes each Member State for which data is available in the table for each individual variable.
Source: E-commerce database, Eurostat

Figure 2.3.5: Use of e-sales in the Member States, first half 2001 (% of enterprises making e-sales or planning to) (1)



(1) All includes each Member State for which data is available in the graph for each individual variable.
Source: E-commerce database, Eurostat

Figure 2.3.6: Use of Internet e-sales in the Member States, first half 2001 (% of enterprises making e-sales) (1)



(1) DK, NL, FIN and S, not available; UK, only available for less than a year.
Source: E-commerce database, Eurostat

VALUE AND DESTINATION OF E-SALES

Four EU Member States - Denmark, Italy, Luxembourg and Austria - as well as Norway provided quite complete information on the value of Internet e-commerce sales by geographical destination; these show very different patterns. Danish and Austrian Internet e-commerce sales were, for example, heavily concentrated in their own countries in 2000 (81% and 88% by value respectively), while in Luxembourg sales within the country were just over one-third (35%). Internet e-commerce sales to other EU countries dominated the Luxembourg figures and were more than four times higher than the value of sales to non-EU countries. In Italy 58% of sales were domestic, 26% were destined for other EU Member States and 15 % for countries outside of the EU. In Norway 86% of sales were within the country, while exports to EU Member States represented 8% of sales.

Internet sales to households represented in 2000 12% of Internet sales in Denmark, 13% in Norway, 16% in Sweden and 17% in the United Kingdom. All e-commerce sales to households represented 7% of all e-commerce sales in Austria, 15% in the United Kingdom and 31% in Luxembourg.

As a share of total turnover e-commerce sales amounted to 0.5% in Luxembourg, 1.1% in Italy, 2.1% in Portugal, 2.5% in Austria, 5.2% in the United Kingdom, 5.7% in Denmark, 8.1% in Norway and 13.3% in Sweden.

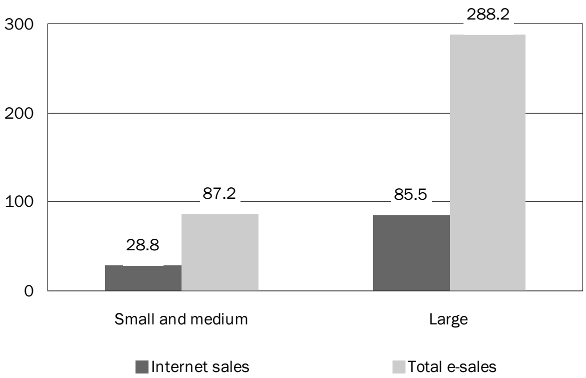
Internet sales represented for most countries less than 1% of turnover: 0.4% in Italy, 0.5% in Luxembourg, 0.6% in Norway, 0.7% in Finland, 0.8% in Portugal, 0.9% in Denmark, 1.0% in Austria, 1.8% in the United Kingdom and 2.0% in Sweden.

Table 2.3.4: Value of e-sales, 2000 (billion EUR) (1)

	All	Small and medium	Large	NACE average	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Business services
Internet sales	114.1	28.8	85.5	32.3	11.7	12.8	1.3	3.9	2.4
Total e-sales	373.8	87.2	288.2	166.6	92.8	54.7	1.7	12.3	5.1

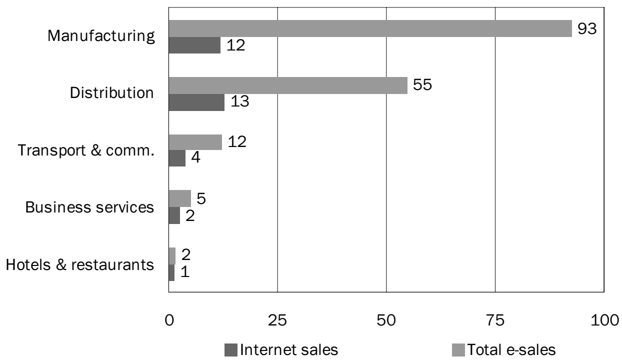
(1) All participating Member States, excluding D, EL, E and NL; activity breakdown excluding FIN and S.
Source: E-commerce database, Eurostat

Figure 2.3.7: Value of e-sales by enterprise size class, 2000 (billion EUR) (1)



(1) All participating Member States, excluding D, EL, E and NL.
Source: E-commerce database, Eurostat

Figure 2.3.8: Value of e-sales by NACE Section, 2000 (billion EUR) (1)



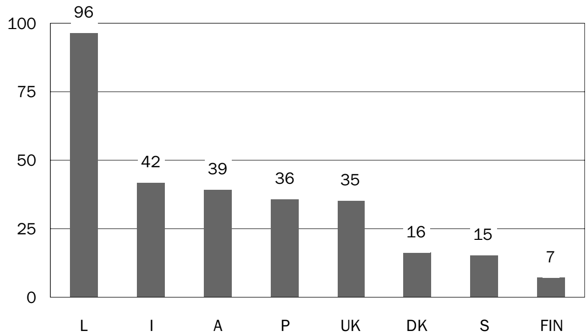
(1) All participating Member States, excluding D, EL, E, NL, FIN and S.
Source: E-commerce database, Eurostat

Table 2.3.5: Value of e-sales broken down by type of sale and destination in the Member States, 2000 (million EUR)

	DK	D	EL	E	I	L	NL	A	P	FIN	S	UK
Value of Internet sales:												
total	1,585	:	:	:	5,809	112	:	3,243	1,232	1,829	7,388	92,899
to own country	1,286	:	:	:	3,378	39	:	2,840	:	:	5,586	90,711
to EU countries	182	:	:	:	1,531	59	:	291	:	:	878	60
to other countries	117	:	:	:	900	14	:	112	:	:	855	2,129
to households	193	:	:	:	:	:	:	:	:	:	1,152	16,243
Value of e-sales:												
total	9,722	:	:	:	13,951	117	:	8,238	3,433	24,766	48,158	265,397
to own country	:	:	:	:	11,116	39	:	5,994	:	:	:	:
to EU countries	:	:	:	:	1,856	60	:	1,849	:	:	:	583
to other countries	:	:	:	:	978	14	:	395	:	:	:	10,579
to households	:	:	:	:	:	36	:	573	21	:	:	39,872

Source: E-commerce database, Eurostat

Figure 2.3.9: Proportion of Internet sales in all e-sales, by Member State, 2000 (%, based on value of sales) (1)



(1) D, EL, E and NL, not available.
Source: E-commerce database, Eurostat

EXTENT OF E-SALES

E-commerce still represented a very small share of the total sales made by enterprises: only 10% of surveyed enterprises declared achieving more than 1% of their turnover on-line and only 3% more than 10% of their turnover, although these proportions were higher among larger enterprises (22% and 4% respectively).

Table 2.3.6: Extent of the use of Internet e-sales, 2000 (% of enterprises) (1)

	All	Small and medium	Large	NACE average	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Business services
Use of Internet e-sales:									
for 1% or more of sales	9	8	20	4	3	4	9	5	3
for 2% or more of sales	6	6	8	3	2	2	7	4	3
for 5% or more of sales	4	4	4	2	2	2	3	2	2
for 10% or more of sales	2	2	2	1	1	1	2	2	1
for 25% or more of sales	0	0	0	0	0	0	1	1	0
for 50% or more of sales	0	0	0	0	0	0	:	:	0

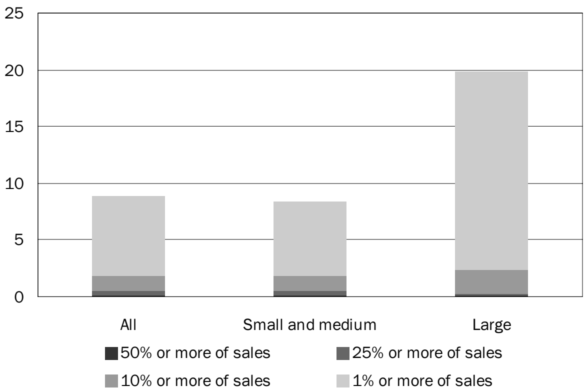
(1) All participating Member States, excluding NL; activity breakdown excluding D and S.
Source: E-commerce database, Eurostat

Table 2.3.7: Extent of the use of e-sales, 2000 (% of enterprises using Internet and EDI for e-sales) (1)

	All	Small and medium	Large	NACE average	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Business services
Use of Internet and EDI for e-sales:									
for 1% or more of sales	10	10	22	6	5	6	10	8	6
for 2% or more of sales	7	7	10	5	4	4	8	6	4
for 5% or more of sales	5	4	6	4	3	3	5	5	3
for 10% or more of sales	3	3	4	2	3	2	3	3	2
for 25% or more of sales	1	1	2	1	1	1	1	2	1
for 50% or more of sales	0	0	1	1	1	1	:	2	1

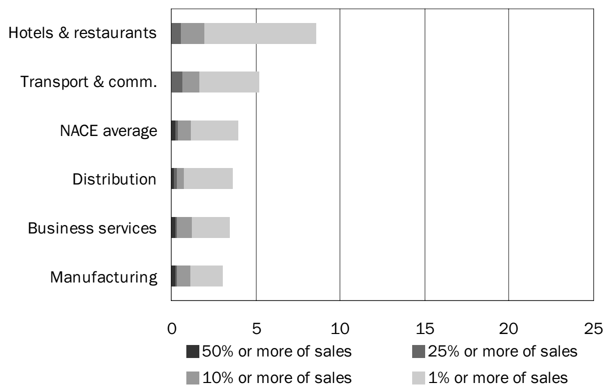
(1) All participating Member States; size class breakdown excluding NL for large enterprises; activity breakdown excluding D and S.
Source: E-commerce database, Eurostat

Figure 2.3.10: Extent of use of Internet e-sales by enterprise size class, 2000 (% of enterprises) (1)



(1) All participating Member States, excluding NL.
Source: E-commerce database, Eurostat

Figure 2.3.11: Extent of use of Internet e-sales by NACE Section, 2000 (% of enterprises) (1)



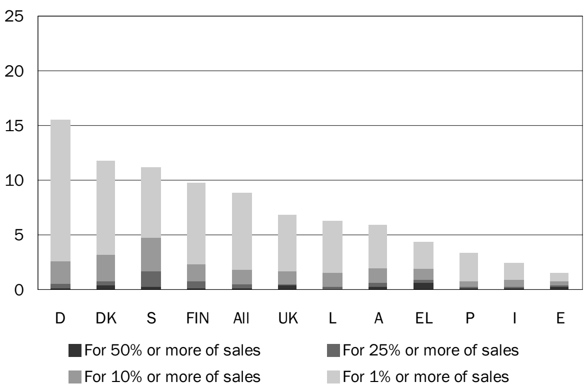
(1) All participating Member States, excluding D, NL and S; 50% or more not available for Hotels and restaurants and Transport and communication.
Source: E-commerce database, Eurostat

Table 2.3.8: Extent of the use of e-sales in the Member States, 2000 (% of enterprises using Internet and EDI for e-sales) (1)

	All	DK	D	EL	E	I	L	NL	A	P	FIN	S	UK
Use of Internet e-sales:													
for 1% or more of sales	9	12	15	4	2	2	6	:	6	3	10	11	7
for 2% or more of sales	6	9	9	4	1	2	4	:	5	2	7	9	5
for 5% or more of sales	4	6	6	3	1	1	3	:	3	1	5	7	3
for 10% or more of sales	2	3	3	2	1	1	2	:	2	1	2	5	2
for 25% or more of sales	0	1	1	1	0	0	0	:	1	0	1	2	1
for 50% or more of sales	0	0	0	1	0	0	0	:	0	0	0	0	0
Use of Internet and EDI e-sales:													
for 1% or more of sales	10	16	15	5	2	3	7	15	7	4	14	16	9
for 2% or more of sales	7	14	9	4	2	2	4	10	6	3	11	14	7
for 5% or more of sales	5	11	6	3	1	2	3	7	5	3	9	12	5
for 10% or more of sales	3	7	3	2	1	2	2	4	3	2	5	9	4
for 25% or more of sales	1	3	1	1	1	0	0	1	1	1	3	5	2
for 50% or more of sales	0	2	0	1	0	0	0	1	1	1	1	3	1

(1) All includes each Member State for which data is available in the table for each individual variable.
Source: E-commerce database, Eurostat

Figure 2.3.12: Extent of use of Internet e-sales in the Member States, 2000 (% of enterprises) (1)



(1) All includes each Member State for which data is available in the graph for each individual variable; NL, not available.
Source: E-commerce database, Eurostat

USE OF E-SALES BY FUNCTION

Using e-commerce for selling may range from the simple presentation of the company and its products over the Internet - an electronic version of brochures and catalogues - to more developed interfaces allowing the taking of orders and, if applicable, the delivery of products. In the pilot survey, the following sales processes were studied: enterprise information, price information, taking orders, accepting payments and electronic delivery. Note that sending or receiving orders via manually written e-mails was not considered as e-commerce.

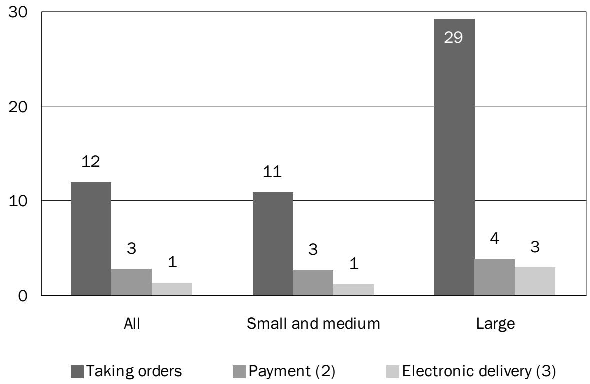
Taking orders and giving information on products and services and prices were the three most frequent sales process used by enterprises over the Internet. This underlines the information providing role of the Internet, both in B2B and B2C relations.

Security concerns may at least partly explain the relatively low percentage of enterprises accepting payments over the Internet. There were on average only 3% of enterprises doing this, some 9 percentage points below the share of enterprises taking orders on the Internet.

These security concerns were apparently shared by large enterprises and SMEs, as both recorded low - and similar - penetration rates for e-payment procedures (4% and 3%). Large enterprises were however much more active than SMEs for the other e-sales processes: for example 29% of large enterprises took orders over the Internet, whilst only around one in ten SMEs did (11%).

The pilot survey did not show a great variety between economic sectors in terms of their use of different e-sales processes, except for hotels and restaurants. As already noted, this sector reported a higher than average use of e-sales but this was limited to the processes of product and price information and taking orders. The use of e-sales by this sector for taking payments and the delivery of products was however close to the average across all NACE.

Figure 2.3.13: Internet e-sales processes by enterprise size class, first half 2001 (% of enterprises performing different e-sales processes) (1)



(1) All participating Member States, excluding UK.
(2) Size class breakdown excluding FIN.
(3) Excluding NL and FIN.
Source: E-commerce database, Eurostat

Table 2.3.9: Internet e-sales processes, first half 2001 (% of enterprises performing different e-sales processes) (1)

	All	Small and medium	Large	NACE average	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Business services
E-sales processes via Internet:									
taking orders	12	11	29	5	3	6	6	6	4
payment (2)	3	3	4	1	1	2	2	3	1
electronic delivery (3)	1	1	3	1	0	1	1	2	1

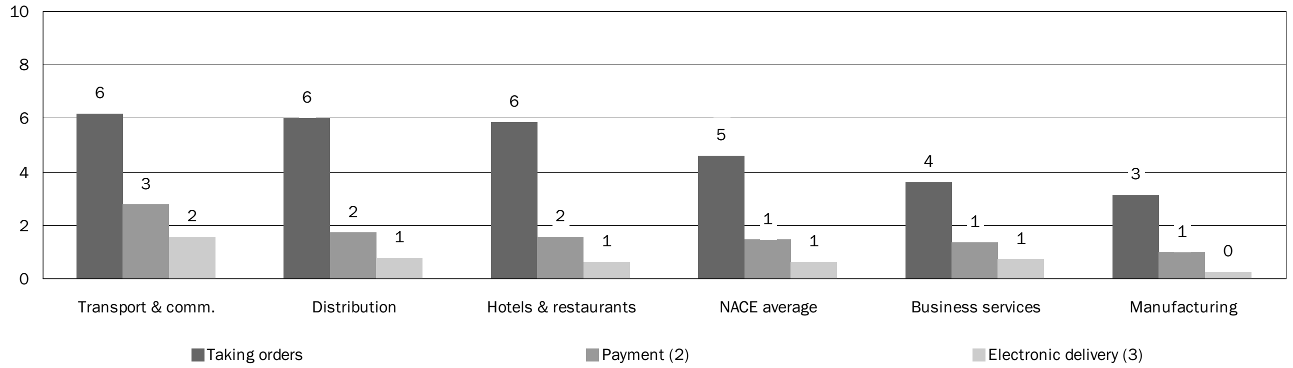
(1) All participating Member States, excluding UK; activity breakdown excluding D and S.
(2) Size class and activity breakdown excluding FIN.
(3) Excluding NL and FIN.
Source: E-commerce database, Eurostat

Table 2.3.10: Internet e-sales processes, first half 2001 (% of enterprises performing different e-sales processes) (1)

	All	Small and medium	Large	NACE average	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Business services
Providing product information	13	12	32	3	2	4	6	5	2
Providing price information	10	10	26	3	2	3	7	4	2

(1) All participating Member States, excluding DK, NL, S and UK; activity breakdown excluding D.
Source: E-commerce database, Eurostat

Figure 2.3.14: Internet e-sales processes by NACE Section, first half 2001 (% of enterprises performing different e-sales processes) (1)



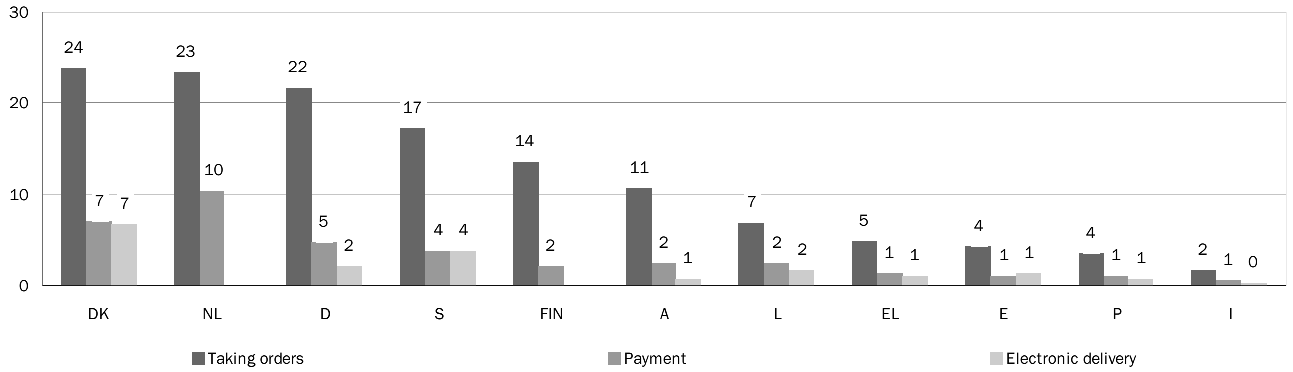
(1) All participating Member States, excluding D, S and UK.
(2) Excluding FIN.
(3) Excluding NL and FIN.
Source: E-commerce database, Eurostat

Table 2.3.11: E-sales processes in the Member States, first half 2001 (% of enterprises performing different e-sales processes) (1)

	All	DK	D	EL	E	I	L	NL	A	P	FIN	S	UK
E-sales via Internet:													
product information	13	:	26	6	5	2	8	:	11	5	29	:	:
price information	10	:	21	5	4	1	4	:	9	4	29	:	:
taking orders	12	24	22	5	4	2	7	23	11	4	14	17	:
payment	3	7	5	1	1	1	2	10	2	1	2	4	:
electronic delivery	1	7	2	1	1	0	2	:	1	1	:	4	:
E-sales via EDI:													
product information	1	:	2	0	0	0	1	:	0	0	:	:	:
price information	1	:	3	0	0	0	0	:	0	1	:	:	:
taking orders	2	:	5	0	1	0	0	:	2	1	:	:	:
payment	2	:	4	0	0	0	0	:	1	1	:	:	:
electronic delivery	1	:	1	0	0	0	0	:	0	0	:	:	:

(1) All includes each Member State for which data is available in the table for each individual variable.
Source: E-commerce database, Eurostat

Figure 2.3.15: Internet e-sales processes in the Member States, first half 2001 (% of enterprises performing different e-sales processes) (1)

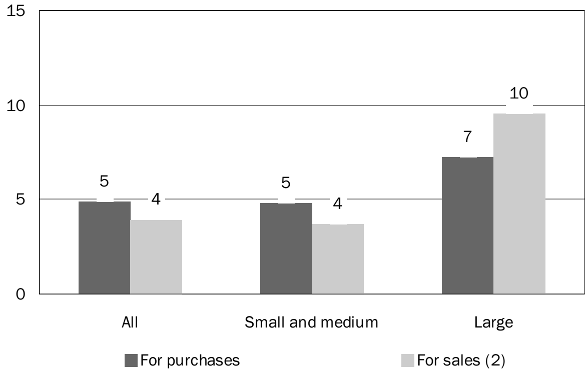


(1) UK, not available; NL and FIN, not available for electronic delivery.
Source: E-commerce database, Eurostat

2.4 USE OF MARKETPLACES

One of the most notable developments in e-commerce in the late 1990s has been the emergence of B2B marketplaces, aiming at facilitating transactions between enterprises. These consist of specialised sites that allow buyers and suppliers to meet each other virtually and to trade. This is one area of e-commerce that is expected to benefit from enterprises' attention to reducing transaction costs, either with their suppliers or with their customers. Direct benefits for purchasing enterprises may come from lower prices, for example through greater competition, or a more direct relationship with upstream manufacturers cutting out intermediaries (disintermediation). Indirect benefits may be derived through a reduced need to hold stocks, as orders can be processed faster, or through greater security of supply coming from a broader supplier base without increased transaction costs. Marketplaces may be public ones with several suppliers and several customers participating or private ones where one customer establishes a marketplace to be used by many or all of its suppliers.

Figure 2.4.1: Use of specialised B2B marketplaces by enterprise size class, first half 2001 (% of enterprises using B2B marketplaces) (1)



(1) All participating Member States excluding NL.
(2) Excluding FIN.
Source: E-commerce database, Eurostat

Amongst surveyed enterprises, 5% declared using B2B marketplaces to make purchases, and 4% to make sales. The share of enterprises using e-marketplaces represented approximately one-fifth of the share of those active in e-commerce.

When the results of the pilot survey are analysed by size class breakdown, a difference between SMEs and large enterprises is apparent with regard to their use of B2B marketplaces. Indeed, SMEs present within B2B e-marketplaces were there more to buy (5%) than to sell (4%), whilst large enterprises were more frequently selling (10%) than buying (7%).

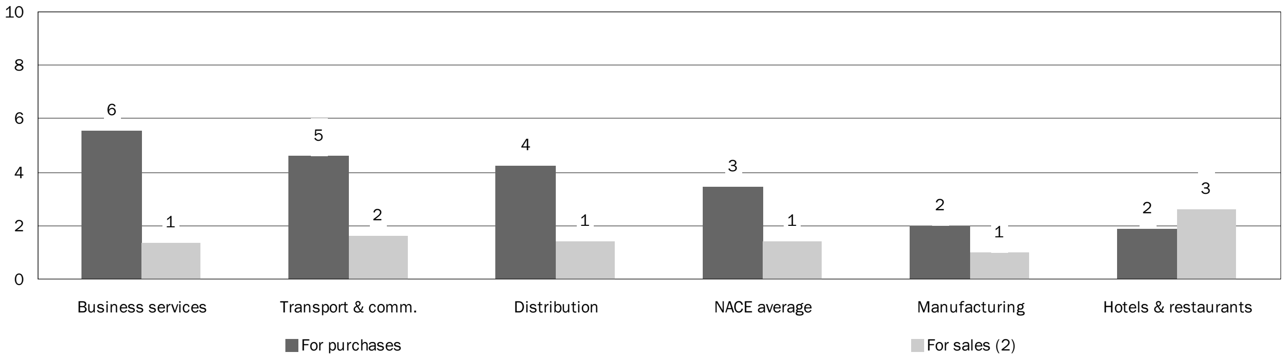
Business services enterprises were the most likely to use e-marketplaces as purchasers (6%) and enterprises in the hotels and restaurants sector were the most likely to use them as sellers (3%). These results are in line with the high proportion of enterprises in these sectors active in e-sales and e-purchases. However, in relative terms, the proportion of e-traders that used specialist e-marketplaces for purchases was notably high in transport services where approximately one-quarter of enterprises making e-purchase used these marketplaces.

Table 2.4.1: Use of specialised B2B marketplaces, first half 2001 (% of enterprises using B2B marketplaces) (1)

	All	Small and medium	Large	NACE average	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Business services
Used e-commerce to make purchases	26	25	47	18	13	20	11	17	29
Purchases through B2B Internet marketplaces (2)	5	5	7	3	2	4	2	5	6
Used e-commerce to make sales	18	17	42	10	8	11	15	12	9
Sales through B2B Internet marketplaces (3)	4	4	10	1	1	1	3	2	1

(1) All participating Member States; size class breakdown excluding NL for large enterprises; activity breakdown excluding D and S.
(2) Excluding NL.
(3) Excluding NL and FIN.
Source: E-commerce database, Eurostat

Figure 2.4.2: Use of specialised B2B marketplaces by NACE Section, first half 2001 (% of enterprises using B2B marketplaces) (1)



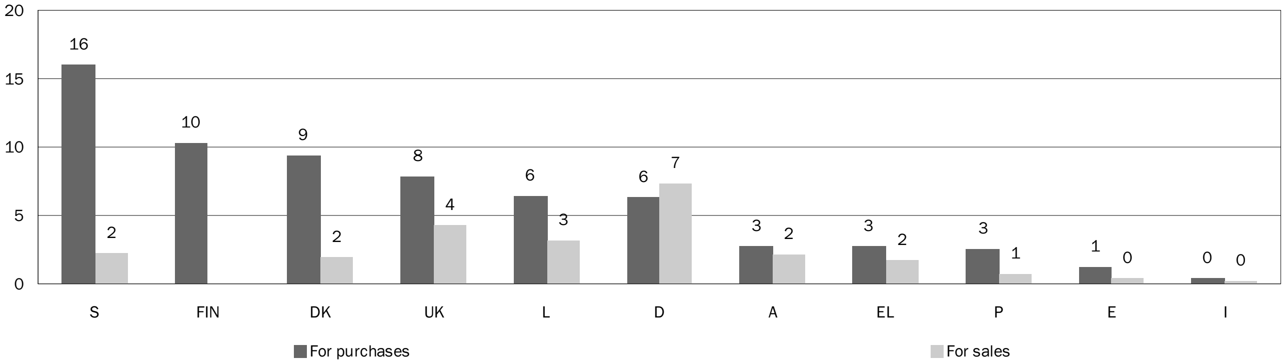
(1) All participating Member States excluding D, NL and S.
(2) Excluding FIN.
Source: E-commerce database, Eurostat

Table 2.4.2: Use of specialised B2B marketplaces in the Member States, first half 2001 (% of enterprises using B2B marketplaces)

	DK	D	EL	E	I	L	NL	A	P	FIN	S	UK
Used e-commerce to make purchases	37	37	5	9	10	19	25	15	11	35	31	33
Purchases through B2B Internet marketplaces	9	6	3	1	0	6	:	3	3	10	16	8
Used e-commerce to make sales	28	30	6	6	3	9	23	12	6	14	11	16
Sales through B2B Internet marketplaces	2	7	2	0	0	3	:	2	1	:	2	4
Proportion of e-traders that use specialist B2B marketplaces:												
for purchases	26	17	50	13	4	34	:	19	22	30	52	24
for sales	7	25	26	7	7	35	:	18	11	:	20	26

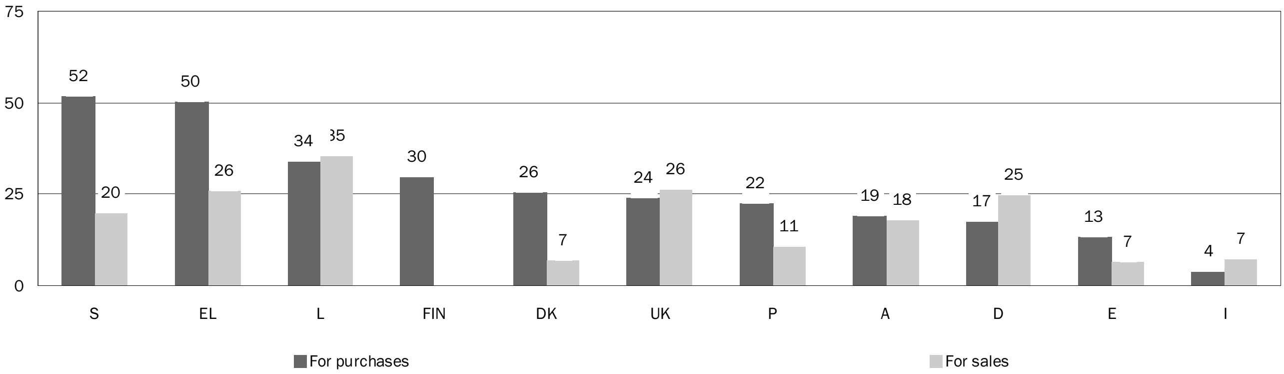
Source: E-commerce database, Eurostat

Figure 2.4.3: Use of specialised B2B marketplaces in the Member States, first half 2001 (% of enterprises using B2B marketplaces) (1)



(1) NL, not available; FIN, not available for sales.
Source: E-commerce database, Eurostat

Figure 2.4.4: Use of specialised B2B marketplaces by e-traders, first half 2001 (% of e-traders using B2B marketplaces) (1)



(1) NL, not available; FIN, not available for sales.
Source: E-commerce database, Eurostat

2.5 BUSINESS PERCEPTION

PROBLEMS AND BARRIERS OF E-PURCHASING

Confirming the need for a trustworthy environment in which to conduct e-commerce, enterprises cited the uncertainties about the conditions under which transactions take place as the main problems when using e-purchasing or as a barrier to using it, not taking into account cases where goods and services cannot be purchased on-line. Uncertainties concerning contracts, terms of delivery and guarantees were said to be of high or some importance by 40% of enterprises, and uncertainty in making payments by 37% of enterprises. Delivery costs were the least important barrier to e-commerce, cited by only 24% of enterprises.

An analysis by enterprise size class shows some differences in perceptions. When engaging in e-purchasing, the main concern of large enterprises was the perceived lack of potential suppliers (cited by 51% of them), more or less at the same level as uncertainties concerning contract, delivery and guarantee conditions which was the main concern among SMEs.

PROBLEMS AND BARRIERS OF E-SALES

In contrast, cost considerations appear as the main concern for enterprises as regards e-sales, with no less than 40% of the enterprises surveyed agreeing that the cost of developing and maintaining an e-commerce system was an important barrier to them selling on-line. Uncertainties concerning contracts, terms of delivery and guarantees were mentioned by 37% of enterprises, about the same proportion of enterprises as mentioned the perceived lack of potential customers (36%).

The most frequently cited issue for both large enterprises and SMEs was cost; the apprehension of hurting sales in existing channels and the perceived lack of customers were the next most important problems for large enterprises, whilst SMEs again focused on security concerns. The results of the pilot survey indicate that large enterprises felt better prepared to face the uncertainties surrounding e-commerce transactions than SMEs.

BENEFITS OF E-PURCHASING

Enterprises considering or having embraced e-purchasing value the speed of processing (18%) and the simplification of tasks (16%) as the main benefits of this form of procurement, ahead of cost savings (13%). It must be noted that cost savings may also be achieved indirectly from the other benefits. No significant differences could be observed from one sector to another, suggesting that these benefits are not specific to one activity, but should rather be seen as intrinsic to e-commerce. In contrast, gains in relation to processing speed were seen as more important than the simplification of tasks by SMEs, whilst the opposite was true for large enterprises.

BENEFITS OF E-SALES

As regards the benefits of e-sales, embracing this channel of distribution is seen as much as a decision to conquer new markets, in the form of new customers (14%) or new territories (10%), as a reactive move in response to competitors' strategies with a view to avoid losing markets (11%). Improved processing speed was also cited by more than one in ten enterprises as a benefit of e-sales.

Table 2.5.1: Perception of barriers to e-purchases in the EU, first half 2001 (% of enterprises reporting a particular barrier as important) (1)

	(%)
Barriers:	
goods & services not suitable for e-commerce	37
stock of (potential) suppliers too small	35
delivery costs too high	24
logistical problems (speed and timeliness of delivery)	30
uncertainty in making payments	37
uncertainty for contracts, terms of delivery & guarantees	40

(1) All participating Member States excluding DK, NL, FIN and S.
Source: E-commerce database, Eurostat

Table 2.5.2: Perception of barriers to e-sales in the first half 2001 (% of enterprises reporting a particular barrier as important) (1)

	(%)
Barriers:	
goods & services not suitable for e-commerce	41
stock of (potential) customers too small	36
uncertainty for payments	38
uncertainty for contracts, terms of delivery & guarantees	37
cost of developing / maintaining system too high	40
logistical problems	31
consideration for damaging existing sales channels	34

(1) All participating Member States excluding NL.
Source: E-commerce database, Eurostat

Table 2.5.3: Perception of benefits from e-purchases in the EU, first half 2001 (% of enterprises reporting a particular benefit as important) (1)

	(%)
Benefits:	
cost savings	13
speed of processing	18
simplification of tasks	16
offers from a large number of suppliers available	9

(1) All participating Member States excluding DK, NL, FIN and S.
Source: E-commerce database, Eurostat

Table 2.5.4: Perception of benefits from e-sales in the EU, first half 2001 (% of enterprises reporting a particular benefit as important) (1)

	(%)
Benefits:	
cost reductions	9
reaching new / more customers	14
geographic expansion of market	10
improvements to quality of service	9
speed of processing	11
simplification of tasks (2)	10
avoid losing market share	11

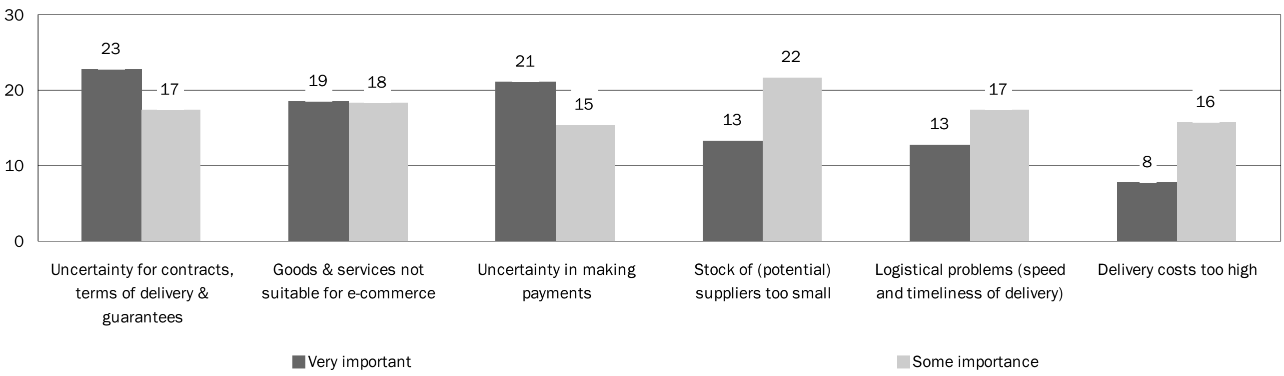
(1) All participating Member States excluding DK and NL.
Source: E-commerce database, Eurostat

Extending their market reach was the most frequently cited benefit of e-sales for SMEs as 13% mentioned access to new customers as a reason for engaging in this type of e-commerce. But a considerable proportion of large enterprises and SMEs considered the move mainly as a defensive one, destined to avoid the loss of market shares; this was the second most cited reason by SMEs (10%), and the most cited reason for large enterprises (30%). Furthermore, cost savings were seen as the least important issue for SMEs, but amongst the top motivations of large enterprises.

Reaching more customers was cited as the most often reported benefit of e-sales in every sector covered by the pilot survey. Improved speed of processing was the next most often reported benefit, except in the hotels and restaurants and transport services sectors, where geographical expansion was the second most commonly perceived benefit; this may be naturally linked to the international nature of these activities.

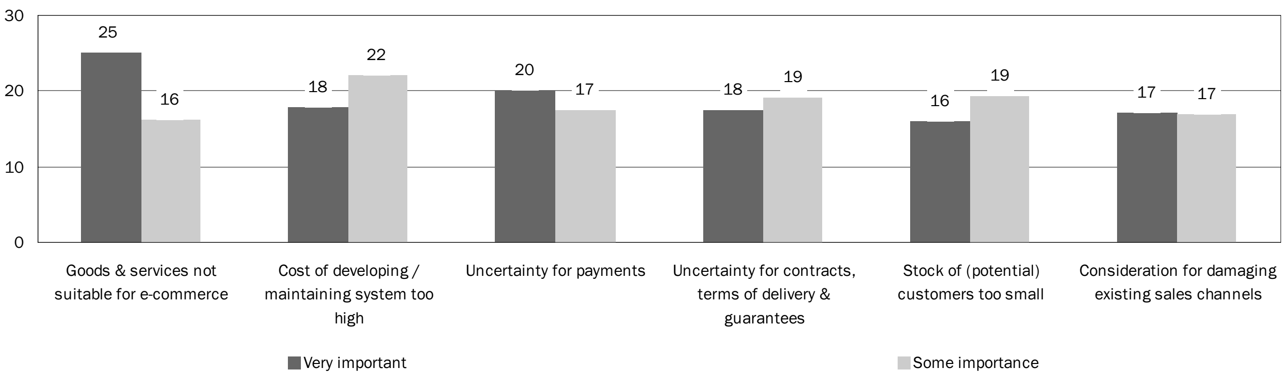
The following methodological points should be noted. The questions concerning the perceived benefits from purchases or sales by e-commerce were only directed to enterprises making e-commerce purchases or sales, however the figures are expressed here as a percentage of all enterprises. On the other hand the questions on problems and barriers were directed to all enterprises and this influences the relative order of magnitude of the answers to the two sets of questions.

Figure 2.5.1: Perception of barriers to e-purchases, first half 2001 (% of enterprises reporting a particular barrier) (1)



(1) All participating Member States excluding DK, NL, FIN and S.
Source: E-commerce database, Eurostat

Figure 2.5.2: Perception of barriers to e-sales, first half 2001 (% of enterprises reporting a particular barrier) (1)



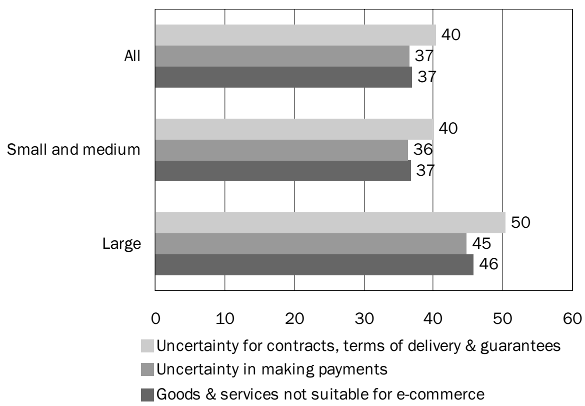
(1) All participating Member States excluding NL.
Source: E-commerce database, Eurostat

Table 2.5.5: Perception of barriers to e-purchases, first half 2001 (% of enterprises reporting a particular barrier as important) (1)

	All	Small and medium	Large	NACE average	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Business services
Goods & services not suitable for e-commerce	37	37	46	40	46	40	27	39	38
Stock of (potential) suppliers too small	35	34	51	36	43	36	22	33	32
Delivery costs too high	24	23	29	26	27	29	16	26	23
Logistical problems (speed and timeliness of delivery)	30	30	43	31	32	34	22	26	29
Uncertainty in making payments	37	36	45	39	43	40	25	36	40
Uncertainty for contracts, terms of delivery & guarantees	40	40	50	43	48	42	28	38	43

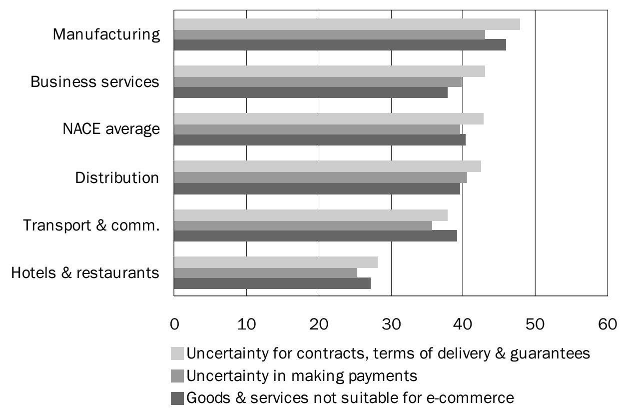
(1) All participating Member States excluding DK, NL, FIN and S; activity breakdown excluding D.
Source: E-commerce database, Eurostat

Figure 2.5.3: Perception of barriers to e-purchases by enterprise size class, first half 2001 (% of enterprises reporting a particular barrier as important) (1)



(1) All participating Member States excluding DK, NL, FIN and S.
Source: E-commerce database, Eurostat

Figure 2.5.4: Perception of barriers to e-purchases by NACE Section, first half 2001 (% of enterprises reporting a particular barrier as important) (1)



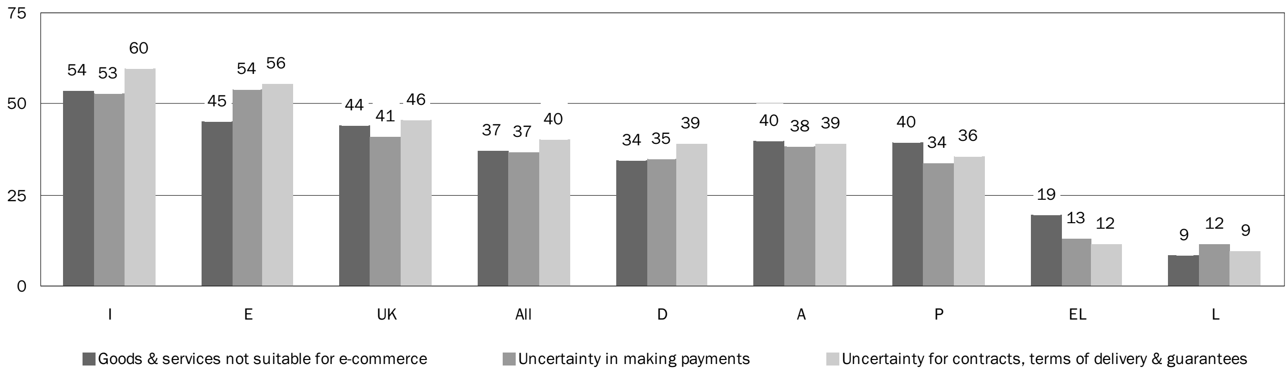
(1) All participating Member States, excluding DK, D, NL, FIN and S.
Source: E-commerce database, Eurostat

Table 2.5.6: Perception of barriers to e-purchases in the Member States, first half 2001 (% of enterprises reporting a particular barrier as important) (1)

	All	DK	D	EL	E	I	L	NL	A	P	FIN	S	UK
Goods & services not suitable for e-commerce	37	:	34	19	45	54	9	:	40	40	:	:	44
Stock of (potential) suppliers too small	35	:	35	13	46	57	9	:	38	20	:	:	42
Delivery costs too high	24	:	22	10	36	29	9	:	21	24	:	:	30
Logistical problems (speed and timeliness of delivery)	30	:	31	9	39	37	9	:	28	29	:	:	36
Uncertainty in making payments	37	:	35	13	54	53	12	:	38	34	:	:	41
Uncertainty for contracts, terms of delivery & guarantees	40	:	39	12	56	60	9	:	39	36	:	:	46

(1) All includes each Member State for which data is available in the table for each individual variable.
Source: E-commerce database, Eurostat

Figure 2.5.6: Perception of barriers to e-purchases in the Member States, first half 2001 (% of enterprises reporting a particular barrier as important) (1)



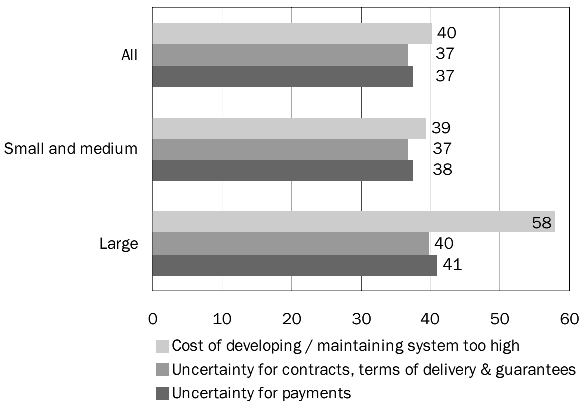
(1) All includes each Member State for which data is available in the graph for each individual variable; DK, NL, FIN and S, not available.
Source: E-commerce database, Eurostat

Table 2.5.7: Perception of barriers to e-sales, first half 2001
(% of enterprises reporting a particular barrier as important) (1)

	All	Small and medium	Large	NACE average	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Business services
Goods & services not suitable for e-commerce	41	41	54	45	48	44	30	39	50
Stock of (potential) customers too small	36	35	41	35	42	36	20	30	29
Uncertainty for payments	37	38	41	39	45	43	23	33	33
Uncertainty for contracts, terms of delivery & guarantees	37	37	40	39	45	41	22	32	34
Cost of developing / maintaining system too high	40	39	58	40	42	45	24	34	38
Logistical problems	31	31	39	34	37	39	19	27	30
Consideration for damaging existing sales channels	34	34	49	37	42	42	21	32	28

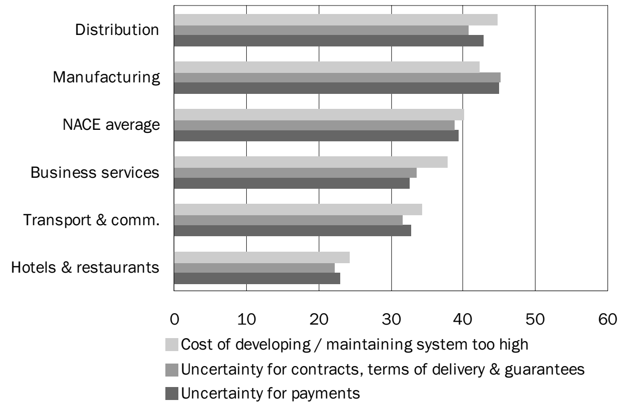
(1) All participating Member States excluding NL; activity breakdown excluding D and S.
Source: E-commerce database, Eurostat

Figure 2.5.7: Perception of barriers to e-sales by enterprise size class, first half 2001 (% of enterprises reporting a particular barrier as important) (1)



(1) All participating Member States excluding NL.
Source: E-commerce database, Eurostat

Figure 2.5.8: Perception of barriers to e-sales by NACE Section, first half 2001 (% of enterprises reporting a particular barrier as important) (1)



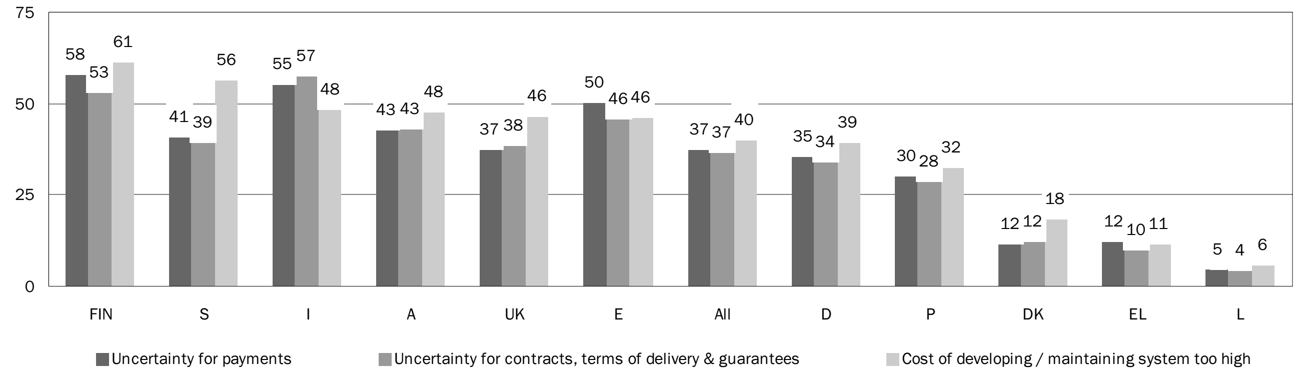
(1) All participating Member States excluding D, NL and S.
Source: E-commerce database, Eurostat

Table 2.5.8: Perception of barriers to e-sales in the Member States, first half 2001
(% of enterprises reporting a particular barrier as important) (1)

	All	DK	D	EL	E	I	L	NL	A	P	FIN
Goods & services not suitable for e-commerce	41	15	36	18	51	57	4	:	54	36	73
Stock of (potential) customers too small	36	12	36	14	50	53	6	:	45	19	61
Uncertainty for payments	37	12	35	12	50	55	5	:	43	30	58
Uncertainty for contracts, terms of delivery & guarantees	37	12	34	10	46	57	4	:	43	28	53
Cost of developing / maintaining system too high	40	18	39	11	46	48	6	:	48	32	61
Logistical problems	31	7	26	10	42	43	5	:	34	25	56
Consideration for damaging existing sales channels	34	10	31	6	61	44	4	:	34	28	68

(1) All includes each Member State for which data is available in the table for each individual variable.
Source: E-commerce database, Eurostat

Figure 2.5.9: Perception of barriers to e-sales in the Member States, first half 2001
(% of enterprises reporting a particular barrier as important) (1)



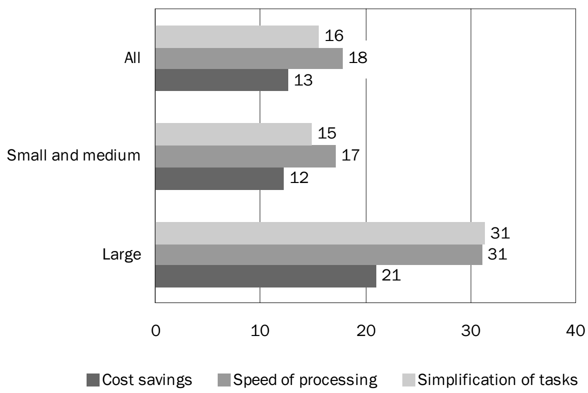
(1) All includes each Member State for which data is available in the graph for each individual variable; NL, not available.
Source: E-commerce database, Eurostat

Table 2.5.9: Perception of benefits from e-purchasing, first half 2001 (% of enterprises reporting a particular benefit as important) (1)

	All	Small and medium	Large	NACE average	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Business services
Cost savings	13	12	21	9	7	9	6	9	14
Speed of processing	18	17	31	12	9	13	8	11	18
Simplification of tasks	16	15	31	10	8	12	5	10	15

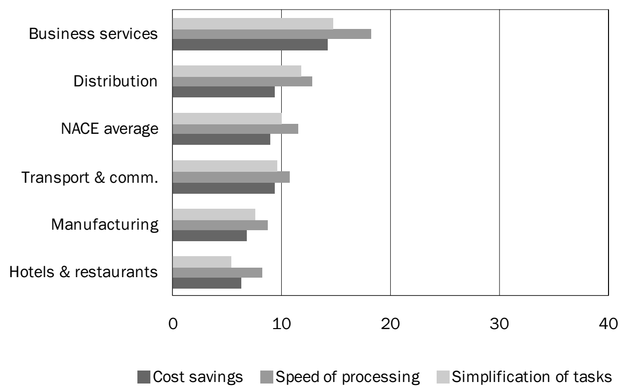
(1) All participating Member States excluding DK, NL, FIN and S; activity breakdown excluding D.
Source: E-commerce database, Eurostat

Figure 2.5.10: Perception of benefits from e-purchasing by enterprise size class, first half 2001 (% of enterprises reporting a particular benefit as important) (1)



(1) All participating Member States excluding DK, NL, FIN and S.
Source: E-commerce database, Eurostat

Figure 2.5.11: Perception of benefits from e-purchasing in the Member States, first half 2001 (% of enterprises reporting a particular benefit as important) (1)



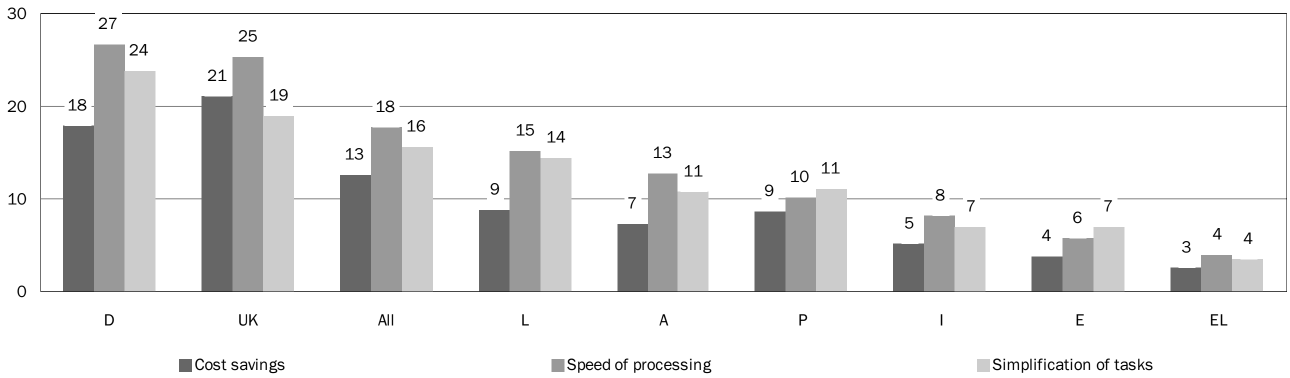
(1) All participating Member States excluding DK, D, NL, FIN and S.
Source: E-commerce database, Eurostat

Table 2.5.10: Perception of benefits from e-purchasing in the Member States, first half 2001 (% of enterprises reporting a particular benefit as important) (1)

	All	DK	D	EL	E	I	L	NL	A	P	FIN	S	UK
Cost savings	13	:	18	3	4	5	9	:	7	9	:	:	21
Speed of processing	18	:	27	4	6	8	15	:	13	10	:	:	25
Simplification of tasks	16	:	24	4	7	7	14	:	11	11	:	:	19

(1) All includes each Member State for which data is available in the table for each individual variable.
Source: E-commerce database, Eurostat

Figure 2.5.12: Perception of benefits from e-purchasing in the Member States, first half 2001 (% of enterprises reporting a particular benefit as important) (1)



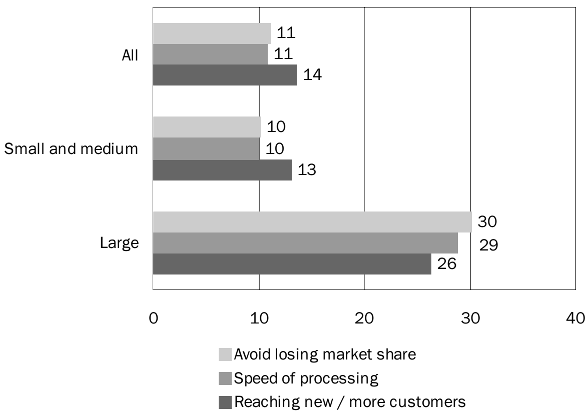
(1) All includes each Member State for which data is available in the graph for each individual variable; DK, NL, FIN and S, not available.
Source: E-commerce database, Eurostat

Table 2.5.11: Perception of benefits from e-sales, first half 2001 (% of enterprises reporting a particular benefit as important) (1)

	All	Small and medium	Large	NACE average	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Business services
Cost reductions	9	8	28	5	4	5	7	6	4
Reaching new / more customers	14	13	26	7	5	7	13	9	8
Geographic expansion of market	10	10	16	6	5	6	10	7	6
Improvements to quality of service	9	9	25	5	4	5	9	6	5
Speed of processing	11	10	29	6	5	6	10	6	6
Simplification of tasks (2)	10	9	27	4	3	5	8	5	3
Avoid losing market share	11	10	30	5	4	6	9	5	5

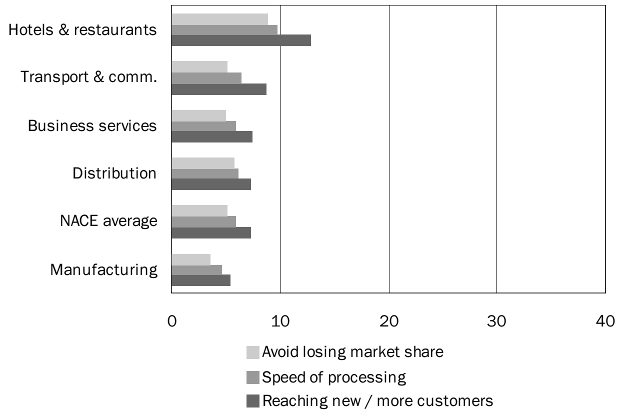
(1) All participating Member States excluding DK and NL; activity breakdown excluding D and S.
(2) Excluding FIN and S.
Source: E-commerce database, Eurostat

Figure 2.5.13: Perception of benefits from e-sales by enterprise size class, first half 2001 (% of enterprises reporting a particular benefit as important) (1)



(1) All participating Member States excluding DK and NL.
Source: E-commerce database, Eurostat

Figure 2.5.14: Perception of benefits from e-sales by NACE Section, first half 2001 (% of enterprises reporting a particular benefit as important) (1)



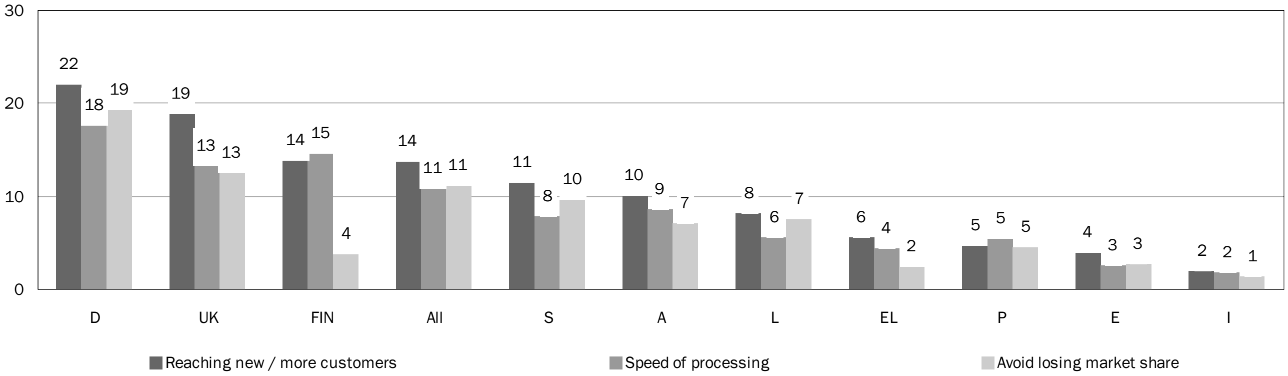
(1) All participating Member States excluding DK, D, NL and S.
Source: E-commerce database, Eurostat

Table 2.5.12: Perception of benefits from e-sales in the Member States, first half 2001 (% of enterprises reporting a particular benefit as important) (1)

	All	DK	D	EL	E	I	L	NL	A	P	FIN	S	UK
Cost reductions	9	:	15	4	3	1	3	:	6	5	7	7	11
Reaching new / more customers	14	:	22	6	4	2	8	:	10	5	14	11	19
Geographic expansion of market	10	:	16	4	3	2	6	:	8	4	12	10	15
Improvements to quality of service	9	:	15	2	2	2	4	:	6	5	18	11	11
Speed of processing	11	:	18	4	3	2	6	:	9	5	15	8	13
Simplification of tasks	10	:	17	4	2	1	6	:	7	6	:	:	9
Avoid losing market share	11	:	19	2	3	1	7	:	7	5	4	10	13

(1) All includes each Member State for which data is available in the table for each individual variable.
Source: E-commerce database, Eurostat

Figure 2.5.15: Perception of benefits from e-sales in the Member States, first half 2001 (% of enterprises reporting a particular benefit as important) (1)



(1) All includes each Member State for which data is available in the graph for each individual variable; DK and NL, not available.
Source: E-commerce database, Eurostat

3. E-COMMERCE IN THE MEMBER STATES AND NORWAY

3. E-COMMERCE IN THE MEMBER STATES AND NORWAY

3.1 DENMARK

ACTIVITY COVERAGE FOR DENMARK IS:
NACE SECTIONS D, F TO I, K AND DIVISION 93

Denmark emerges as one of the Member States in which e-commerce was most widely embraced at the time of the pilot survey - nearly all indicators were above the average.

Computer penetration was amongst the highest recorded in the surveyed countries, with 95% of enterprises having 10 or more employees equipped in October 2000, the date of the survey. Intranets existed in 29% of enterprises, a proportion higher than in seven of the eleven other surveyed Member States. In addition, 87% of Danish enterprises had access to the web, the third highest proportion after Finland and Sweden.

Concerns about cost ranked high amongst the reasons voiced by Danish enterprises for not having access to the Internet - high set-up costs of an Internet connection were the second most cited reason (50% of enterprises), after security concerns.

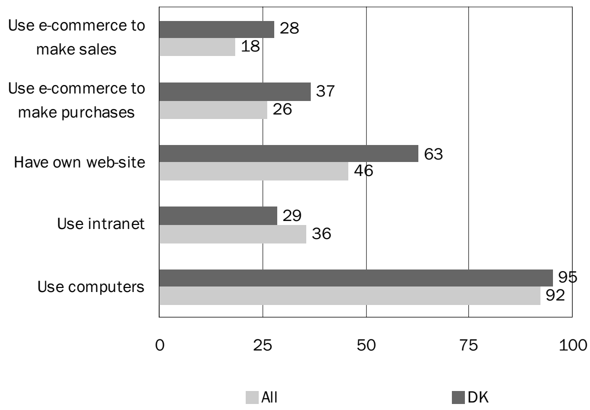
Close to two-thirds of Danish enterprises (63%) stated that they had their own web-site, a proportion that was much higher than the average, and the third highest of all surveyed countries after Germany and Sweden.

Over one-third of Danish enterprises (37%) go on-line to buy at least some goods and services and over one-quarter (28%) have implemented e-sales processes. In both cases, these proportions were more than nine percentage points above average, and the highest or second highest of all surveyed countries.

Looking at the perceived barriers faced when considering e-sales, costs again appear as the most important constraint. For 18% of enterprises, the cost of developing and maintaining an e-commerce system was perceived as the most frequently cited barrier to e-commerce trading, as in most other countries.

Specialised B2B marketplaces were much more popular amongst buyers than sellers in Denmark. Indeed, one-quarter of those enterprises purchasing on-line used them, against only 7% of those engaging in e-sales.

Figure 3.1: Main indicators for Denmark, October 2000 (%)



Source: E-commerce database, Eurostat

In November 2001 Denmark carried out a new round of e-commerce surveys. Results related to the reference year 2001 and the coverage was for enterprises with 5 or more employees - the results quoted above for the 2000 reference year related to enterprises with 10 or more employees. The activity coverage also included the construction sector (NACE Section F). At the end of 2001 95% of Danish enterprises with 5 or more employees used a computer, 89 % had Internet access (81% in 2000), 62 % their own homepage (52% in 2000), 36% had purchased via the Internet and 20% made Internet sales. Turnover from Internet sales amounted to 1.7 billion EUR (or just under 1% of turnover in private non-agricultural sectors), compared to 1.6 billion EUR in 2000.

Households accounted for 20% of Internet sales. Internet sales were destined mainly for the domestic market (81%) to other EU Member States (14%).

Table 3.1.1: Computer and network use in Denmark, October 2000 (%)

	All	Small and medium	Large	NACE average	Manu- facturing	Distribution	Hotels & restaurants	Transport & comm.	Business services
Used computers	95	95	100	96	98	98	93	88	95
Used Intranet:	29	27	68	32	23	34	32	25	47
did not use but plan to in 2001	7	7	17	8	8	10	4	5	6
did not use & do not plan to (or non-response)	64	65	14	60	68	56	64	69	47
Used EDI:	19	18	61	21	19	27	6	20	18
did not use but plan to in 2001	9	9	10	10	8	13	11	6	7
Had web access:	87	86	99	89	88	91	83	77	92
did not have but plan to in 2001	3	3	1	3	4	3	1	5	1
Had own web-site:	63	62	89	67	65	69	75	48	76
did not have but plan to in 2001	13	13	8	13	15	12	7	14	9
did not have & did not plan to (or non-response)	24	25	3	20	20	19	18	38	15

Source: E-commerce database, Eurostat

Table 3.1.2: Barriers to Internet use in Denmark, October 2000 (%) (1)

	All	Small and medium	Large	NACE average	Manu- facturing	Distribution	Hotels & restaurants	Transport & comm.	Business services
Set-up costs were too high	50	50	47	51	51	57	64	43	38
Internet access charges were too high	42	42	41	43	43	48	39	36	34
Lacking qualification of personnel / specific know how	36	36	30	37	36	40	38	39	29
Lack of perceived benefits for the company	42	42	44	43	47	47	42	35	34
Lost working time / irrelevant surfing	44	44	44	45	48	50	38	41	35
Data communications too slow or unstable	42	42	40	44	43	48	42	36	40
Lack of security (viruses, hackers)	62	62	73	64	66	64	60	60	65

(1) Share of respondents answering that these barriers were very important or had some importance.
Source: E-commerce database, Eurostat

Table 3.1.3: Use of specialised B2B Internet marketplaces in Denmark, October 2000 (%)

	All	Small and medium	Large	NACE average	Manu- facturing	Distribution	Hotels & restaurants	Transport & comm.	Business services
Purchases made	9	9	15	10	7	12	7	7	16
Sales made	2	2	4	2	1	3	7	1	2

Source: E-commerce database, Eurostat

Table 3.1.4: Extent of network use for purchasing in Denmark, October 2000 (%)

	All	Small and medium	Large	NACE average	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Business services
Used e-commerce:									
to make purchases	37	36	66	41	38	45	33	24	52
did not use, but plan to in 2001 via Internet	3	3	5	3	3	3	2	5	3
Used Internet in 2000 for:									
1% or more of purchases	18	18	28	20	19	17	19	10	32
2% or more of purchases	12	12	15	13	11	12	19	4	22
5% or more of purchases	8	8	9	9	7	8	10	4	15
10% or more of purchases	5	5	4	5	3	5	9	1	9
25% or more of purchases	1	1	1	1	0	2	4	0	1
50% or more of purchases	1	1	1	0	0	1	0	0	1

Source: E-commerce database, Eurostat

Table 3.1.5: Type of network use for purchasing in Denmark, October 2000 (%)

	All	Small and medium	Large	NACE average	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Business services
E-purchasing via Internet:									
ordering	34	34	62	39	37	39	31	23	52
payment	17	17	37	19	16	18	16	8	36
electronic delivery	47	46	73	51	50	51	37	32	65

Source: E-commerce database, Eurostat

Table 3.1.6: Extent of network use for sales in Denmark, October 2000 (%)

	All	Small and medium	Large	NACE average	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Business services
Used e-commerce:									
to make sales	28	27	46	30	25	36	54	23	29
did not use, but plan to in 2001 via Internet	13	13	25	15	17	15	10	17	9
Value of Internet sales in 2000 (as a share of total sales):									
total	1	1	1	1	1	1	3	1	1
to own country	1	1	1	1	0	1	2	0	1
to EU countries	0	0	0	0	0	0	1	0	0
to other countries	0	0	0	0	0	0	0	0	0
to households	0	0	0	0	0	0	1	0	0
Value of e-sales in 2000 (as a share of total sales):									
total	6	5	7	6	6	7	6	3	2
Used Internet in 2000 for:									
1% or more of sales	12	12	16	13	11	14	38	9	12
2% or more of sales	9	9	9	10	9	10	32	6	10
5% or more of sales	6	6	5	7	6	6	25	5	8
10% or more of sales	3	3	3	4	3	3	19	3	5
25% or more of sales	1	1	1	1	1	0	4	1	2
50% or more of sales	0	0	1	0	1	0	0	0	1
Used all networks (Internet & EDI) in 2000 for:									
1% or more of sales	16	16	34	19	17	21	39	16	14
2% or more of sales	14	13	29	16	15	17	33	13	13
5% or more of sales	11	10	23	12	12	12	26	10	11
10% or more of sales	7	7	17	8	8	8	19	8	6
25% or more of sales	3	3	9	3	3	3	4	3	3
50% or more of sales	2	1	6	2	2	2	0	2	1

Source: E-commerce database, Eurostat

Table 3.1.7: Type of network use for sales in Denmark, October 2000 (%)

	All	Small and medium	Large	NACE average	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Business services
E-sales via Internet:									
taking orders	24	24	29	26	19	30	54	18	27
payment	7	7	7	8	5	10	8	4	9
electronic delivery	7	7	13	8	5	8	13	4	12

Source: E-commerce database, Eurostat

Table 3.1.8: Perception of barriers to e-sales in Denmark, October 2000 (%) (1)

	All	Small and medium	Large	NACE average	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Business services
Barriers:									
goods & services not suitable for e-commerce	15	15	29	17	16	21	30	13	13
stock of (potential) customers too small	12	12	22	14	13	17	21	10	9
uncertainty for payments	12	11	20	13	12	16	19	10	8
uncertainty for contracts, terms of delivery & guarantees	12	12	23	13	12	16	19	11	9
cost of developing / maintaining system too high	18	18	30	20	17	26	32	13	15
logistical problems	7	7	15	8	7	11	6	9	5
consideration for damaging existing sales channels	10	10	23	11	11	16	10	7	6

(1) Share of respondents answering that these barriers were very important or had some importance.
Source: E-commerce database, Eurostat

3.2 GERMANY

ACTIVITY COVERAGE FOR GERMANY IS:
NACE SECTIONS G AND H

The German pilot survey was different to those in most other countries in that the activity coverage was limited to Sections G and H of NACE (distribution, and hotels and restaurants). As has already been noted, the level of many of the indicators varies significantly between activities and this reduced coverage limits the comparability of the German data with that for the other countries.

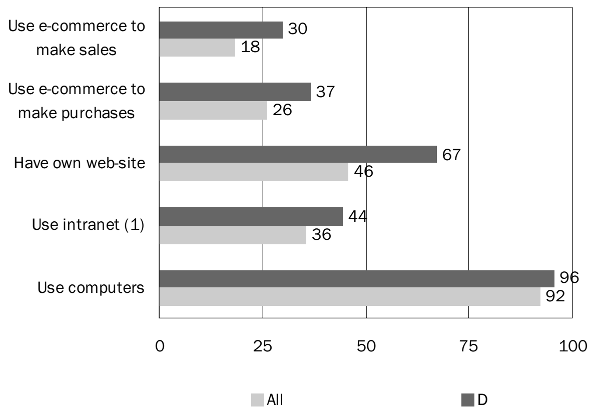
Some 96% of German enterprises in NACE Sections G and H had a computer in February/March 2001, the date of the survey. They recorded high penetration rates of intranets and EDI, but a relatively low concentration of web access: 44% said they were using an intranet and 25% EDI at the end of 2000; in contrast, only 67% had access to the web, a share below average.

No specific reason can be seen from the other indicators for this result, as the perceived barriers to having an Internet connection of German enterprises were in line with the European average, namely a lack of security and slow or unstable data communications. However, fears of lost working time due to irrelevant surfing (47%) came higher in the ranking than in most other countries, and notably before cost concerns.

Some 37% of German enterprises used e-purchasing, the same proportion as in Denmark, and 30% had implemented e-sales, the highest share recorded amongst the countries covered.

As in most other countries, uncertainties concerning contracts, terms of delivery and guarantees were the largest constraints to buying on-line, whilst cost concerns also discouraged enterprises from selling on-line. In addition, despite recording a higher than average use of e-commerce, German enterprises were relatively worried about a lack of business e-partners: 35% cited the lack of potential suppliers and 36% the lack of potential customers as important barriers respectively to e-purchasing and e-sales, in both cases the second most cited reason.

Figure 3.2: Main indicators for Germany, Quarter 1 2001 (%)



(1) End of 2000.
Source: E-commerce database, Eurostat

B2B marketplaces attracted one in four enterprises selling on-line in Germany, but only 17% of those making e-purchases, a relatively low proportion compared to the other countries covered by the pilot survey.

Germany is one of the four countries for which data are also available for smaller enterprises, namely those with 5 to 9 persons employed. The availability of e-commerce infrastructure is lower in this size class than in the SME size class. The results indicate that despite this lower level of infrastructure, very small enterprises had a similar recourse to e-commerce for purchasing as larger SMEs, both between 35% and 36%. For sales by e-commerce, however, the SME size class showed a higher participation than very small enterprises, although the difference between the two groups was less than the difference between the SMEs and the large enterprises.

Table 3.2.1: Computer and network use in Germany, Quarter 1 2001 (%) (1)

	All	Micro	Small and medium	Large	NACE average	Distribution	Hotels & restaurants
Used computers	96	85	96	96	95	96	93
Used Intranet:							
at end 2000	44	21	43	57	41	45	20
since 2000	9	6	9	14	9	9	7
since 1999	10	4	10	10	9	10	5
since 1998 or earlier	25	12	24	34	23	26	9
did not use but plan to in 2001	12	8	11	21	11	12	9
did not use & do not plan to (or non-response)	44	70	46	21	48	43	70
Used EDI:							
at end 2000	25	16	23	41	27	31	5
since 2000	5	3	5	7	4	5	0
since 1999	6	3	6	5	5	6	2
since 1998 or earlier	14	10	13	29	17	20	2
did not use but plan to in 2001	17	6	16	28	10	12	0
did not use & do not plan to (or non-response)	58	78	61	31	63	57	95
Had web access:							
at end 2000	67	56	67	77	81	82	73
since 2000	17	14	18	14	18	17	23
since 1999	21	18	20	26	20	21	14
since 1998 or earlier	29	23	29	37	43	44	36
did not have but plan to in 2001	21	16	22	16	7	7	7
did not have & did not plan to (or non-response)	11	28	12	7	12	11	20
Had own web-site:	67	46	65	86	68	67	75
did not have but plan to in 2001	16	19	17	7	15	17	5
did not have & did not plan to (or non-response)	16	36	17	6	17	16	20
Had third party web-site:	21	20	21	17	23	20	39
did not have but plan to in 2001	3	5	3	1	3	3	2
did not have & did not plan to (or non-response)	76	75	76	82	74	77	59
Used Internet via:							
mobile phone	12	8	12	19	12	13	9
analogue modem	15	11	14	30	15	16	9
ISDN	67	55	66	70	70	70	70
xDSL	9	6	8	19	9	10	5
other broadband connection (> 2 Mbps)	10	2	9	28	9	11	:

(1) All includes small, medium and large enterprises but not micro enterprises.
Source: E-commerce database, Eurostat

Table 3.2.2: Barriers to Internet use in Germany, Quarter 1 2001 (% of enterprises) (1)

	All	Micro	Small and medium	Large	NACE average	Distribution	Hotels & restaurants
Set-up costs were too high	43	36	43	51	45	44	45
Internet access charges were too high	45	42	45	43	46	46	45
Lacking qualification of personnel / specific know how	57	49	56	66	59	58	64
Lack of perceived benefits for the company	40	39	40	35	41	41	39
Lost working time / irrelevant surfing	47	33	47	49	46	48	36
Data communications too slow or unstable	62	52	62	59	62	64	55
Lack of security (viruses, hackers)	77	65	76	85	77	79	68

(1) All includes small, medium and large enterprises but not micro enterprises; share of respondents answering that these barriers were very important or had some importance.
Source: E-commerce database, Eurostat

Table 3.2.3: Use of specialised B2B Internet marketplaces in Germany, Quarter 1 2001 (%) (1)

	All	Micro	Small and medium	Large	NACE average	Distribution	Hotels & restaurants
Purchases made	6	7	6	6	6	6	7
Sales made	7	6	7	11	7	7	7

(1) All includes small, medium and large enterprises but not micro enterprises.
Source: E-commerce database, Eurostat

Table 3.2.4: Extent of network use for purchasing in Germany, Quarter 1 2001 (%) (1)

	All	Micro	Small and medium	Large	NACE average	Distribution	Hotels & restaurants
Used e-commerce:							
to make purchases	37	36	35	51	36	36	36
did not use, but plan to in 2001 via Internet	9	7	9	9	8	9	5
did not use, but plan to in 2001 via EDI	3	1	3	6	3	3	
Made e-commerce purchases via Internet for:							
less than a year	13	9	12	14	13	12	16
1-2 years	14	15	13	26	14	14	9
more than 2 years	5	7	5	2	5	4	9
Made e-commerce purchases via EDI for:							
less than a year	2	2	2	5	2	2	
1-2 years	2	2	2	6	2	2	2
more than 2 years	5	4	4	11	4	5	
Used Internet in 2000 for:							
1% or more of purchases	29	28	28	37	30	29	32
2% or more of purchases	17	19	17	15	18	17	25
5% or more of purchases	12	16	12	7	12	11	16
10% or more of purchases	6	8	6	3	6	6	5
25% or more of purchases	2	4	2	0	2	2	2
50% or more of purchases	0	2	0	0	0	0	
Used all networks (Internet & EDI) in 2000 for:							
1% or more of purchases	29	28	28	37	30	29	32
2% or more of purchases	17	19	17	15	18	17	25
5% or more of purchases	12	16	12	7	12	11	16
10% or more of purchases	6	8	6	3	6	6	5
25% or more of purchases	2	4	2	0	2	2	2
50% or more of purchases	0	2	0	0	0	0	:

(1) All includes small, medium and large enterprises but not micro enterprises.
Source: E-commerce database, Eurostat

Table 3.2.5: Type of network use for purchasing in Germany, Quarter 1 2001 (%) (1)

	All	Micro	Small and medium	Large	NACE average	Distribution	Hotels & restaurants
E-purchasing via Internet:							
ordering	30	30	29	40	30	30	32
payment	8	17	8	7	9	8	11
electronic delivery	6	7	6	4	6	6	9
E-purchasing via EDI:							
ordering	8	7	7	20	7	8	2
payment	6	2	6	10	5	6	0
electronic delivery	2	1	2	3	2	2	0

(1) All includes small, medium and large enterprises but not micro enterprises.
Source: E-commerce database, Eurostat

Table 3.2.6: Perception of barriers to and benefits from e-purchases in Germany, 2000 (% of enterprises) (1)

	All	Micro	Small and medium	Large	NACE average	Distribution	Hotels & restaurants
Barriers:							
goods & services can not be purchased by Internet	34	27	34	44	35	34	39
stock of (potential) suppliers too small	35	30	34	51	35	35	34
delivery costs too high	22	21	21	29	23	21	32
logistical problems (speed and timeliness of delivery)	31	28	30	45	31	31	30
uncertainty in making payments	35	35	34	45	34	35	27
uncertainty for contracts, terms of delivery & guarantees	39	35	38	49	38	40	30
Benefits:							
cost savings	18	14	18	20	17	18	14
speed of processing	27	27	26	33	26	27	23
simplification of tasks	24	21	23	34	24	24	25
offers from a large number of suppliers available	15	13	15	20	16	15	20

(1) Activity coverage limited to NACE Sections G and H; All includes small, medium and large enterprises but not micro enterprises; share of respondents answering that these barriers / benefits were very important or had some importance.
Source: E-commerce database, Eurostat

Table 3.2.7: Extent of network use for sales in Germany, Quarter 1 2001 (%) (1)

	All	Micro	Small and medium	Large	NACE average	Distribution	Hotels & restaurants
Used e-commerce:							
to make sales	30	23	28	48	31	31	30
did not use, but plan to in 2001 via Internet	13	8	12	16	11	13	5
did not use, but plan to in 2001 via EDI	2	0	1	3	1	2	
Made e-commerce sales via Internet for:							
less than a year	12	10	11	19	11	12	7
1-2 years	10	9	10	11	11	10	14
more than 2 years	4	2	4	5	5	4	9
Made e-commerce sales via EDI for:							
less than a year	0	0	0	1	0	0	
1-2 years	1	0	1	3	1	1	
more than 2 years	4	1	3	12	4	4	
Used Internet in 2000 for:							
1% or more of sales	15	12	15	23	16	15	23
2% or more of sales	9	33	9	9	11	9	23
5% or more of sales	6	6	6	3	7	5	16
10% or more of sales	3	4	3	2	4	2	11
25% or more of sales	1	1	1	0	1	0	2
50% or more of sales	0	1	0	0	0	0	
Used all networks (Internet & EDI) in 2000 for:							
1% or more of sales	15	12	15	23	13	15	:
2% or more of sales	9	33	9	9	7	9	:
5% or more of sales	6	6	6	3	4	5	:
10% or more of sales	3	4	3	2	2	2	:
25% or more of sales	1	1	1	0	0	0	:
50% or more of sales	0	1	0	0	0	0	:

(1) All includes small, medium and large enterprises but not micro enterprises.
Source: E-commerce database, Eurostat

Table 3.2.8: Type of network use for sales in Germany, Quarter 1 2001 (%) (1)

	All	Micro	Small and medium	Large	NACE average	Distribution	Hotels & restaurants
E-sales via Internet:							
product information	26	23	25	41	27	26	27
price information	21	19	20	33	22	21	27
taking orders	22	18	20	37	22	22	25
payment	5	9	5	4	4	5	2
electronic delivery	2	4	2	3	2	2	2
E-sales via EDI:							
product information	2	0	1	5	2	2	:
price information	3	1	2	10	2	3	:
taking orders	5	1	4	16	5	5	2
payment	4	1	3	10	3	4	2
electronic delivery	1	0	1	2	1	2	:

(1) All includes small, medium and large enterprises but not micro enterprises.
Source: E-commerce database, Eurostat

Table 3.2.9: Perception of barriers to and benefits from e-sales in Germany, Quarter 1 2001 (%) (1)

	All	Micro	Small and medium	Large	NACE average	Distribution	Hotels & restaurants
Barriers:							
goods & services not suitable for e-commerce	36	28	34	53	34	36	20
stock of (potential) customers too small	36	29	36	41	33	37	16
uncertainty for payments	35	32	35	39	33	36	18
uncertainty for contracts, terms of delivery & guarantees	34	31	34	36	31	35	16
cost of developing / maintaining system too high	39	30	38	57	37	40	20
logistical problems	26	22	26	36	26	27	20
consideration for damaging existing sales channels	31	21	29	49	29	31	:
Benefits:							
cost reductions	15	8	13	32	15	15	14
reaching new / more customers	22	22	21	29	23	22	27
geographic expansion of market	16	15	16	17	18	15	30
improvements to quality of service	15	10	14	28	15	15	11
speed of processing	18	10	16	32	18	18	20
simplification of tasks	17	10	16	32	17	17	18
avoid losing market share	19	17	18	35	19	19	18

(1) All includes small, medium and large enterprises but not micro enterprises; share of respondents answering that these barriers / benefits were very important or had some importance.
Source: E-commerce database, Eurostat

3.3 GREECE

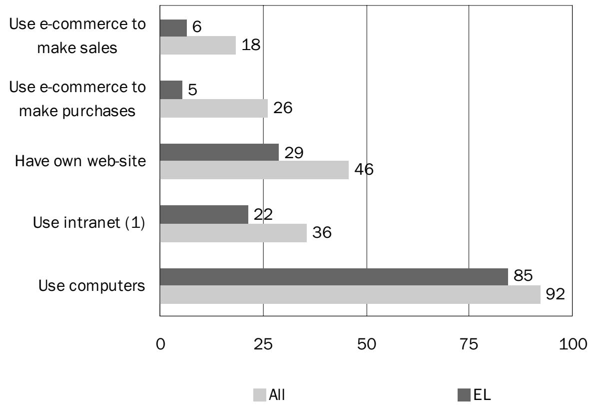
ACTIVITY COVERAGE FOR GREECE IS:
NACE SECTIONS D AND G TO K

The Greek survey was carried out by interview between June and September 2001. Greek enterprises were the least equipped in the EU in terms of their number of computers - 85% of them had a computer - the lowest rate amongst the surveyed countries. In addition, the usage rate of network technologies was also particularly low: only 22% of surveyed enterprises had intranets, 5% EDI and 51% access to the web at the end of 2000.

The low level of access to the Internet in Greek enterprises does not seem to be due to financial reasons. In fact, contrary to most other surveyed countries, cost concerns came last in the ranking of perceived barriers. After security, enterprises saw the main barriers to Internet use as infrastructure quality (25% for slow or unstable data communications) and a lack of qualified personnel (22%).

Mirroring the relatively low penetration of ICT in enterprises, Greek enterprises were not particularly active in e-commerce. Only 5% of them had implemented e-purchasing, the lowest rate in the surveyed countries, and 6% were selling on-line. When asked what barriers they faced to engage in e-commerce, Greek enterprises quite frequently cited a lack of customers and suppliers. Maybe as a consequence of this, B2B marketplaces were particularly popular amongst those Greek enterprises that were engaging in e-commerce. They were used by more than half of those purchasing on-line, and more than one-quarter of those selling on-line.

Figure 3.3: Main indicators for Greece, Quarter 3 2001 (%)



(1) End of 2000.
Source: E-commerce database, Eurostat

Table 3.3.1: Computer and network use in Greece, Quarter 3 2001 (%)

	All	Small and medium	Large	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Financial services	Business services
Used computers	85	84	98	83	88	74	89	99	95
Used Intranet:									
at end 2000	22	21	64	18	23	17	23	62	46
since 2000	4	3	8	3	4	1	7	3	8
since 1999	5	5	12	5	5	3	4	9	6
since 1998 or earlier	13	13	45	10	14	12	13	50	32
did not use but plan to in 2001	5	5	4	4	6	2	4	5	6
did not use & do not plan to (or non-response)	74	75	31	78	70	82	73	32	48
Used EDI:									
at end 2000	5	5	16	3	6	6	2	14	12
since 2000	1	1	2	0	1	1	0	0	0
since 1999	2	2	3	1	2	2	1	5	0
since 1998 or earlier	3	3	11	2	3	2	1	8	12
did not use but plan to in 2001	2	2	6	2	2	0	0	0	2
did not use & do not plan to (or non-response)	93	93	79	94	92	94	98	86	87
Had web access:									
at end 2000	51	50	84	46	55	37	72	65	64
since 2000	11	11	11	11	12	9	20	14	5
since 1999	16	15	22	15	17	6	21	12	22
since 1998 or earlier	24	23	51	20	26	22	32	39	37
did not have but plan to in 2001	8	8	4	8	8	12	6	1	6
did not have & did not plan to (or non-response)	41	42	12	46	37	51	22	34	29
Had own web-site:	29	28	54	24	32	27	34	69	45
did not have but plan to in 2001	11	11	15	11	12	8	6	3	13
did not have & did not plan to (or non-response)	60	61	31	65	56	65	60	28	42
Had third party web-site:	8	8	14	6	9	13	13	3	13
did not have but plan to in 2001	1	1	1	2	1	2	0	0	0
did not have & did not plan to (or non-response)	90	90	86	92	90	85	87	97	87
Used Internet via:	2	2	5	3	1	0	2	4	2
mobile phone									
analogue modem	38	38	42	36	43	29	53	57	36
ISDN	29	29	48	25	31	29	44	43	36
xDSL	1	1	7	1	1	1	4	7	6
other broadband connection (> 2 Mbps)	3	2	16	2	4	1	1	18	8

Source: E-commerce database, Eurostat

Table 3.3.2: Barriers to Internet use in Greece, Quarter 3 2001 (%) (1)

	All	Small and medium	Large	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Financial services	Business services
Set-up costs were too high	16	16	21	15	15	15	17	16	19
Internet access charges were too high	14	14	26	13	13	14	18	24	22
Lacking qualification of personnel / specific know how	22	22	35	19	22	23	27	42	32
Lack of perceived benefits for the company	17	17	31	17	17	14	23	23	22
Lost working time / irrelevant surfing	19	18	38	15	21	16	25	24	33
Data communications too slow or unstable	25	25	42	22	25	19	30	42	53
Lack of security (viruses, hackers)	27	27	48	24	27	19	39	49	50

(1) Share of respondents answering that these barriers were very important or had some importance.
Source: E-commerce database, Eurostat

Table 3.3.3: Use of specialised B2B Internet marketplaces in Greece, Quarter 3 2001 (%)

	All	Small and medium	Large	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Financial services	Business services
Purchases made	3	3	4	2	4	2	3	5	6
Sales made	2	2	4	0	3	1	3	9	5

Source: E-commerce database, Eurostat

Table 3.3.4: Extent of network use for purchasing in Greece, Quarter 3 2001 (%)

	All	Small and medium	Large	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Financial services	Business services
Used e-commerce:									
to make purchases	5	5	8	3	7	5	6	4	13
did not use, but plan to in 2001 via Internet	5	5	11	4	6	4	4	9	2
did not use, but plan to in 2001 via EDI	1	1	2	1	0	0	0	0	0
Made e-commerce purchases via Internet for:									
less than a year	2	2	1	1	3	2	1	1	3
1-2 years	2	2	4	1	3	2	3	3	6
more than 2 years	1	1	1	1	1	0	3	0	3
Made e-commerce purchases via EDI for:									
less than a year	0	0	1	0	0	0	0	0	0
1-2 years	0	0	0	0	0	0	0	0	0
more than 2 years	0	0	1	0	0	0	0	0	1
Used Internet in 2000 for:									
1% or more of purchases	5	5	6	3	7	4	5	4	9
2% or more of purchases	4	4	4	2	7	3	5	3	8
5% or more of purchases	3	3	4	2	5	2	4	1	5
10% or more of purchases	3	2	4	1	5	1	4	1	5
25% or more of purchases	1	1	3	0	2	1	0	1	3
50% or more of purchases	1	1	1	0	1	1	0	0	2
Used all networks (Internet & EDI) in 2000 for:									
1% or more of purchases	5	5	7	3	8	5	5	4	11
2% or more of purchases	4	4	6	2	7	3	5	4	9
5% or more of purchases	3	3	5	2	6	2	4	1	6
10% or more of purchases	3	3	4	1	5	1	4	1	6
25% or more of purchases	1	1	3	0	3	1	0	1	4
50% or more of purchases	1	1	1	0	2	1	0	0	2

Source: E-commerce database, Eurostat

Table 3.3.5: Type of network use for purchasing in Greece, Quarter 3 2001 (%)

	All	Small and medium	Large	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Financial services	Business services
E-purchasing via Internet:									
ordering	5	5	6	3	7	5	5	4	12
payment	1	1	3	0	1	0	3	4	3
electronic delivery	1	1	1	1	1	0	2	3	0
E-purchasing via EDI:									
ordering	0	0	2	0	0	0	0	0	1
payment	0	0	0	0	0	0	0	0	0
electronic delivery	0	0	1	0	0	0	0	0	0

Source: E-commerce database, Eurostat

Table 3.3.6: Perception of barriers to and benefits from e-purchases in Greece, Quarter 3 2001 (%) (1)

	All	Small and medium	Large	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Financial services	Business services
Barriers:									
goods & services can not be purchased by Internet	19	19	28	20	20	13	13	20	27
stock of (potential) suppliers too small	13	13	24	12	14	13	11	7	18
delivery costs too high	10	10	13	9	10	14	9	5	11
logistical problems (speed and timeliness of delivery)	9	9	11	8	8	11	7	5	14
uncertainty in making payments	13	13	13	14	14	9	7	19	13
uncertainty for contracts, terms of delivery & guarantees	12	12	16	12	12	8	7	16	16
Benefits:									
cost savings	3	2	4	2	4	1	2	3	6
speed of processing	4	4	6	2	6	3	5	4	11
simplification of tasks	4	3	6	2	5	2	4	4	11
offers from a large number of suppliers available	2	2	3	1	2	2	4	1	5

(1) Share of respondents answering that these barriers / benefits were very important or had some importance.
Source: E-commerce database, Eurostat

Table 3.3.7: Extent of network use for sales in Greece, Quarter 3 2001 (%)

	All	Small and medium	Large	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Financial services	Business services
Used e-commerce:									
to make sales	6	6	13	3	6	21	10	15	7
did not use, but plan to in 2001 via Internet	5	5	6	5	5	3	5	7	4
did not use, but plan to in 2001 via EDI	1	1	3	1	0	0	0	0	0
Made e-commerce sales via Internet for:									
less than a year	3	3	6	1	3	11	2	5	0
1-2 years	2	2	4	1	2	5	5	9	5
more than 2 years	1	1	3	1	1	4	3	0	2
Made e-commerce sales via EDI for:									
less than a year	0	0	1	0	0	0	0	0	0
1-2 years	0	0	0	0	0	1	0	0	0
more than 2 years	0	0	1	0	0	0	0	0	1
Used Internet in 2000 for:									
1% or more of sales	4	4	6	2	4	13	7	7	5
2% or more of sales	4	4	4	2	4	10	7	7	5
5% or more of sales	3	3	3	2	2	8	7	5	3
10% or more of sales	2	2	3	1	2	3	6	5	3
25% or more of sales	1	1	1	0	1	2	3	0	2
50% or more of sales	1	1	1	0	1	2	3	0	2
Used all networks (Internet & EDI) in 2000 for:									
1% or more of sales	5	5	6	2	4	15	7	7	5
2% or more of sales	4	4	4	2	4	12	7	7	5
5% or more of sales	3	3	3	2	2	9	7	5	3
10% or more of sales	2	2	3	1	2	5	6	5	3
25% or more of sales	1	1	1	0	1	3	3	0	2
50% or more of sales	1	1	1	0	1	3	3	0	2

Source: E-commerce database, Eurostat

Table 3.3.8: Type of network use for sales in Greece, Quarter 3 2001 (%)

	All	Small and medium	Large	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Financial services	Business services
E-sales via Internet:									
product information	6	6	10	3	6	18	8	14	7
price information	5	5	9	2	5	18	7	14	4
taking orders	5	5	9	2	5	16	8	12	5
payment	1	1	4	0	3	2	1	7	1
electronic delivery	1	1	3	0	2	3	1	4	1
E-sales via EDI:									
product information	0	0	1	0	0	0	0	0	0
price information	0	0	1	0	0	0	0	0	0
taking orders	0	0	1	0	0	1	0	0	0
payment	0	0	1	0	0	0	0	1	0
electronic delivery	0	0	0	0	0	0	0	0	0

Source: E-commerce database, Eurostat

Table 3.3.9: Perception of barriers to and benefits from e-sales in Greece, Quarter 3 2001 (%) (1)

	All	Small and medium	Large	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Financial services	Business services
Barriers:									
goods & services not suitable for e-commerce	18	18	23	18	17	13	13	22	35
stock of (potential) customers too small	14	14	18	12	14	17	9	30	21
uncertainty for payments	12	12	15	11	15	5	8	22	24
uncertainty for contracts, terms of delivery & guarantees	10	10	13	10	10	5	6	26	19
cost of developing / maintaining system too high	11	11	18	10	11	12	13	24	17
logistical problems	10	10	14	11	10	6	7	24	19
consideration for damaging existing sales channels	6	6	14	6	7	3	3	27	12
Benefits:									
cost reductions	4	3	10	2	4	11	3	9	5
reaching new / more customers	6	6	8	3	5	19	9	14	6
geographic expansion of market	4	4	5	2	4	16	5	7	6
improvements to quality of service	2	2	6	1	2	8	3	7	6
speed of processing	4	4	8	2	4	14	4	12	6
simplification of tasks	4	4	8	2	4	11	3	12	6
avoid losing market share	2	2	5	1	2	9	2	7	5

(1) Share of respondents answering that these barriers / benefits were very important or had some importance.
Source: E-commerce database, Eurostat

3.4 SPAIN

ACTIVITY COVERAGE FOR SPAIN IS:
NACE SECTIONS D AND G TO K

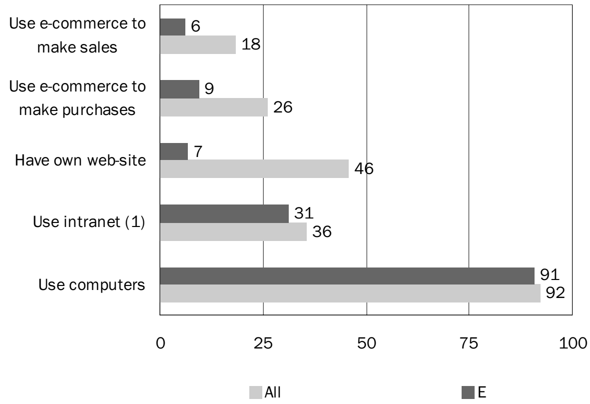
Computers were found in 91% of Spanish enterprises at the date of the survey (February 2001), a rate slightly below the average for those countries surveyed. Internet technologies were also less frequently used than in most other countries, with 31% of enterprises having intranets and 67% having access to the web in 2000. EDI was present in only 4% of enterprises, the lowest rate amongst all surveyed countries.

Spain was one of two countries, together with Sweden, where security concerns were not the most frequently cited barrier to having an Internet connection. In fact, the share of enterprises that blamed poor infrastructure quality (58% for slow or unstable data communications) was higher than those concerned about the lack of security (52%). High Internet access charges also appeared as a relatively important barrier to having an Internet connection, cited by 44% of enterprises.

Enterprises in Spain were amongst the least frequent users of on-line trading, both in terms of e-purchasing (9%) and e-sales (6%). Furthermore, specialised B2B marketplaces recorded particularly low usage rates amongst e-commerce users in Spain.

As regards e-procurement, the lack of confidence surrounding on-line transactions appeared as the main barrier to use: 56% of enterprises cited uncertainties concerning contracts, terms of delivery and guarantees as an important barrier, and 54% uncertainties in making payments. These fears, however, were largely shared with the majority of enterprises in the other countries surveyed and were not specific to Spain. Turning to e-sales, however, Spanish enterprises placed the fear of diverting sales from existing distribution channels at the top of a ranking of barriers to selling on-line, a particularity of Spain as in most other countries this issue was nearer the bottom of the ranking.

Figure 3.4: Main indicators for Spain, February 2001 (%)



(1) End of 2000.
Source: E-commerce database, Eurostat

Spanish data is also available for very small enterprises with 5 to 9 persons employed. The availability of e-commerce infrastructure is lower in this size class than in the SME size class but the smaller enterprises seem to be catching up; the proportion of very small enterprises having recently (during 2000) acquired an intranet or web access is higher than for SMEs. Equally, very small enterprises were more likely to have their own web-site than SMEs. The results indicated that very small enterprises had a slightly lower (8%) recourse to e-commerce for purchasing than SMEs (9%). However, very small enterprises were more active in e-commerce sales (7%) than SMEs (6%), going against the general rule that enterprises are more active in e-commerce the larger they are.

Table 3.4.1: Computer and network use in Spain, February 2001 (%) (1)

	All	Micro	Small and medium	Large	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Financial services	Business services
Used computers	91	82	91	100	92	98	77	79	100	88
Used Intranet:										
at end 2000	31	18	30	72	31	42	13	26	63	18
since 2000	6	8	6	10	8	7	1	1	9	4
since 1999	8	3	8	17	9	11	5	4	15	3
since 1998 or earlier	17	7	16	45	13	25	7	21	39	11
did not use but plan to in 2001	7	7	7	7	4	13	3	5	19	4
did not use & do not plan to (or non-response)	62	75	63	21	65	45	85	69	17	78
Used EDI:										
at end 2000	4	1	3	38	4	4	3	7	15	2
since 2000	1	0	1	4	1	1	0	1	2	0
since 1999	1	0	0	7	1	0	0	0	0	0
since 1998 or earlier	2	0	2	28	2	3	2	5	13	1
did not use but plan to in 2001	2	3	2	3	1	3	0	0	0	1
did not use & do not plan to (or non-response)	95	97	95	59	95	93	97	93	85	98
Had web access:										
at end 2000	67	61	66	97	69	76	55	57	97	50
since 2000	19	28	19	9	21	19	23	12	14	15
since 1999	23	16	23	24	25	25	20	17	29	16
since 1998 or earlier	25	16	25	64	24	32	11	29	54	19
did not have but plan to in 2001	7	5	7	1	6	10	7	7	:	4
did not have & do not plan to (or non-response)	26	34	26	2	24	14	39	35	3	45
Had own web-site:	7	8	6	35	6	7	6	8	35	8
did not have but plan to in 2001	5	8	5	8	7	6	5	3	2	2
did not have & do not plan to (or non-response)	88	84	88	58	87	87	89	89	63	90
Had third party web-site:	29	18	28	47	29	40	26	17	46	8
did not have but plan to in 2001	14	9	14	8	16	14	12	14	12	7
did not have & do not plan to (or non-response)	58	74	58	45	55	45	62	70	42	85
Used Internet via:										
mobile phone	2	1	2	13	3	1	0	1	6	3
analogue modem	39	48	39	44	41	41	43	31	49	32
ISDN	33	17	33	69	35	42	18	27	62	21
xDSL	6	5	6	17	7	9	1	3	13	5
other broadband connection (> 2 Mbps)	2	0	2	25	2	2	0	3	24	2

(1) All includes small, medium and large enterprises but not micro enterprises.
Source: E-commerce database, Eurostat

Table 3.4.2: Barriers to Internet use in Spain, February 2001 (%) (1)

	All	Micro	Small and medium	Large	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Financial services	Business services
Set-up costs were too high	35	43	35	34	34	41	23	32	53	31
Internet access charges were too high	44	48	44	39	41	51	40	37	48	39
Lacking qualification of personnel / specific know how	30	37	30	27	26	38	27	27	37	26
Lack of perceived benefits for the company	40	55	40	35	38	39	45	35	41	47
Lost working time / irrelevant surfing	15	13	15	10	16	21	:	10	10	12
Data communications too slow or unstable	58	55	58	64	56	72	40	68	66	39
Lack of security (viruses, hackers)	52	43	52	66	51	62	39	43	79	46

(1) All includes small, medium and large enterprises but not micro enterprises; share of respondents answering that these barriers were very important or had some importance.
Source: E-commerce database, Eurostat

Table 3.4.3: Use of specialised B2B Internet marketplaces in Spain, February 2001 (%) (1)

	All	Micro	Small and medium	Large	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Financial services	Business services
Purchases made	1	2	1	4	1	2	0	1	3	1
Sales made	0	0	0	4	1	0	1	1	1	0

(1) All includes small, medium and large enterprises but not micro enterprises.
Source: E-commerce database, Eurostat

INDEX

Table 3.4.4: Extent of network use for purchasing in Spain, February 2001 (%) (1)

	All	Micro	Small and medium	Large	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Financial services	Business services
Used e-commerce:										
to make purchases	9	8	9	20	7	15	3	6	33	5
did not use, but plan to in 2001 via Internet	18	16	18	23	17	23	16	12	17	15
did not use, but plan to in 2001 via EDI	3	4	3	6	4	3	0	2	3	6
Made e-commerce purchases via Internet for:										
less than a year	3	5	3	4	3	2	0	3	4	1
1-2 years	4	1	4	10	3	6	2	1	15	3
more than 2 years	3	3	3	3	1	7	0	1	13	1
Made e-commerce purchases via EDI for:										
less than a year	0	:	:	0	0	0	:	:	:	0
1-2 years	0	:	:	1	0	0	:	:	:	0
more than 2 years	0	0	0	5	0	0	:	0	0	0
Used Internet in 2000 for:										
1% or more of purchases	6	3	6	8	4	13	1	2	12	2
2% or more of purchases	3	3	3	6	2	5	0	2	8	1
5% or more of purchases	3	3	3	4	2	5	0	2	7	1
10% or more of purchases	2	1	2	3	1	5	0	1	5	1
25% or more of purchases	1	0	1	1	1	1	0	0	2	1
50% or more of purchases	0	0	0	1	0	0	:	0	2	0
Used all networks (Internet & EDI) in 2000 for:										
1% or more of purchases	6	3	6	11	4	14	1	2	12	2
2% or more of purchases	3	3	3	8	3	6	0	2	8	1
5% or more of purchases	3	3	3	7	2	6	0	2	7	1
10% or more of purchases	3	1	3	5	2	6	0	2	5	1
25% or more of purchases	1	0	1	3	1	2	0	0	2	1
50% or more of purchases	1	0	1	2	0	1	:	0	2	0

(1) All includes small, medium and large enterprises but not micro enterprises.
Source: E-commerce database, Eurostat

Table 3.4.5: Type of network use for purchasing in Spain, February 2001 (%) (1)

	All	Micro	Small and medium	Large	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Financial services	Business services
E-purchasing via Internet:										
ordering	9	6	8	16	6	15	1	6	27	5
payment	3	5	3	8	2	5	2	3	22	2
electronic delivery	4	3	4	9	2	7	1	4	21	2
E-purchasing via EDI:										
ordering	0	0	0	3	0	0	:	:	0	0
payment	0	0	0	2	0	0	0	0	0	0
electronic delivery	0	:	0	2	0	0	:	0	0	0

(1) All includes small, medium and large enterprises but not micro enterprises.
Source: E-commerce database, Eurostat

Table 3.4.6: Perception of barriers to and benefits from e-purchases in Spain, February 2001 (%) (1)

	All	Micro	Small and medium	Large	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Financial services	Business services
Barriers:										
goods & services can not be purchased by Internet	45	51	45	59	50	43	37	48	57	39
stock of (potential) suppliers too small	46	40	46	54	46	56	29	48	49	32
delivery costs too high	36	24	36	45	33	45	19	47	45	24
logistical problems (speed and timeliness of delivery)	39	25	39	52	35	52	34	28	46	32
uncertainty in making payments	54	44	54	65	52	68	32	43	69	46
uncertainty for contracts, terms of delivery & guarantees	56	50	55	72	55	67	38	44	74	49
Benefits:										
cost savings	4	5	4	10	3	6	1	4	11	3
speed of processing	6	5	5	17	5	8	1	4	15	4
simplification of tasks	7	8	7	16	5	11	3	6	31	3
offers from a large number of suppliers available	3	3	3	5	3	3	0	3	14	1

(1) All includes small, medium and large enterprises but not micro enterprises; share of respondents answering that these barriers / benefits were very important or had some importance.
Source: E-commerce database, Eurostat

INDEX

Table 3.4.7: Extent of network use for sales in Spain, February 2001 (%) (1)

	All	Micro	Small and medium	Large	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Financial services	Business services
Used e-commerce:										
to make sales	6	7	6	24	5	7	7	8	27	5
did not use, but plan to in 2001 via Internet	14	10	14	15	15	18	5	7	18	14
did not use, but plan to in 2001 via EDI	1	2	1	4	3	2	0	:	3	0
Made e-commerce sales via Internet for:										
less than a year	2	2	2	6	2	1	3	5	16	0
1-2 years	3	2	3	6	1	5	4	1	5	3
more than 2 years	1	2	1	6	1	0	1	2	4	1
Made e-commerce sales via EDI for:										
less than a year	0	0	0	0	0	0	:	:	2	0
1-2 years	0	:	0	1	0	0	:	:	:	0
more than 2 years	1	:	0	7	1	0	1	0	0	2
Used Internet in 2000 for:										
1% or more of sales	2	5	1	10	2	1	4	1	9	1
2% or more of sales	1	4	1	6	2	0	1	0	7	0
5% or more of sales	1	4	1	4	1	0	1	0	6	0
10% or more of sales	1	4	1	3	1	0	1	0	6	0
25% or more of sales	0	2	0	2	1	0	0	0	0	0
50% or more of sales	0	2	0	1	1	0	:	0	0	0
Used all networks (Internet & EDI) in 2000 for:										
1% or more of sales	2	5	2	16	3	1	4	1	11	2
2% or more of sales	2	5	1	12	3	0	1	0	9	2
5% or more of sales	1	5	1	9	2	0	1	0	7	2
10% or more of sales	1	5	1	7	2	0	1	0	7	0
25% or more of sales	1	2	1	6	1	0	0	0	2	0
50% or more of sales	0	2	0	4	1	0	0	0	0	0

(1) All includes small, medium and large enterprises but not micro enterprises.
Source: E-commerce database, Eurostat

Table 3.4.8: Type of network use for sales in Spain, February 2001 (%) (1)

	All	Micro	Small and medium	Large	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Financial services	Business services
E-sales via Internet:										
product information	5	7	4	17	4	4	7	7	25	4
price information	4	3	4	14	3	4	7	4	20	3
taking orders	4	5	4	11	3	6	4	4	20	1
payment	1	0	1	6	0	1	2	2	9	1
electronic delivery	1	0	1	7	0	2	0	2	20	2
E-sales via EDI:										
product information	0	:	0	1	0	0	:	0	:	0
price information	0	:	0	2	0	0	:	0	:	0
taking orders	1	:	0	7	1	0	:	0	2	2
payment	0	:	0	3	0	0	0	0	0	2
electronic delivery	0	0	0	2	0	0	0	:	:	0

(1) All includes small, medium and large enterprises but not micro enterprises.
Source: E-commerce database, Eurostat

Table 3.4.9: Perception of barriers to and benefits from e-sales in Spain, February 2001 (%) (1)

	All	Micro	Small and medium	Large	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Financial services	Business services
Barriers:										
goods & services not suitable for e-commerce	51	58	51	56	52	51	59	40	54	52
stock of (potential) customers too small	50	50	50	54	53	61	28	35	63	43
uncertainty for payments	50	45	50	53	53	62	18	35	55	45
uncertainty for contracts, terms of delivery & guarantees	46	46	45	50	47	56	18	30	59	43
cost of developing / maintaining system too high	46	40	46	54	43	64	20	27	63	39
logistical problems	42	45	42	53	39	58	24	24	47	36
consideration for damaging existing sales channels	61	61	61	69	61	77	36	44	68	55
Benefits:										
cost reductions	3	0	2	14	2	4	4	1	6	2
reaching new / more customers	4	4	4	15	3	3	7	8	24	4
geographic expansion of market	3	7	2	10	3	0	7	5	18	1
improvements to quality of service	2	3	2	13	2	1	3	3	8	2
speed of processing	3	4	2	16	3	1	4	2	22	3
simplification of tasks	2	3	2	14	2	3	4	3	11	1
avoid losing market share	3	2	2	10	2	3	6	0	21	3

(1) All includes small, medium and large enterprises but not micro enterprises; share of respondents answering that these barriers / benefits were very important or had some importance.
Source: E-commerce database, Eurostat

INDEX

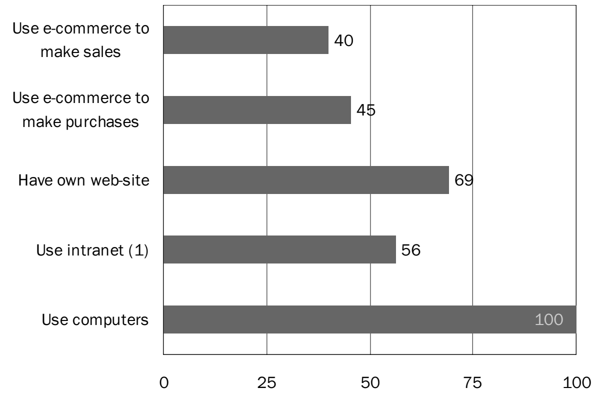
3.5 IRELAND

ACTIVITY COVERAGE FOR IRELAND IS:
NACE SECTIONS D (EXCLUDING DIVISION 37) AND G TO K

Only a very small number of enterprises were surveyed in the pilot survey in Ireland that was carried out in June 2001. Results have not been grossed up to the population, but simply presented as aggregated results for the sample respondents. As a consequence the Irish data has not been combined with that for other countries in the results provided in chapter 2.

All surveyed enterprises used computers, workstations or terminals. Some 85% of them had a connection to the web. EDI usage was also relatively frequent amongst respondents (45%). These results can be partly explained by the over-representation of large enterprises (more than 100 persons employed) in the survey sample. E-commerce procedures were well implemented amongst Irish enterprises who participated to the survey. Some 45% were purchasing on-line and 40% were selling on-line. These high proportions can again be at least partly explained by the over-representation of large enterprises in the sample.

Figure 3.5: Main indicators for Ireland, June 2001 (%)



(1) End of 2000.
Source: E-commerce database, Eurostat

INDEX

Table 3.5.1: Computer and network use in Ireland, June 2001 (%)

	All
Used computers	100
Used Intranet:	
at end 2000	56
since 2000	13
since 1999	5
since 1998 or earlier	22
did not use but plan to in 2001	7
did not use & do not plan to (or non-response)	31
Used EDI:	
at end 2000	45
since 2000	2
since 1999	5
since 1998 or earlier	24
did not use but plan to in 2001	9
did not use & do not plan to (or non-response)	33
Had web access:	
at end 2000	85
since 2000	7
since 1999	9
since 1998 or earlier	42
did not have but plan to in 2001	5
did not have & do not plan to (or non-response)	5
Had own web-site:	69
did not have but plan to in 2001	13
did not have & do not plan to (or non-response)	11
Had third party web-site:	18
did not have but plan to in 2001	4
did not have & do not plan to (or non-response)	16
Used Internet via:	
mobile phone	20
analogue modem	53
ISDN	69
xDSL	0
other broadband connection (> 2 Mbps)	4

Source: E-commerce database, Eurostat

Table 3.5.2: Barriers to Internet use in Ireland, June 2001 (%) (1)

	All
Set-up costs were too high	62
Internet access charges were too high	64
Lacking qualification of personnel / specific know how	40
Lack of perceived benefits for the company	56
Lost working time / irrelevant surfing	76
Data communications too slow or unstable	84
Lack of security (viruses, hackers)	78

(1) Share of respondents answering that these barriers were very important or had some importance.
Source: E-commerce database, Eurostat

Table 3.5.3: Use of specialised B2B Internet market-places in Ireland, June 2001 (%)

	All
Purchases made	13
Sales made	11

Source: E-commerce database, Eurostat

Table 3.5.4: Extent of network use for purchasing in Ireland, June 2001 (%)

	All
Used e-commerce:	
to make purchases	45
did not use, but plan to in 2001 via Internet	15
did not use, but plan to in 2001 via EDI	5
Made e-commerce purchases via Internet for:	
less than a year	13
1-2 years	11
more than 2 years	16
Made e-commerce purchases via EDI for:	
less than a year	4
1-2 years	2
more than 2 years	16
Used Internet in 2000 for:	
1% or more of purchases	11
2% or more of purchases	5
5% or more of purchases	16
10% or more of purchases	5
25% or more of purchases	4
50% or more of purchases	0
Used all networks (Internet & EDI) in 2000 for:	
1% or more of purchases	4
2% or more of purchases	5
5% or more of purchases	2
10% or more of purchases	4
25% or more of purchases	4
50% or more of purchases	9

Source: E-commerce database, Eurostat

Table 3.5.5: Type of network use for purchasing in Ireland, June 2001 (%)

	All
E-purchasing via Internet:	
ordering	36
payment	15
electronic delivery	16
E-purchasing via EDI:	
ordering	18
payment	16
electronic delivery	5

Source: E-commerce database, Eurostat

Table 3.5.6: Perception of barriers to and benefits from e-purchases in Ireland, June 2001 (%) (1)

	All
Barriers:	
goods & services can not be purchased by Internet	69
stock of (potential) suppliers too small	67
delivery costs too high	40
logistical problems (speed and timeliness of delivery)	56
uncertainty in making payments	53
uncertainty for contracts, terms of delivery & guarantees	55
Benefits:	
cost savings	36
speed of processing	47
simplification of tasks	47
offers from a large number of suppliers available	15

(1) Share of respondents answering that these barriers / benefits were very important or had some importance.
Source: E-commerce database, Eurostat

Table 3.5.7: Extent of network use for sales in Ireland, June 2001 (%)

	All
Used e-commerce:	
to make sales	40
did not use, but plan to in 2001 via Internet	16
did not use, but plan to in 2001 via EDI	4
Made e-commerce sales via Internet for:	
less than a year	9
1-2 years	13
more than 2 years	9
Made e-commerce sales via EDI for:	
less than a year	0
1-2 years	5
more than 2 years	15
Used Internet in 2000 for:	
1% or more of sales	4
2% or more of sales	2
5% or more of sales	2
10% or more of sales	5
25% or more of sales	4
50% or more of sales	5
Used all networks (Internet & EDI) in 2000 for:	
1% or more of sales	0
2% or more of sales	0
5% or more of sales	2
10% or more of sales	2
25% or more of sales	5
50% or more of sales	7

Source: E-commerce database, Eurostat

Table 3.5.8: Type of network use for sales in Ireland, June 2001 (%)

	All
E-sales via Internet:	
product information	38
price information	35
taking orders	36
payment	16
electronic delivery	7
E-sales via EDI:	
product information	11
price information	11
taking orders	20
payment	18
electronic delivery	9

Source: E-commerce database, Eurostat

Table 3.5.9: Perception of barriers to and benefits from e-sales in Ireland, June 2001 (%) (1)

	All
Barriers:	
goods & services not suitable for e-commerce	58
stock of (potential) customers too small	36
uncertainty for payments	49
uncertainty for contracts, terms of delivery & guarantees	44
cost of developing / maintaining system too high	56
logistical problems	44
consideration for damaging existing sales channels	47
Benefits:	
cost reductions	31
reaching new / more customers	35
geographic expansion of market	29
improvements to quality of service	25
speed of processing	22
simplification of tasks	24
avoid losing market share	35

(1) Share of respondents answering that these barriers / benefits were very important or had some importance.
Source: E-commerce database, Eurostat

3.6 ITALY

ACTIVITY COVERAGE FOR ITALY IS:
NACE SECTIONS D, G TO I AND K

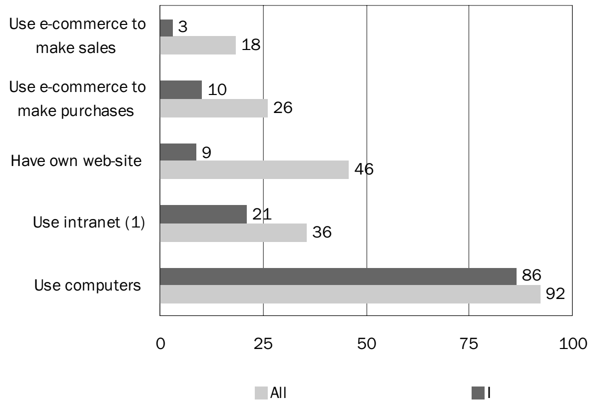
Only 86% of Italian enterprises reported having computers at the date of the survey (April/May 2001), a particularly low equipment rate compared to the other surveyed countries, as only Greece recorded a lower rate. Network technologies were also not very widespread, with usage rates of intranets (21%) and EDI (5%) at a similar level to those reported in Greece, although 66% of Italian enterprises had access to the web in 2000.

In common with several other countries the two main perceived barriers to Internet access were concerns about security (64%) and communications infrastructure (52%).

Italian enterprises ranked amongst the lowest users of e-commerce. At the time of the survey, only one in ten purchased goods and services on-line, and 3% used e-commerce to make sales, the latter being the lowest share of all countries in the pilot survey. In addition, amongst these enterprises only a very small proportion used specialised B2B marketplaces.

When asked to name the barriers they felt were deterring them from engaging in e-commerce, problems relating to the distrust of security conditions for electronic transactions emerged as the most cited barriers. Indeed, uncertainties concerning contracts, terms of delivery and guarantees were the most common problem, cited by 60% of enterprises for e-purchasing and by 57% of enterprises for e-sales. Uncertainties concerning payments were the second most frequently cited barrier for e-sales (55%) and the fourth most frequently cited barrier for e-purchasing (53%).

Figure 3.6: Main indicators for Italy, Quarter 2 2001 (%)



(1) End of 2000.
Source: E-commerce database, Eurostat

Table 3.6.1: Computer and network use in Italy, Quarter 2 2001 (%)

	All	Small and medium	Large	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Business services
Used computers	86	86	99	86	91	70	81	90
Used Intranet:								
at end 2000	21	20	68	21	21	10	19	30
since 2000	6	6	12	6	6	2	5	8
since 1999	6	6	15	6	8	2	7	8
since 1998 or earlier	9	8	41	9	7	5	7	14
did not use but plan to in 2001	5	5	11	5	6	1	6	5
did not use & do not plan to (or non-response)	74	75	21	74	73	89	76	66
Used EDI:								
at end 2000	5	4	31	5	7	1	7	4
since 2000	1	1	3	1	1	0	2	1
since 1999	1	1	4	1	2	0	1	1
since 1998 or earlier	3	2	24	3	4	1	4	2
did not use but plan to in 2001	3	3	5	4	4	2	4	1
did not use & do not plan to (or non-response)	92	92	64	92	89	97	89	95
Had web access:								
at end 2000	66	66	94	66	66	51	65	74
since 2000	20	20	11	21	19	13	26	16
since 1999	22	22	22	23	23	16	20	22
since 1998 or earlier	24	23	61	22	24	21	19	36
did not have but plan to in 2001	8	8	3	7	13	7	6	7
did not have & do not plan to (or non-response)	26	26	2	26	20	42	29	20
Had own web-site:	9	9	22	8	9	10	8	12
did not have but plan to in 2001	5	5	8	5	6	4	6	4
did not have & do not plan to (or non-response)	86	86	70	86	86	86	86	85
Had third party web-site:	26	26	43	28	23	25	19	22
did not have but plan to in 2001	5	5	8	5	6	4	6	4
did not have & do not plan to (or non-response)	69	69	49	67	72	71	75	74
Used Internet via:								
mobile phone	2	2	5	1	3	1	2	4
analogue modem	34	34	33	34	37	31	33	32
ISDN	42	42	47	43	45	29	38	44
xDSL	9	9	44	7	12	8	13	21
other broadband connection (> 2 Mbps)	2	2	18	2	3	1	3	5

Source: E-commerce database, Eurostat

Table 3.6.2: Barriers to Internet use in Italy, Quarter 2 2001 (%) (1)

	All	Small and medium	Large	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Business services
Set-up costs were too high	33	33	38	33	37	24	33	31
Internet access charges were too high	34	34	44	35	34	21	31	36
Lacking qualification of personnel / specific know how	39	39	45	38	42	32	41	39
Lack of perceived benefits for the company	37	37	41	38	41	31	37	25
Lost working time / irrelevant surfing	32	31	48	32	34	22	31	31
Data communications too slow or unstable	52	52	62	52	54	39	51	57
Lack of security (viruses, hackers)	64	64	83	65	67	47	60	67

(1) Share of respondents answering that these barriers were very important or had some importance.
Source: E-commerce database, Eurostat

Table 3.6.3: Use of specialised B2B Internet marketplaces in Italy, Quarter 2 2001 (%)

	All	Small and medium	Large	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Business services
Purchases made	0	0	3	0	0	1	1	0
Sales made	0	0	1	0	0	1	0	0

Source: E-commerce database, Eurostat

Table 3.6.4: Extent of network use for purchasing in Italy, Quarter 2 2001 (%)

	All	Small and medium	Large	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Business services
Used e-commerce:								
to make purchases	10	10	21	8	12	9	9	20
did not use, but plan to in 2001 via Internet	1	1	5	1	1	0	1	1
did not use, but plan to in 2001 via EDI	0	0	0	0	0	0	0	0
Made e-commerce purchases via Internet for:								
less than a year	5	5	8	4	6	6	5	8
1-2 years	3	3	9	3	4	2	3	7
more than 2 years	2	2	3	1	2	1	2	5
Made e-commerce purchases via EDI for:								
less than a year	1	1	2	1	3	1	3	0
1-2 years	0	0	0	0	0	1	0	0
more than 2 years	0	0	0	0	0	0	0	0
Used Internet in 2000 for:								
1% or more of purchases	7	7	13	5	9	6	8	15
2% or more of purchases	5	5	8	3	7	3	6	11
5% or more of purchases	3	3	5	1	6	1	6	9
10% or more of purchases	1	1	2	1	2	1	2	4
25% or more of purchases	0	0	1	0	1	0	1	1
50% or more of purchases	0	0	0	0	1	0	1	1
Used all networks (Internet & EDI) in 2000 for:								
1% or more of purchases	7	7	14	5	9	7	8	15
2% or more of purchases	5	5	9	3	7	4	6	11
5% or more of purchases	3	3	6	1	6	3	6	9
10% or more of purchases	2	2	3	1	5	2	2	4
25% or more of purchases	0	0	1	0	1	0	1	1
50% or more of purchases	0	0	0	0	1	0	1	1

Source: E-commerce database, Eurostat

Table 3.6.5: Type of network use for purchasing in Italy, Quarter 2 2001 (%)

	All	Small and medium	Large	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Business services
E-purchasing via Internet:								
ordering	8	8	17	6	9	7	8	18
payment	5	5	9	3	4	4	5	15
electronic delivery	4	3	8	3	3	4	4	9
E-purchasing via EDI:								
ordering	0	0	1	0	1	1	0	0
payment	0	0	1	0	0	1	0	0
electronic delivery	0	0	1	0	0	0	0	0

Source: E-commerce database, Eurostat

Table 3.6.6: Perception of barriers to and benefits from e-purchases in Italy, Quarter 2 2001 (%) (1)

	All	Small and medium	Large	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Business services
Barriers:								
goods & services can not be purchased by Internet	54	54	63	55	54	37	55	51
stock of (potential) suppliers too small	57	57	76	59	59	44	49	51
delivery costs too high	29	29	33	29	31	23	30	27
logistical problems (speed and timeliness of delivery)	37	37	44	37	40	32	35	36
uncertainty in making payments	53	53	63	53	52	40	52	61
uncertainty for contracts, terms of delivery & guarantees	60	59	78	61	58	47	57	64
Benefits:								
cost savings	5	5	13	4	5	6	6	10
speed of processing	8	8	19	6	9	8	7	19
simplification of tasks	7	7	16	6	8	6	7	15
offers from a large number of suppliers available	6	6	12	5	6	5	6	12

(1) Share of respondents answering that these barriers / benefits were very important or had some importance.
Source: E-commerce database, Eurostat

INDEX

Table 3.6.7: Extent of network use for sales in Italy, Quarter 2 2001 (%)

	All	Small and medium	Large	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Business services
Used e-commerce:								
to make sales	3	3	8	2	3	13	5	3
did not use, but plan to in 2001 via Internet	2	2	7	2	3	3	1	3
did not use, but plan to in 2001 via EDI	0	0	0	0	0	1	0	0
Made e-commerce sales via Internet for:								
less than a year	2	2	4	1	2	1	3	3
1-2 years	1	1	2	0	1	4	1	0
more than 2 years	1	1	1	0	0	6	0	0
Made e-commerce sales via EDI for:								
less than a year	1	1	2	1	2	3	2	3
1-2 years	0	0	0	0	0	1	0	0
more than 2 years	0	0	0	0	0	0	1	0
Value of Internet sales in 2000 (as a share of total sales):								
total	0	0	1	1	0	2	0	0
to own country	0	0	0	0	0	1	0	0
to EU countries	0	0	0	0	0	0	0	0
to other countries	0	0	0	0	0	1	0	0
Value of e-sales in 2000 (as a share of total sales):								
total	1	1	1	1	2	2	1	0
to own country	1	1	1	1	2	1	1	0
to EU countries	0	0	0	0	0	1	0	0
to other countries	0	0	0	0	0	1	0	0
Used Internet in 2000 for:								
1% or more of sales	2	2	5	2	3	12	4	0
2% or more of sales	2	2	4	1	0	11	3	0
5% or more of sales	1	1	3	1	3	1	0	0
10% or more of sales	1	1	2	1	0	6	1	0
25% or more of sales	0	0	0	0	0	2	0	0
50% or more of sales	0	0	0	0	0	1	0	0
Used all networks (Internet & EDI) in 2000 for:								
1% or more of sales	3	3	6	2	3	13	4	0
2% or more of sales	2	2	5	2	3	12	3	0
5% or more of sales	2	2	4	1	2	10	3	0
10% or more of sales	2	2	4	1	2	7	2	0
25% or more of sales	0	0	1	0	0	2	0	0
50% or more of sales	0	0	1	0	0	1	0	0

Source: E-commerce database, Eurostat

Table 3.6.8: Type of network use for sales in Italy, Quarter 2 2001 (%)

	All	Small and medium	Large	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Business services
E-sales via Internet:								
product information	2	2	6	1	1	11	3	1
price information	1	1	5	1	1	11	1	1
taking orders	2	2	5	1	1	10	3	1
payment	1	1	2	1	0	2	1	1
electronic delivery	0	0	1	0	0	2	1	0
E-sales via EDI:								
product information	0	0	0	0	0	1	0	0
price information	0	0	0	0	0	1	0	0
taking orders	0	0	1	0	0	1	0	0
payment	0	0	0	0	0	1	0	0
electronic delivery	0	0	0	0	0	0	0	0

Source: E-commerce database, Eurostat

Table 3.6.9: Perception of barriers to and benefits from e-sales in Italy, Quarter 2 2001 (%) (1)

	All	Small and medium	Large	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Business services
Barriers:								
goods & services not suitable for e-commerce	57	56	63	56	60	32	56	66
stock of (potential) customers too small	53	53	56	55	58	26	44	48
uncertainty for payments	55	55	59	57	56	36	50	53
uncertainty for contracts, terms of delivery & guarantees	57	57	69	59	59	40	55	55
cost of developing / maintaining system too high	48	48	59	49	51	30	46	53
logistical problems	43	43	51	44	47	29	39	40
consideration for damaging existing sales channels	44	44	61	45	50	27	39	38
Benefits:								
cost reductions	1	1	4	1	0	8	3	1
reaching new / more customers	2	2	5	1	1	12	4	2
geographic expansion of market	2	2	4	1	1	12	4	2
improvements to quality of service	2	2	6	1	1	10	2	1
speed of processing	2	2	6	1	1	11	3	2
simplification of tasks	1	1	4	1	1	9	3	1
avoid losing market share	1	1	4	1	1	10	3	1

(1) Share of respondents answering that these barriers / benefits were very important or had some importance.
Source: E-commerce database, Eurostat

INDEX

3.7 LUXEMBOURG

ACTIVITY COVERAGE FOR LUXEMBOURG IS:
NACE SECTIONS D AND G TO K

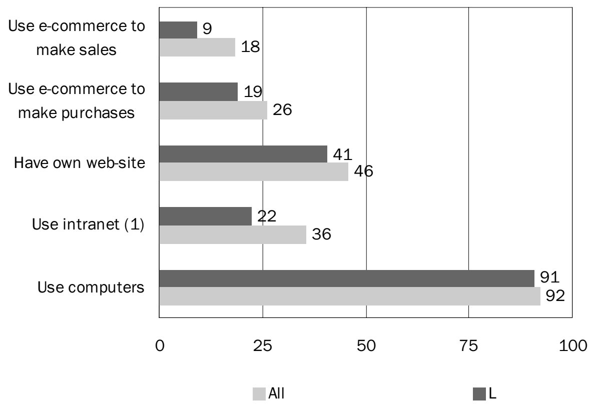
Computers were found in 91% of enterprises in Luxembourg in May/June 2001 (the date of the survey), a rate slightly below the average for those countries surveyed. EDI was adopted by 17% of enterprises, again slightly below the average, but penetration rates for intranets (22%) and web access (55%) ranked amongst the lowest in the surveyed countries in 2000.

Concerns about cost appeared as important barriers to having an Internet connection amongst enterprises in Luxembourg. High access charges (27% of enterprises) and set-up costs (25%) came as the third and fourth most cited reasons for not having access to the Internet, after security and slow communications, but before the lack of qualified personnel.

In Luxembourg, e-commerce displayed a lower than average penetration among enterprises. E-purchasing attracted 19% of enterprises, whilst 9% engaged in e-sales. Security issues concerning payments were at the top of the list of perceived barriers to e-purchasing. As regards e-sales, however, the most frequent concern was the lack of potential customers, a reason expressed by 6% of enterprises, which may to some extent be related to the small size of the country. Interestingly, logistics problems were mentioned by 5% of enterprises, and ranked as the third most frequently cited barrier to e-sales, whilst it was amongst the least commonly perceived barriers in all other countries. In general the perception of barriers to e-commerce is very low amongst enterprises in Luxembourg.

One notable characteristic of e-commerce in Luxembourg is the relatively frequent recourse to specialised B2B market-places. More than one-third of those enterprises engaging in e-commerce have used them to purchase or to sell on-line.

Figure 3.7: Main indicators for Luxembourg, Quarter 2 2001 (%)



(1) End of 2000.
Source: E-commerce database, Eurostat

Table 3.7.1: Computer and network use in Luxembourg, Quarter 2 2001 (%)

	All	Small and medium	Large	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Financial services	Business services
Used computers	91	90	99	92	92	68	94	100	98
Used Intranet:									
at end 2000	22	22	42	20	16	4	17	44	40
since 2000	6	6	9	5	6	1	5	9	9
since 1999	6	6	10	4	4	1	3	14	13
since 1998 or earlier	10	9	23	11	6	1	10	21	17
did not use but plan to in 2001	10	10	18	6	11	4	8	22	10
did not use & do not plan to (or non-response)	68	69	40	74	73	92	75	34	50
Used EDI:									
at end 2000	17	16	36	18	15	2	15	30	23
since 2000	2	2	2	3	2	0	5	1	2
since 1999	3	3	4	3	3	2	2	2	5
since 1998 or earlier	12	11	30	13	10	0	8	26	15
did not use but plan to in 2001	8	7	21	4	10	2	6	14	8
did not use & do not plan to (or non-response)	76	77	43	78	74	96	79	56	69
Had web access:									
at end 2000	55	54	70	53	48	36	52	71	73
since 2000	15	16	8	18	16	14	18	14	13
since 1999	15	15	23	14	15	4	11	24	24
since 1998 or earlier	24	23	38	22	18	19	23	33	36
did not have but plan to in 2001	18	18	23	17	23	14	9	23	16
did not have & do not plan to (or non-response)	27	28	8	30	29	50	39	6	11
Had own web-site:	41	39	67	39	35	29	42	60	48
did not have but plan to in 2001	12	12	11	19	11	9	5	11	17
did not have & do not plan to (or non-response)	47	48	23	42	54	62	54	29	34
Had third party web-site:	13	13	11	7	15	17	7	15	11
did not have but plan to in 2001	3	3	1	1	4	4	1	5	2
did not have & do not plan to (or non-response)	85	84	87	92	82	79	92	80	87
Used Internet via:									
mobile phone	4	4	6	4	1	0	5	7	8
analogue modem	15	15	22	15	11	14	14	23	20
ISDN	37	37	38	39	35	26	33	40	50
xDSL	2	2	3	1	1	1	2	2	4
other broadband connection (> 2 Mbps)	18	16	62	16	10	3	15	54	23

Source: E-commerce database, Eurostat

Table 3.7.2: Barriers to Internet use in Luxembourg, Quarter 2 2001 (%) (1)

	All	Small and medium	Large	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Financial services	Business services
Set-up costs were too high	25	25	43	27	23	13	22	39	32
Internet access charges were too high	27	26	42	25	29	16	17	31	37
Lacking qualification of personnel / specific know how	25	24	46	20	24	19	24	35	31
Lack of perceived benefits for the company	20	20	30	19	19	14	21	33	20
Lost working time / irrelevant surfing	23	22	41	22	21	9	30	32	26
Data communications too slow or unstable	33	32	53	32	31	19	32	52	40
Lack of security (viruses, hackers)	34	33	54	31	32	15	29	53	44

(1) Share of respondents answering that these barriers were very important or had some importance.
Source: E-commerce database, Eurostat

Table 3.7.3: Use of specialised B2B Internet marketplaces in Luxembourg, Quarter 2 2001 (%)

	All	Small and medium	Large	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Financial services	Business services
Purchases made	6	6	9	3	11	0	3	4	9
Sales made	3	3	10	1	3	7	4	4	1

Source: E-commerce database, Eurostat

Table 3.7.4: Extent of network use for purchasing in Luxembourg, Quarter 2 2001 (%)

	All	Small and medium	Large	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Financial services	Business services
Used e-commerce:									
to make purchases	19	18	28	18	21	8	10	22	28
did not use, but plan to in 2001 via Internet	7	6	15	10	8	5	3	7	7
did not use, but plan to in 2001 via EDI	1	1	0	2	0	2	0	1	0
Made e-commerce purchases via Internet for:									
less than a year	5	4	9	8	6	2	2	0	6
1-2 years	9	9	11	4	8	3	7	14	15
more than 2 years	5	5	8	4	5	1	1	7	7
Made e-commerce purchases via EDI for:									
less than a year	0	0	0	1	0	0	0	0	1
1-2 years	0	0	1	1	1	0	0	1	0
more than 2 years	1	1	6	0	2	0	0	0	1
Used Internet in 2000 for:									
1% or more of purchases	15	15	23	14	17	5	7	19	25
2% or more of purchases	9	9	9	8	11	4	3	13	13
5% or more of purchases	8	8	9	5	8	4	3	12	12
10% or more of purchases	4	4	7	2	7	1	1	6	6
25% or more of purchases	2	2	2	0	4	0	0	2	2
50% or more of purchases	1	1	1	0	2	0	0	0	1
Used all networks (Internet & EDI) in 20000 for:									
1% or more of purchases	16	16	24	14	18	5	7	19	25
2% or more of purchases	10	10	10	8	12	4	3	13	14
5% or more of purchases	8	8	9	5	9	4	3	12	12
10% or more of purchases	5	5	7	3	8	1	1	6	7
25% or more of purchases	3	3	4	0	6	0	0	3	3
50% or more of purchases	2	2	3	0	4	0	0	0	2

Source: E-commerce database, Eurostat

Table 3.7.5: Type of network use for purchasing in Luxembourg, Quarter 2 2001 (%)

	All	Small and medium	Large	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Financial services	Business services
E-purchasing via Internet:									
ordering	18	17	25	16	18	6	10	22	27
payment	8	8	14	10	6	4	3	12	16
electronic delivery	6	6	11	7	4	1	2	10	12
E-purchasing via EDI:									
ordering	2	1	4	2	3	0	0	1	2
payment	2	2	5	1	2	1	1	2	4
electronic delivery	0	0	1	1	0	0	0	0	1

Source: E-commerce database, Eurostat

Table 3.7.6: Perception of barriers to and benefits from e-purchases in Luxembourg, Quarter 2 2001 (%) (1)

	All	Small and medium	Large	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Financial services	Business services
Barriers:									
goods & services can not be purchased by Internet	9	8	13	8	8	5	5	11	13
stock of (potential) suppliers too small	9	9	11	8	11	5	5	11	11
delivery costs too high	9	9	11	13	9	3	3	12	13
logistical problems (speed and timeliness of delivery)	9	9	11	10	10	3	4	9	13
uncertainty in making payments	12	12	14	12	14	4	8	12	16
uncertainty for contracts, terms of delivery & guarantees	9	9	15	11	11	3	5	10	14
Benefits:									
cost savings	9	9	16	11	10	4	2	11	12
speed of processing	15	15	23	14	16	5	9	20	23
simplification of tasks	14	14	21	12	15	6	8	16	24
offers from a large number of suppliers available	10	10	19	8	11	4	6	12	16

(1) Share of respondents answering that these barriers / benefits were very important or had some importance.
Source: E-commerce database, Eurostat

Table 3.7.7: Extent of network use for sales in Luxembourg, Quarter 2 2001 (%)

	All	Small and medium	Large	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Financial services	Business services
Used e-commerce:									
to make sales	9	8	27	7	10	11	9	14	4
did not use, but plan to in 2001 via Internet	7	7	5	13	7	3	11	9	3
did not use, but plan to in 2001 via EDI	0	0	0	1	0	0	0	1	0
Made e-commerce sales via Internet for:									
less than a year	3	2	16	2	4	3	1	8	1
1-2 years	4	4	3	3	5	3	8	4	1
more than 2 years	2	2	7	2	2	5	0	2	1
Made e-commerce sales via EDI for:									
less than a year	0	0	0	0	0	0	0	0	1
1-2 years	0	0	0	0	0	1	0	0	0
more than 2 years	1	0	9	1	1	0	1	3	0
Value of Internet sales in 2000 (as a share of total sales):									
total	0	0	1	0	0	1	0	:	0
to own country	0	0	0	0	0	0	0	:	0
to EU countries	0	0	0	0	0	1	0	:	0
to other countries	0	0	0	0	0	0	0	:	0
Value of e-sales in 2000 (as a share of total sales):									
total	0	0	1	0	0	2	0	:	0
to own country	0	0	0	0	0	0	0	:	0
to EU countries	0	0	0	0	0	1	0	:	0
to other countries	0	0	0	0	0	1	0	:	0
to households	0	0	0	0	0	0	0	:	0
Used Internet in 2000 for:									
1% or more of sales	6	6	18	3	8	13	3	5	4
2% or more of sales	4	4	7	2	3	10	2	4	3
5% or more of sales	3	2	6	1	2	6	2	3	2
10% or more of sales	2	1	4	1	2	3	0	2	1
25% or more of sales	0	0	2	0	1	0	0	0	0
50% or more of sales	0	0	0	0	0	0	0	0	0
Used all networks (Internet & EDI) in 2000 for:									
1% or more of sales	7	6	20	3	9	13	3	7	4
2% or more of sales	4	4	7	2	3	10	2	4	3
5% or more of sales	3	3	7	1	2	7	2	3	2
10% or more of sales	2	2	5	1	2	3	0	2	1
25% or more of sales	0	0	3	0	1	0	0	1	0
50% or more of sales	0	0	0	0	0	0	0	0	0

Source: E-commerce database, Eurostat

Table 3.7.8: Type of network use for sales in Luxembourg, Quarter 2 2001 (%)

	All	Small and medium	Large	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Financial services	Business services
E-sales via Internet:									
product information	8	7	26	2	9	12	7	13	4
price information	4	4	15	1	5	9	5	5	2
taking orders	7	6	22	6	8	10	6	9	2
payment	2	2	12	1	2	5	4	4	1
electronic delivery	2	1	10	1	1	2	2	5	1
E-sales via EDI:									
product information	1	1	2	0	1	2	0	2	1
price information	0	0	2	0	0	1	0	0	0
taking orders	0	0	2	0	0	0	0	2	0
payment	0	0	2	0	1	1	0	1	0
electronic delivery	0	0	1	0	1	0	0	0	0

Source: E-commerce database, Eurostat

Table 3.7.9: Perception of barriers to and benefits from e-sales in Luxembourg, Quarter 2 2001 (%) (1)

	All	Small and medium	Large	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Financial services	Business services
Barriers:									
goods & services not suitable for e-commerce	4	4	11	2	5	3	5	10	1
stock of (potential) customers too small	6	5	15	2	8	3	8	11	2
uncertainty for payments	5	4	14	2	6	7	4	6	2
uncertainty for contracts, terms of delivery & guarantees	4	4	15	2	4	6	4	5	4
cost of developing / maintaining system too high	6	5	17	6	5	4	8	10	2
logistical problems	5	4	15	4	6	7	4	10	1
consideration for damaging existing sales channels	4	4	13	3	4	2	5	12	1
Benefits:									
cost reductions	3	3	15	3	3	3	4	9	2
reaching new / more customers	8	7	25	6	8	14	10	11	3
geographic expansion of market	6	5	19	3	4	10	8	10	4
improvements to quality of service	4	4	17	2	5	2	7	9	1
speed of processing	6	5	24	5	6	7	6	9	2
simplification of tasks	6	6	18	3	7	10	8	9	1
avoid losing market share	7	7	24	5	7	13	8	10	4

(1) Share of respondents answering that these barriers / benefits were very important or had some importance.
Source: E-commerce database, Eurostat

3.8 THE NETHERLANDS

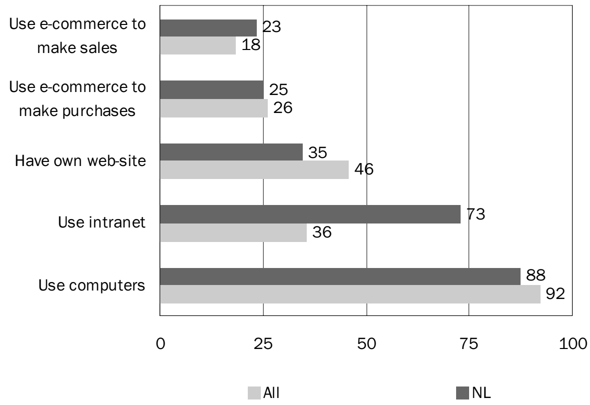
ACTIVITY COVERAGE FOR THE NETHERLANDS IS:
NACE SECTIONS D AND G TO K

Dutch data from the 2001 survey was not available at the time of writing. Data from the 2000 survey, which relate to the situation at the beginning of the year 2000 have been used. Dutch enterprises were only 88% equipped with computers in January 2000. Intranets were used by 73% of enterprises, by far the highest rate recorded in the participating countries and EDI also recorded the largest installed base (57%). In January 2000 65% of Dutch enterprises had web access.

E-purchasing procedures have been implemented in 25% of Dutch enterprises, a share very close to the average. In contrast, e-sales concerned 23% of enterprises, one of the highest proportions recorded amongst the participating countries. Information is only available for two Internet purchasing processes, ordering and payment, but both of these showed a rate of use well above the average. For Internet sales the equivalent processes of taking orders and receiving payment also recorded rates above average, notably for payments where the 10% proportion of enterprises accepting payments on-line was more than three times the average and was considerably higher than in any other country.

The Netherlands is another of the countries for which data are also available for enterprises with 5 to 9 persons employed. The results for this size class show quite consistently that these smaller enterprises have a lower penetration rate for e-commerce infrastructure and participate less in e-commerce (both purchases and sales) than SMEs.

Figure 3.8: Main indicators for the Netherlands, July 2000 (%)



Source: E-commerce database, Eurostat

Table 3.8.1: Computer and network use in the Netherlands, July 2000 (%) (1)

	All	Micro	Small	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Financial services	Business services
Used computers	88	80	87	91	88	81	83	82	87
Used Intranet:	73	51	70	77	75	42	64	77	77
did not use but plan to in 2000	3	7	4	3	4	8	3	1	1
did not use & do not plan to (or non-response)	24	42	27	20	21	50	33	23	22
Used EDI:	57	44	53	58	56	40	59	65	60
did not use but plan to in 2000	14	9	15	3	5	5	0	1	4
did not use & do not plan to (or non-response)	29	47	32	39	39	54	41	34	36
Had web access:	65	49	62	69	63	49	52	71	72
did not have but plan to in 2000	11	13	11	11	11	16	10	9	8
did not have & do not plan to (or non-response)	25	38	27	20	26	36	39	21	20
Had own web-site:	35	20	31	32	35	34	23	41	42
did not have but plan to in 2000	54	38	50	56	51	52	39	65	62
did not have & do not plan to (or non-response)	12	42	19	12	14	15	39	:	:

(1) All includes small, medium and large enterprises but not micro enterprises.
Source: E-commerce database, Eurostat

Table 3.8.2: Extent of network use for purchasing in the Netherlands, July 2000 (%) (1)

	All	Micro	Small	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Financial services	Business services
Used e-commerce:									
to make purchases	25	17	23	20	27	19	19	23	33
did not use but plan to in 2000 via Internet	12	10	12	15	12	7	11	9	9

(1) All includes small, medium and large enterprises but not micro enterprises.
Source: E-commerce database, Eurostat

Table 3.8.3: Type of network use for purchasing in the Netherlands, July 2000 (%) (1)

	All	Micro	Small	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Financial services	Business services
E-purchasing via Internet:									
ordering	25	17	23	20	27	19	19	23	33
payment	14	12	13	12	15	12	8	8	19

(1) All includes small, medium and large enterprises but not micro enterprises.
Source: E-commerce database, Eurostat

Table 3.8.4: Extent of network use for sales in the Netherlands, July 2000 (%) (1)

	All	Micro	Small	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Financial services	Business services
Used e-commerce:									
to make sales	23	17	22	23	25	20	23	25	23
did not use but plan to in 2000 via Internet	14	12	13	17	12	13	15	18	9
Used all networks (Internet & EDI) in 1999 for:									
1% or more of sales	15	11	14	17	12	20	15	20	14
2% or more of sales	10	7	9	12	7	8	11	12	11
5% or more of sales	7	6	6	8	5	5	9	4	9
10% or more of sales	4	3	3	5	2	2	6	2	4
25% or more of sales	1	1	1	2	1	1	2	1	1
50% or more of sales	1	1	1	1	1	0	2	1	1

(1) All includes small, medium and large enterprises but not micro enterprises.
Source: E-commerce database, Eurostat

Table 3.8.5: Type of network use for sales in the Netherlands, July 2000 (%) (1)

	All	Micro	Small	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Financial services	Business services
E-sales via Internet:									
taking orders	23	17	22	23	25	20	23	25	23
payment	10	9	10	10	11	8	11	8	10

(1) All includes small, medium and large enterprises but not micro enterprises.
Source: E-commerce database, Eurostat

3.9 AUSTRIA

ACTIVITY COVERAGE FOR AUSTRIA IS:
NACE SECTIONS D AND G TO K

The survey shows Austria as a country with results that match quite closely the average. Computers were found in 92% of Austrian enterprises in March 2001 (the date of the survey), equivalent to the average for all surveyed countries. In 2000, intranet (27%) and EDI (15%) usage rates were slightly below those recorded in most other countries, in contrast to web access that 76% of enterprises had.

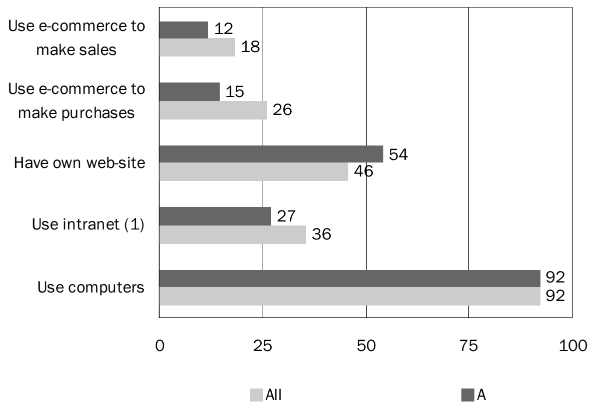
For Austrian enterprises, the perceived barriers to having an Internet connection were mostly in line with those cited in other countries with security concerns (68%) as the most important barrier, followed by slow or unstable data communications (56%).

Usage of e-commerce amongst Austrian enterprises was slightly below average. E-purchasing attracted 15% of enterprises, whilst 12% implemented e-sales.

Barriers to using e-purchasing were very much in line with the average for all countries. As regards e-sales, however, the fear of a lack of potential customers (cited by 45% of enterprises) came after cost concerns (48%) but was relatively more important than in the majority of other countries.

Just over one-sixth of Austrian enterprises that embraced e-commerce made use of specialised B2B marketplaces to either buy or sell on-line. Again, this was a result in accordance with the average for all countries surveyed.

Figure 3.9: Main indicators for Austria, March 2001 (%)



(1) End of 2000.
Source: E-commerce database, Eurostat

Table 3.9.1: Computer and network use in Austria, March 2001 (%)

	All	Small and medium	Large	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Financial services	Business services
Used computers	92	92	100	92	92	87	87	100	99
Used Intranet:									
at end 2000	27	26	67	22	29	12	21	81	38
since 2000	7	7	15	6	8	5	8	12	8
since 1999	7	7	17	6	8	4	8	25	10
since 1998 or earlier	12	12	35	10	13	3	6	44	21
did not use but plan to in 2001	7	6	13	7	6	2	6	11	10
did not use & do not plan to (or non-response)	66	68	19	70	65	86	73	8	52
Used EDI:									
at end 2000	15	14	49	14	19	8	11	26	13
since 2000	3	3	5	3	4	2	2	5	2
since 1999	4	4	8	3	4	4	4	4	3
since 1998 or earlier	8	7	36	7	11	2	5	18	8
did not use but plan to in 2001	5	5	11	5	7	3	5	3	3
did not use & do not plan to (or non-response)	80	81	40	81	74	89	84	70	83
Had web access:									
at end 2000	76	76	91	74	76	76	67	91	84
since 2000	20	20	10	22	23	17	20	15	15
since 1999	22	22	18	23	22	20	27	32	19
since 1998 or earlier	34	33	62	30	31	39	21	44	49
did not have but plan to in 2001	11	11	9	11	11	8	15	9	13
did not have & do not plan to (or non-response)	12	13	0	15	13	17	18	0	3
Had own web-site:	54	53	86	52	50	65	42	65	63
did not have but plan to in 2001	14	14	6	14	15	11	16	11	14
did not have & do not plan to (or non-response)	32	33	8	34	35	24	42	25	23
Had third party web-site:	26	26	30	18	25	44	19	45	27
did not have but plan to in 2001	3	3	1	2	4	2	3	8	1
did not have & do not plan to (or non-response)	71	71	70	80	71	55	78	47	72
Used Internet via:									
mobile phone	8	8	18	9	7	6	8	6	13
analogue modem	23	23	19	21	21	31	21	21	24
ISDN	60	60	69	58	59	61	54	61	68
xDSL	10	10	16	10	11	7	6	14	13
other broadband connection (> 2 Mbps)	8	7	33	4	7	4	10	31	13

Source: E-commerce database, Eurostat

Table 3.9.2: Barriers to Internet use in Austria, March 2001 (%) (1)

	All	Small and medium	Large	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Financial services	Business services
Set-up costs were too high	43	43	48	40	42	45	42	49	47
Internet access charges were too high	44	44	41	44	45	47	42	31	46
Lacking qualification of personnel / specific know how	48	48	44	46	49	51	40	59	46
Lack of perceived benefits for the company	37	37	39	36	38	35	38	39	37
Lost working time / irrelevant surfing	35	34	52	34	35	31	36	28	41
Data communications too slow or unstable	56	56	61	53	55	55	54	73	61
Lack of security (viruses, hackers)	68	67	83	66	66	67	62	80	77

(1) Share of respondents answering that these barriers were very important or had some importance.
Source: E-commerce database, Eurostat

Table 3.9.3: Use of specialised B2B Internet marketplaces in Austria, March 2001 (%)

	All	Small and medium	Large	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Financial services	Business services
Purchases made	3	3	7	1	3	5	1	6	4
Sales made	2	2	4	0	2	7	1	2	0

Source: E-commerce database, Eurostat

Table 3.9.4: Extent of network use for purchasing in Austria, March 2001 (%)

	All	Small and medium	Large	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Financial services	Business services
Used e-commerce:									
to make purchases	15	14	30	9	17	17	10	20	20
did not use, but plan to in 2001 via Internet	14	14	18	16	14	14	11	13	12
did not use, but plan to in 2001 via EDI	2	1	7	1	2	1	2	1	1
Made e-commerce purchases via Internet for:									
less than a year	5	5	8	4	5	6	4	5	7
1-2 years	5	5	11	3	5	5	3	11	8
more than 2 years	4	4	7	1	4	7	2	3	5
Made e-commerce purchases via EDI for:									
less than a year	0	0	1	0	1	1	1	0	0
1-2 years	0	0	1	0	1	0	0	0	0
more than 2 years	1	1	9	1	3	0	0	0	1
Used Internet in 2000 for:									
1% or more of purchases	9	9	10	5	9	14	4	15	13
2% or more of purchases	7	7	6	3	8	10	4	13	10
5% or more of purchases	4	4	4	2	5	6	1	13	7
10% or more of purchases	2	2	3	1	3	1	1	9	4
25% or more of purchases	1	1	1	0	1	0	0	3	0
50% or more of purchases	0	0	0	0	1	0	0	0	0
Used all networks (Internet & EDI) in 2000 for:									
1% or more of purchases	11	11	18	6	13	14	6	16	14
2% or more of purchases	8	8	14	4	11	10	5	13	10
5% or more of purchases	6	6	11	2	9	6	2	13	7
10% or more of purchases	4	4	9	2	7	2	2	9	4
25% or more of purchases	2	2	6	1	4	0	1	3	1
50% or more of purchases	1	1	2	0	3	0	1	0	0

Source: E-commerce database, Eurostat

Table 3.9.5: Type of network use for purchasing in Austria, March 2001 (%)

	All	Small and medium	Large	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Financial services	Business services
E-purchasing via Internet:									
ordering	14	13	25	8	14	17	9	20	20
payment	5	5	7	3	5	7	6	5	8
electronic delivery	3	3	6	2	3	4	2	5	8
E-purchasing via EDI:									
ordering	2	2	11	1	5	1	2	0	1
payment	2	1	8	2	2	1	0	1	2
electronic delivery	1	1	5	0	2	0	0	0	1

Source: E-commerce database, Eurostat

Table 3.9.6: Perception of barriers to and benefits from e-purchases in Austria, March 2001 (%) (1)

	All	Small and medium	Large	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Financial services	Business services
Barriers:									
goods & services can not be purchased by Internet	40	39	55	42	43	35	29	42	37
stock of (potential) suppliers too small	38	37	58	40	41	33	30	38	36
delivery costs too high	21	21	26	18	23	23	19	21	20
logistical problems (speed and timeliness of delivery)	28	28	42	27	31	27	26	30	27
uncertainty in making payments	38	38	45	36	38	42	33	41	42
uncertainty for contracts, terms of delivery & guarantees	39	39	54	40	39	34	38	46	42
Benefits:									
cost savings	7	7	21	4	9	9	7	13	7
speed of processing	13	12	27	7	15	16	9	18	17
simplification of tasks	11	10	24	5	13	15	7	15	15
offers from a large number of suppliers available	7	7	11	4	7	11	7	7	11

(1) Share of respondents answering that these barriers / benefits were very important or had some importance.
Source: E-commerce database, Eurostat

INDEX

Table 3.9.7: Extent of network use for sales in Austria, March 2001 (%)

	All	Small and medium	Large	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Financial services	Business services
Used e-commerce:									
to make sales	12	11	26	5	13	32	10	12	3
did not use, but plan to in 2001 via Internet	16	16	22	18	18	11	15	22	14
did not use, but plan to in 2001 via EDI	2	1	6	2	2	1	0	0	1
Made e-commerce sales via Internet for:									
less than a year	3	3	8	2	5	4	4	3	1
1-2 years	5	5	6	2	5	16	4	4	1
more than 2 years	3	3	7	0	2	12	2	5	0
Made e-commerce sales via EDI for:									
less than a year	0	0	1	0	1	0	0	0	1
1-2 years	0	0	2	1	1	0	0	1	0
more than 2 years	1	1	7	1	2	0	0	1	0
Value of Internet sales in 2000 (as a share of total sales):									
total	1	1	1	0	2	2	1	0	0
to own country	1	1	0	0	2	0	1	0	0
to EU countries	0	0	0	0	0	1	0	0	0
to other countries	0	0	0	0	0	0	0	0	0
Value of e-sales in 2000 (as a share of total sales):									
total	2	3	2	3	4	2	1	0	1
to own country	2	2	1	1	4	0	1	0	1
to EU countries	1	0	1	2	0	1	0	0	0
to other countries	0	0	0	0	0	0	0	0	0
to households	0	0	0	0	0	1	0	0	0
Used Internet in 2000 for:									
1% or more of sales	6	6	8	1	4	24	3	5	2
2% or more of sales	5	5	5	1	4	23	3	4	2
5% or more of sales	3	3	3	1	2	16	2	2	1
10% or more of sales	2	2	2	1	1	9	1	2	0
25% or more of sales	1	1	1	0	0	3	1	0	0
50% or more of sales	0	0	0	0	0	1	1	0	0
Used all networks (Internet & EDI) in 2000 for:									
1% or more of sales	7	7	15	3	7	24	3	5	2
2% or more of sales	6	6	12	2	6	23	3	4	2
5% or more of sales	5	4	9	2	4	16	2	2	1
10% or more of sales	3	3	6	1	2	9	1	2	1
25% or more of sales	1	1	4	1	1	3	1	0	1
50% or more of sales	1	1	3	0	1	1	1	0	0

Source: E-commerce database, Eurostat

Table 3.9.8: Type of network use for sales in Austria, March 2001 (%)

	All	Small and medium	Large	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Financial services	Business services
E-sales via Internet:									
product information	11	10	22	4	11	31	10	12	3
price information	9	9	18	3	9	29	10	10	2
taking orders	11	10	20	4	11	32	10	12	3
payment	2	2	7	1	2	8	3	5	1
electronic delivery	1	1	4	0	1	1	2	2	1
E-sales via EDI:									
product information	0	0	1	0	1	0	0	0	0
price information	0	0	2	0	1	0	0	0	0
taking orders	2	1	9	2	3	0	0	1	1
payment	1	0	6	1	1	0	0	3	0
electronic delivery	0	0	4	0	1	0	0	1	0

Source: E-commerce database, Eurostat

Table 3.9.9: Perception of barriers to and benefits from e-sales in Austria, March 2001 (%) (1)

	All	Small and medium	Large	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Financial services	Business services
Barriers:									
goods & services not suitable for e-commerce	54	53	71	57	50	44	41	64	68
stock of (potential) customers too small	45	45	57	47	51	37	41	55	40
uncertainty for payments	43	42	55	43	47	40	38	45	36
uncertainty for contracts, terms of delivery & guarantees	43	43	51	43	46	41	43	50	35
cost of developing / maintaining system too high	48	47	67	45	52	46	48	50	44
logistical problems	34	33	47	37	39	25	32	32	23
consideration for damaging existing sales channels	34	33	57	36	40	25	27	50	26
Benefits:									
cost reductions	6	6	16	3	7	16	7	7	2
reaching new / more customers	10	10	17	3	10	32	10	9	2
geographic expansion of market	8	8	9	2	9	28	8	6	1
improvements to quality of service	6	6	18	3	7	15	4	10	3
speed of processing	9	8	20	5	8	24	5	10	2
simplification of tasks	7	7	18	4	7	20	5	7	2
avoid losing market share	7	7	15	3	8	18	7	8	1

(1) Share of respondents answering that these barriers / benefits were very important or had some importance.
Source: E-commerce database, Eurostat

3.10 PORTUGAL

ACTIVITY COVERAGE FOR PORTUGAL IS:
NACE SECTIONS D AND G TO K

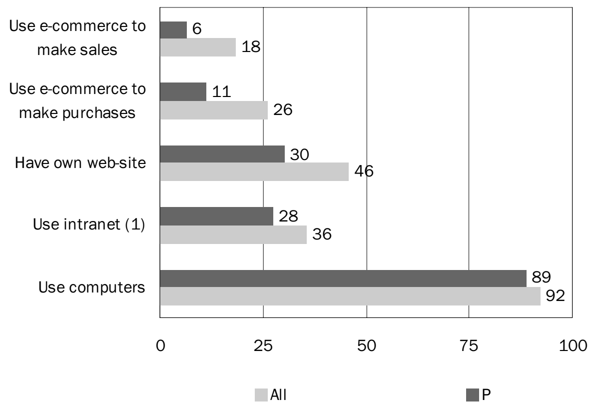
Some 897% of surveyed enterprises in Portugal reported that they were equipped with computers in June 2001 (the date of the survey), a rate somewhat below the average for surveyed countries. Network technologies, however, were relatively more present at the end of 2000 than in most other countries, in particular as regards EDI (20%) and web access (72%).

For most Portuguese enterprises, high Internet access charges (cited by 56% of enterprises) were seen as a bigger barrier to having an Internet connection than a lack of qualified personnel (54%), contrary to the situation in most other countries. The main barriers were nevertheless security and communication infrastructure concerns.

Enterprises in Portugal displayed a relatively low usage of e-commerce, although it was higher than the level recorded in Spain or Italy. Some 11% of enterprises purchased on-line, whilst 6% of them used e-commerce to make sales. Amongst these enterprises, B2B marketplaces attracted more than one-fifth of the buyers, a share above the average for the pilot survey, but only attracted one in ten sellers, less than half the level recorded in the majority of the surveyed countries.

Logistical problems were considered as an important barrier to purchasing on-line for 29% of Portuguese enterprises (they were generally considered as a lesser problem in most other countries surveyed). Nevertheless they ranked after security and communication infrastructure concerns, the same concerns that topped the list for Internet access. In contrast, Portuguese enterprises were less worried about finding enough suppliers or customers, as these were the least cited barriers to e-commerce.

Figure 3.10: Main indicators for Portugal, June 2001 (%)



(1) End of 2000.
Source: E-commerce database, Eurostat

Table 3.10.1: Computer and network use in Portugal, June 2001 (%)

	All	Small and medium	Large	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Financial services	Business services
Used computers	89	89	99	84	94	66	96	100	92
Used Intranet:									
at end 2000	28	27	58	23	32	4	40	76	31
since 2000	9	9	15	6	13	0	11	18	8
since 1999	7	7	16	9	7	0	11	22	9
since 1998 or earlier	11	11	26	9	12	4	18	36	14
did not use but plan to in 2001	8	8	11	6	10	4	5	11	10
did not use & do not plan to (or non-response)	65	65	31	71	59	92	55	13	60
Used EDI:									
at end 2000	20	20	38	17	23	7	30	44	17
since 2000	6	6	8	6	8	0	10	10	2
since 1999	3	3	7	3	4	0	4	9	3
since 1998 or earlier	10	10	24	8	11	7	17	25	12
did not use but plan to in 2001	7	7	7	6	9	4	6	1	6
did not use & do not plan to (or non-response)	73	73	55	77	68	89	64	55	77
Had web access:									
at end 2000	72	72	94	67	79	32	90	97	77
since 2000	28	28	15	25	35	11	29	24	26
since 1999	21	21	28	22	23	11	18	18	21
since 1998 or earlier	23	23	52	20	21	11	43	54	30
did not have but plan to in 2001	10	10	3	8	8	24	2	2	10
did not have & do not plan to (or non-response)	18	19	3	25	13	44	7	2	13
Had own web-site:	30	30	59	27	32	15	47	64	33
did not have but plan to in 2001	4	4	6	4	5	0	4	4	4
did not have & do not plan to (or non-response)	66	66	34	69	63	85	49	33	63
Had third party web-site:	2	2	3	2	3	0	0	2	2
did not have but plan to in 2001	2	2	2	2	3	:	5	2	2
did not have & do not plan to (or non-response)	95	95	95	96	94	100	95	96	96
Used Internet via:									
mobile phone	5	5	10	3	6	0	5	10	8
analogue modem	42	42	43	38	48	28	41	31	43
ISDN	25	25	50	27	27	7	36	32	28
xDSL	6	6	12	5	6	4	12	19	6
other broadband connection (> 2 Mbps)	11	11	24	8	12	0	22	49	16

Source: E-commerce database, Eurostat

Table 3.10.2: Barriers to Internet use in Portugal, June 2001 (%) (1)

	All	Small and medium	Large	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Financial services	Business services
Set-up costs were too high	50	50	55	47	53	31	67	65	55
Internet access charges were too high	56	56	60	52	59	38	70	61	58
Lacking qualification of personnel / specific know how	54	54	51	50	59	42	60	53	49
Lack of perceived benefits for the company	46	46	49	45	50	25	55	49	49
Lost working time / irrelevant surfing	50	50	64	47	54	25	65	59	57
Data communications too slow or unstable	59	59	69	56	65	32	67	68	60
Lack of security (viruses, hackers)	66	66	79	64	72	32	79	79	71

(1) Share of respondents answering that these barriers were very important or had some importance.
Source: E-commerce database, Eurostat

Table 3.10.3: Use of specialised B2B Internet marketplaces in Portugal, June 2001 (%)

	All	Small and medium	Large	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Financial services	Business services
Purchases made	3	3	5	1	3	0	6	2	3
Sales made	1	1	3	0	1	0	0	0	0

Source: E-commerce database, Eurostat

Table 3.10.4: Extent of network use for purchasing in Portugal, June 2001 (%)

	All	Small and medium	Large	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Financial services	Business services
Used e-commerce:									
to make purchases	11	11	21	7	14	0	18	15	15
did not use, but plan to in 2001 via Internet	7	7	8	4	7	10	11	6	5
did not use, but plan to in 2001 via EDI	0	0	2	0	1	0	0		0
Made e-commerce purchases via Internet for:									
less than a year	3	3	3	2	3	0	6	2	5
1-2 years	4	4	8	3	5	0	5	2	4
more than 2 years	3	2	5	1	3	0	6	10	5
Made e-commerce purchases via EDI for:									
less than a year	0	0	1	0	1	:	:	0	0
1-2 years	0	0	1	0	1	:	0	:	0
more than 2 years	1	1	2	0	2	0	1	0	:
Used Internet in 2000 for:									
1% or more of purchases	8	8	13	5	9	0	13	10	13
2% or more of purchases	5	5	6	2	6	0	11	6	9
5% or more of purchases	4	4	3	1	5	0	9	6	7
10% or more of purchases	2	2	2	1	3	0	6	5	3
25% or more of purchases	1	1	1	1	1	:	2	:	2
50% or more of purchases	1	1	0	1	1	:	2	:	1
Used all networks (Internet & EDI) in 2000 for:									
1% or more of purchases	9	9	15	6	11	0	14	10	13
2% or more of purchases	6	6	8	2	8	0	13	6	9
5% or more of purchases	5	5	6	1	7	0	11	6	8
10% or more of purchases	4	4	3	1	5	0	8	5	4
25% or more of purchases	2	2	2	1	3	0	5	0	2
50% or more of purchases	2	2	2	1	2	0	5	:	2

Source: E-commerce database, Eurostat

Table 3.10.5: Type of network use for purchasing in Portugal, June 2001 (%)

	All	Small and medium	Large	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Financial services	Business services
E-purchasing via Internet:									
ordering	10	10	16	6	11	0	17	12	14
payment	4	4	6	2	3	0	6	4	9
electronic delivery	2	2	5	1	2	0	2	5	6
E-purchasing via EDI:									
ordering	2	2	5	1	4	0	2	0	0
payment	1	1	2	0	1	0	1	:	0
electronic delivery	1	1	2	1	1	:	1	:	0

Source: E-commerce database, Eurostat

Table 3.10.6: Perception of barriers to and benefits from e-purchases in Portugal, June 2001 (%) (1)

	All	Small and medium	Large	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Financial services	Business services
Barriers:									
goods & services can not be purchased by Internet	40	40	49	41	43	21	49	25	37
stock of (potential) suppliers too small	20	20	26	20	22	7	28	15	20
delivery costs too high	24	24	29	22	28	14	22	19	20
logistical problems (speed and timeliness of delivery)	29	28	36	28	32	14	31	19	28
uncertainty in making payments	34	34	42	32	36	24	40	35	34
uncertainty for contracts, terms of delivery & guarantees	36	36	45	34	38	25	42	31	35
Benefits:									
cost savings	9	9	16	6	10	0	16	3	11
speed of processing	10	10	19	7	12	0	16	13	15
simplification of tasks	11	11	18	8	13	0	17	7	15
offers from a large number of suppliers available	5	5	11	2	6	0	10	12	10

(1) Share of respondents answering that these barriers / benefits were very important or had some importance.
Source: E-commerce database, Eurostat

INDEX

Table 3.10.7: Extent of network use for sales in Portugal, June 2001 (%)

	All	Small and medium	Large	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Financial services	Business services
Used e-commerce:									
to make sales	6	6	19	4	8	7	7	13	3
did not use, but plan to in 2001 via Internet	6	6	5	4	6	7	13	7	4
did not use, but plan to in 2001 via EDI	0	0	2	0	0	0	0	:	:
Made e-commerce sales via Internet for:									
less than a year	2	2	4	2	4	0	5	4	0
1-2 years	2	2	3	1	2	7	0	3	1
more than 2 years	1	1	4	0	1	0	3	6	1
Made e-commerce sales via EDI for:									
less than a year	0	0	1	0	0	:	:	:	:
1-2 years	1	1	2	1	1	0	:	:	0
more than 2 years	0	0	6	0	1	0	0	0	:
Value of Internet sales in 2000 (as a share of total sales):									
total	1	1	1	0	1	1	1	1	1
Value of e-sales in 2000 (as a share of total sales):									
total	2	2	2	3	2	1	1	1	1
to households	0	0	0	0	0	0	0	0	0
Used Internet in 2000 for:									
1% or more of sales	3	3	7	2	4	4	6	7	2
2% or more of sales	2	2	4	1	3	4	4	4	1
5% or more of sales	1	1	3	1	2	0	2	4	0
10% or more of sales	1	1	2	1	1	0	1	2	0
25% or more of sales	0	0	1	0	0	0	1	:	0
50% or more of sales	0	0	0	0	0	:	:	:	0
Used all networks (Internet & EDI) in 2000 for:									
1% or more of sales	4	4	11	3	6	4	7	7	2
2% or more of sales	3	3	8	2	4	4	5	4	2
5% or more of sales	3	3	6	2	4	0	4	4	1
10% or more of sales	2	2	5	1	3	0	2	2	1
25% or more of sales	1	1	2	0	1	0	2	:	0
50% or more of sales	1	1	1	0	1	:	2	:	0

Source: E-commerce database, Eurostat

Table 3.10.8: Type of network use for sales in Portugal, June 2001 (%)

	All	Small and medium	Large	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Financial services	Business services
E-sales via Internet:									
product information	5	5	12	3	6	4	6	14	3
price information	4	4	10	2	5	7	7	10	1
taking orders	4	3	9	3	5	0	5	7	1
payment	1	1	4	1	1	0	5	7	0
electronic delivery	1	1	1	1	1	0	4	5	0
E-sales via EDI:									
product information	0	0	2	0	1	0	:	:	0
price information	1	1	2	0	1	0	:	:	0
taking orders	1	1	8	1	2	0	0	0	0
payment	1	1	2	1	1	:	0	0	:
electronic delivery	0	0	2	0	1	:	0	2	:

Source: E-commerce database, Eurostat

Table 3.10.9: Perception of barriers to and benefits from e-sales in Portugal, June 2001 (%) (1)

	All	Small and medium	Large	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Financial services	Business services
Barriers:									
goods & services not suitable for e-commerce	36	36	42	34	40	21	40	31	35
stock of (potential) customers too small	19	19	21	18	21	14	25	18	14
uncertainty for payments	30	30	37	27	35	25	29	29	22
uncertainty for contracts, terms of delivery & guarantees	28	28	35	27	33	21	24	19	22
cost of developing / maintaining system too high	32	32	43	28	37	25	36	34	25
logistical problems	25	25	31	22	30	14	27	23	18
consideration for damaging existing sales channels	28	28	34	28	33	17	27	13	18
Benefits:									
cost reductions	5	5	14	2	6	7	5	8	2
reaching new / more customers	5	5	11	3	5	7	6	14	2
geographic expansion of market	4	4	10	2	5	4	6	11	2
improvements to quality of service	5	5	15	3	7	7	5	11	2
speed of processing	5	5	16	3	7	7	5	13	1
simplification of tasks	6	6	16	4	7	7	4	7	2
avoid losing market share	5	4	13	3	5	7	6	12	1

(1) Share of respondents answering that these barriers / benefits were very important or had some importance.
Source: E-commerce database, Eurostat

3.11 FINLAND

ACTIVITY COVERAGE FOR FINLAND IS:
NACE SECTIONS D, F TO I AND K

Computer penetration in Finland was the highest of all surveyed countries, with 98% of enterprises equipped with computers at the date of the survey (January/February 2001). Web access was also highest in Finland, with 91% of enterprises connected at the end of 2000. In contrast, intranet and EDI usage was below average and concerned 26% and 16% of enterprises respectively.

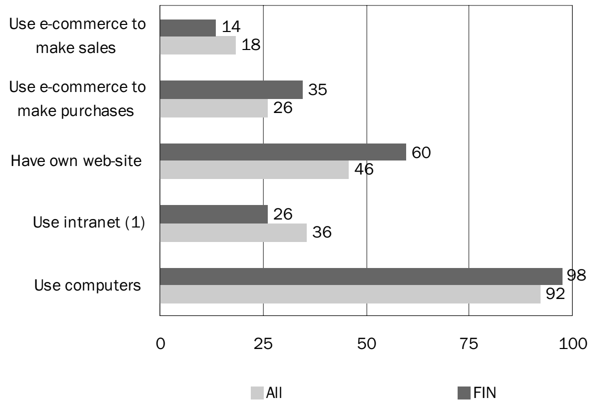
After security concerns, expressed by 82% of Finnish enterprises, the lack of qualified personnel was seen by a high proportion of enterprises (73%) as an important barrier to having an Internet connection. In general the proportion of enterprises perceiving barriers to Internet access was high in Finland.

Finnish enterprises were relatively frequent users of e-purchasing (35%), although e-sales usage was below average, attracting only 14% of enterprises. In this latter case, enterprises were mainly worried about the possibility of hurting sales through existing channels, a problem judged important by 68% of them. This was cited more frequently than the cost of developing and maintaining an e-commerce system (61%). In contrast, security concerns were low in the ranking, with uncertainty concerning contracts, terms of delivery and guarantees being the least frequently cited barrier (53%).

B2B marketplaces were particularly popular amongst enterprises having implemented e-procurement procedures in Finland, as they attracted almost one-third of all enterprises.

Finnish data is also available for enterprises with 5 to 9 persons employed. The results for this size class show that these smaller enterprises have a lower penetration rate for e-commerce infrastructure than SMEs. Equally these enterprises are less active than SMEs in using e-commerce, although the proportion planning to start using Internet e-commerce was comparable between very small enterprises and SMEs.

Figure 3.11: Main indicators for Finland, Quarter 1 2001 (%)



(1) End of 2000.
Source: E-commerce database, Eurostat

Table 3.11.1: Computer and network use in Finland, Quarter 1 2001 (%) (1)

	All	Micro	Small and medium	Large	NACE average	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Business services
Used computers	98	91	98	100	99	99	99	99	97	99
Used Intranet:										
at end 2000	26	11	24	74	29	24	29	20	26	41
did not use but plan to in 2001	9	3	9	14	10	10	11	5	13	10
did not use & do not plan to (or non-response)	65	86	67	12	61	65	60	75	60	48
Used EDI:										
at end 2000	16	7	15	52	17	16	25	15	16	11
did not use but plan to in 2001	6	4	6	7	5	6	6	:	:	9
did not use & do not plan to (or non-response)	78	88	80	42	77	79	69	85	84	80
Had web access:										
at end 2000	91	77	91	97	92	90	91	88	94	96
did not have but plan to in 2001	4	7	4	3	5	6	7	5	1	1
did not have & do not plan to (or non-response)	5	16	5	0	4	4	3	7	5	3
Had own web-site:	60	36	58	93	64	64	53	76	67	76
did not have but plan to in 2001	18	21	19	6	17	19	21	10	14	11
did not have & do not plan to (or non-response)	22	43	23	1	19	16	26	14	19	13
Used Internet via:										
mobile phone	10	8	10	32	11	12	12	6	9	10
analogue modem	39	40	39	44	39	37	46	46	34	31
ISDN	50	42	50	53	51	54	56	51	42	45
xDSL	18	9	17	34	19	16	17	10	19	28
other broadband connection (> 2 Mbps)	17	5	15	65	19	15	17	10	28	25

(1) All includes small, medium and large enterprises but not micro enterprises.
Source: E-commerce database, Eurostat

Table 3.11.2: Barriers to Internet use in Finland, Quarter 1 2001 (%) (1)

	All	Micro	Small and medium	Large	NACE average	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Business services
Internet access charges were too high	67	63	67	73	68	71	66	82	68	63
Lacking qualification of personnel / specific know how	73	64	73	81	73	73	76	88	74	65
Lack of perceived benefits for the company	66	59	66	70	66	70	69	72	54	60
Lost working time / irrelevant surfing	68	59	67	74	68	69	68	80	65	66
Data communications too slow or unstable	68	60	68	76	69	69	72	75	65	63
Lack of security (viruses, hackers)	82	71	82	97	84	83	83	82	84	86

(1) All includes small, medium and large enterprises but not micro enterprises; share of respondents answering that these barriers were very important or had some importance.
Source: E-commerce database, Eurostat

Table 3.11.3: Use of specialised B2B Internet marketplaces in Finland, Quarter 1 2001 (%) (1)

	All	Micro	Small and medium	Large	NACE average	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Business services
Purchases made	10	6	10	22	11	6	9	15	16	21

(1) All includes small, medium and large enterprises but not micro enterprises.
Source: E-commerce database, Eurostat

Table 3.11.4: Extent of network use for purchasing in Finland, Quarter 1 2001 (%) (1)

	All	Micro	Small and medium	Large	NACE average	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Business services
Used e-commerce:										
to make purchases	35	26	34	45	37	34	30	40	40	51
did not use, but plan to in 2001 via Internet	11	12	11	22	11	12	12	12	13	8
Used Internet in 2000 for:										
1% or more of purchases	28	22	27	33	30	23	26	37	31	46
2% or more of purchases	20	18	20	21	22	15	19	28	21	35
5% or more of purchases	15	13	15	11	16	10	15	22	17	27
10% or more of purchases	7	8	7	4	7	2	10	12	5	14
25% or more of purchases	2	3	2	1	2	0	3	5	1	4
50% or more of purchases	1	1	1	1	1	0	2	1	1	1
Used all networks (Internet & EDI) in 2000 for:										
1% or more of purchases	30	24	30	49	33	25	33	39	33	47
2% or more of purchases	23	19	22	38	25	17	28	31	23	35
5% or more of purchases	18	15	18	28	19	12	23	25	19	27
10% or more of purchases	10	9	10	18	11	3	18	15	7	14
25% or more of purchases	4	4	4	12	4	1	10	5	2	4
50% or more of purchases	3	3	3	8	3	0	8	3	2	1

(1) All includes small, medium and large enterprises but not micro enterprises.
Source: E-commerce database, Eurostat

Table 3.11.5: Type of network use for purchasing in Finland, Quarter 1 2001 (%) (1)

	All	Micro	Small and medium	Large	NACE average	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Business services
E-purchasing via Internet:										
ordering	35	26	34	45	37	34	30	40	40	51
payment	10	8	10	12	11	6	6	16	17	21
electronic delivery	46	33	44	74	47	44	42	38	48	59

(1) All includes small, medium and large enterprises but not micro enterprises.
Source: E-commerce database, Eurostat

Table 3.11.6: Extent of network use for sales in Finland, Quarter 1 2001 (%) (1)

	All	Micro	Small and medium	Large	NACE average	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Business services
Used e-commerce:										
to make sales	14	10	13	26	15	12	11	34	25	16
did not use, but plan to in 2001 via Internet	13	10	13	21	14	12	17	17	15	14
Value of Internet sales in 2000 (as a share of total sales):										
total	1	:	1	1	:	:	:	:	:	:
Value of e-sales in 2000 (as a share of total sales):										
total	9	:	4	12	:	:	:	:	:	:
Used Internet in 2000 for:										
1% or more of sales	10	8	10	17	11	6	8	35	21	14
2% or more of sales	7	6	7	9	8	5	4	27	16	11
5% or more of sales	5	4	5	6	6	3	2	19	13	8
10% or more of sales	2	3	2	3	3	2	0	9	8	3
25% or more of sales	1	1	1	0	1	0	0	4	4	1
50% or more of sales	0	0	0	0	0	0	0	0	0	0
Used all networks (Internet & EDI) in 2000 for:										
1% or more of sales	14	10	13	33	16	13	13	36	25	14
2% or more of sales	11	8	11	28	13	11	9	28	20	12
5% or more of sales	9	6	8	22	10	9	7	22	17	9
10% or more of sales	5	5	5	17	6	7	4	11	11	4
25% or more of sales	3	1	3	10	3	5	2	4	5	2
50% or more of sales	1	1	1	5	1	2	1	0	1	1

(1) All includes small, medium and large enterprises but not micro enterprises.
Source: E-commerce database, Eurostat

Table 3.11.7: Type of network use for sales in Finland, Quarter 1 2001 (%) (1)

	All	Micro	Small and medium	Large	NACE average	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Business services
E-sales via Internet:										
product information	29	21	28	50	32	29	26	59	37	32
price information	29	21	28	50	32	29	26	59	37	32
taking orders	14	10	13	26	15	12	11	34	25	16
payment	2	:	:	:	:	:	:	:	:	:

(1) All includes small, medium and large enterprises but not micro enterprises.
Source: E-commerce database, Eurostat

Table 3.11.8: Perception of barriers to and benefits from e-sales in Finland, Quarter 1 2001 (%) (1)

	All	Micro	Small and medium	Large	NACE average	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Business services
Barriers:										
goods & services not suitable for e-commerce	73	59	72	79	73	75	76	57	66	74
stock of (potential) customers too small	61	57	61	66	61	64	62	57	59	57
uncertainty for payments	58	54	58	63	59	60	62	60	63	49
uncertainty for contracts, terms of delivery & guarantees	53	51	53	55	54	55	58	57	59	44
cost of developing / maintaining system too high	61	56	61	75	64	64	67	67	62	56
logistical problems	56	47	55	72	58	64	65	57	56	42
consideration for damaging existing sales channels	68	58	68	82	76	74	73	68	122	63
Benefits:										
cost reductions	7	4	7	19	8	4	6	17	17	10
reaching new / more customers	14	10	14	20	15	10	12	43	25	15
geographic expansion of market	12	10	12	16	13	9	9	43	20	13
improvements to quality of service	18	13	17	38	20	13	18	40	31	24
speed of processing	15	10	14	35	16	12	12	37	28	18
avoid losing market share	4	3	4	9	4	3	3	9	9	4

(1) All includes small, medium and large enterprises but not micro enterprises; share of respondents answering that these barriers / benefits were very important or had some importance.
Source: E-commerce database, Eurostat

3.12 SWEDEN

ACTIVITY COVERAGE FOR SWEDEN IS:
NACE SECTIONS D AND G TO K

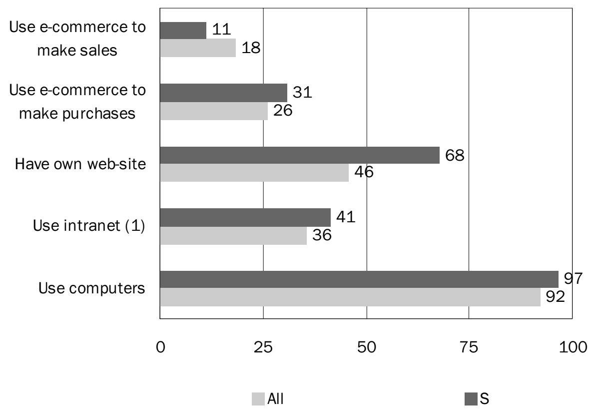
Sweden recorded a very high penetration rate for computers within enterprises (97%) at the date of its survey in April 2001, the second highest rate amongst those countries surveyed. Internet technologies were widely available in Swedish enterprises in 2000, 41% of them having intranets and 90% a web access. EDI usage, however, was below average (15%).

Sweden was the only country where set-up costs were the most cited barrier to having an Internet connection, although this was the same level as the proportion of enterprises citing security concerns as an important barrier (both 66%).

In Sweden, there were relatively more enterprises using e-purchasing (31%) than those engaging in e-sales (11%). In addition, Sweden recorded the highest recourse to specialised B2B marketplaces, which were used by more than half of the enterprises purchasing on-line (or 16% of all enterprises).

When asked what barriers they perceived as being important to selling on-line, most Swedish enterprises, like in the other countries, pointed out the cost of developing and maintaining an e-commerce system (56%). As in several other countries the fear of a lack of potential customers came as the second most important barrier (45%), a surprising result when related to the high connectivity rate of the country. Contrary to their Finnish neighbours, enterprises in Sweden were less worried about diverting sales from existing channels, a problem that concerned nevertheless 28% of them.

Figure 3.12: Main indicators for Sweden, Quarter 2 2001 (%)



(1) End of 2000.
Source: E-commerce database, Eurostat

Table 3.12.1: Computer and network use in Sweden, Quarter 2 2001 (%)

	All	Small & medium	Large
Used computers	97	96	100
Used Intranet:			
at end 2000	41	40	78
did not use but plan to in 2001	10	10	13
did not use & do not plan to (or non-response)	49	50	9
Used EDI:			
at end 2000	15	14	48
did not use but plan to in 2001	5	5	8
did not use & do not plan to (or non-response)	79	81	44
Had web access:			
at end 2000	90	90	99
Had own web-site:	68	67	91
did not have but plan to in 2001	11	11	6
did not have & do not plan to (or non-response)	21	22	4

Source: E-commerce database, Eurostat

Table 3.12.2: Barriers to Internet use in Sweden, Quarter 2 2001 (%) (1)

	All	Small & medium	Large
Set-up costs were too high	66	65	81
Internet access charges were too high	54	54	58
Lost working time / irrelevant surfing	48	48	58
Data communications too slow or unstable	54	55	52
Lack of security (viruses, hackers)	66	65	83

(1) Share of respondents answering that these barriers were very important or had some importance.
Source: E-commerce database, Eurostat

Table 3.12.3: Use of specialised B2B Internet market-places in Sweden, Quarter 2 2001 (%)

	All	Small & medium	Large
Purchases made	16	15	32
Sales made	2	2	8

Source: E-commerce database, Eurostat

Table 3.12.4: Extent of network use for purchasing in Sweden, Quarter 2 2001 (%)

	All	Small & medium	Large
Used e-commerce:			
to make purchases	31	31	37
Used Internet in 2000 for:			
1% or more of purchases	31	31	37
2% or more of purchases	22	22	25
5% or more of purchases	18	18	18
10% or more of purchases	11	11	10
25% or more of purchases	4	4	3
50% or more of purchases	2	2	1

Source: E-commerce database, Eurostat

Table 3.12.5: Type of network use for purchasing in Sweden, Quarter 2 2001 (%)

	All	Small & medium	Large
E-purchasing via Internet:			
ordering	54	53	71
payment	48	48	34
electronic delivery	64	64	87

Source: E-commerce database, Eurostat

Table 3.12.6: Extent of network use for sales in Sweden, Quarter 2 2001 (%)

	All	Small & medium	Large
Used e-commerce:			
to make sales	11	11	19
did not use, but plan to in 2001 via Internet	17	17	27
Value of Internet sales in 2000 (as a share of total sales):			
total	2	2	2
households	0	0	0
Value of e-sales in 2000 (as a share of total sales):			
total	13	10	16
Used Internet in 2000 for:			
1% or more of sales	11	11	19
2% or more of sales	9	9	14
5% or more of sales	7	7	11
10% or more of sales	5	5	7
25% or more of sales	2	2	2
50% or more of sales	0	:	1
Used all networks (Internet & EDI) in 2000 for:			
1% or more of sales	16	15	42
2% or more of sales	14	13	38
5% or more of sales	12	12	33
10% or more of sales	9	8	27
25% or more of sales	5	5	17
50% or more of sales	3	3	11

Source: E-commerce database, Eurostat

Table 3.12.7: Type of network use for sales in Sweden, Quarter 2 2001 (%)

	All	Small & medium	Large
E-sales via Internet:			
taking orders	17	17	26
payment	4	4	8
electronic delivery	4	4	7

Source: E-commerce database, Eurostat

Table 3.12.8: Perception of barriers to and benefits from e-sales in Sweden, Quarter 2 2001 (%) (1)

	All	Small & medium	Large
Barriers:			
goods & services not suitable for e-commerce	67	67	68
stock of (potential) customers too small	45	44	53
uncertainty for payments	41	41	47
uncertainty for contracts, terms of delivery & guarantees	39	39	49
cost of developing / maintaining system too high	56	56	65
logistical problems	33	33	37
consideration for damaging existing sales channels	28	27	32
Benefits:			
cost reductions	7	7	19
reaching new / more customers	11	11	19
geographic expansion of market	10	10	15
improvements to quality of service	11	11	20
speed of processing	8	8	16
avoid losing market share	10	9	19

(1) Share of respondents answering that these barriers / benefits were very important or had some importance.
Source: E-commerce database, Eurostat

3.13 UNITED KINGDOM

ACTIVITY COVERAGE FOR THE UNITED KINGDOM IS:
NACE SECTIONS D AND F TO K

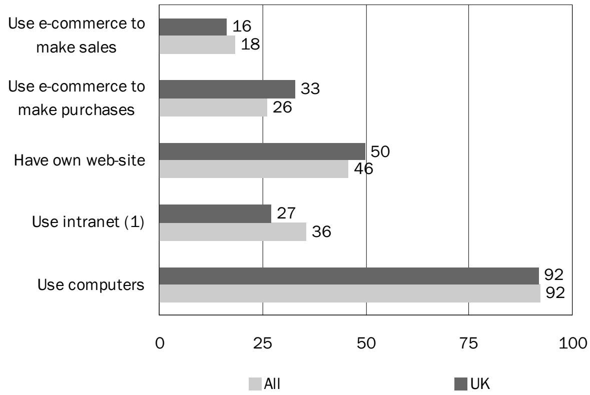
In January 2001 (the date of the survey) some 92% of enterprises from the United Kingdom were equipped with computers, a rate just under the average, but higher than in the majority of surveyed countries. However, usage of networking technologies was generally below average, with 27% using intranets, 15% EDI and only 63% having web access at the end of 2000, the third lowest rate.

Enterprises in the United Kingdom seem to perceive a shortage of qualified personnel for installing and maintaining an Internet connection as relatively less of a problem than other barriers; this was the least cited reason for not having an Internet connection, a situation shared only be Denmark and Norway. Nevertheless, this problem still concerned nearly half (49%) of the enterprises in the United Kingdom. Barriers that related to cost (set-up or access charges) were also low in the ranking. In contrast, a high proportion of enterprises failed to see any benefit in having an Internet connection (53%), the second most cited barrier after security concerns (64%).

E-commerce usage amongst enterprises in the United Kingdom was above average: at the time of the survey, 33% of enterprises had implemented e-procurement procedures and 16% were selling on-line. Similarly, recourse to B2B marketplaces was relatively more frequent than in the majority of the other countries covered by the pilot survey, as they attracted more than one-quarter of buyers and one-fifth of sellers.

As in most countries, uncertainties concerning contracts, terms of delivery and guarantees were seen as the most important barrier to e-purchasing, whilst the cost of developing and maintaining an e-commerce system was the main barrier to e-sales. However, in the latter case, it is interesting to note that a relatively high share of enterprises in the United Kingdom were concerned about logistics (39%), contrary to several other countries where it was the least cited problem.

Figure 3.13: Main indicators for the United Kingdom, January 2001 (%)



(1) End of 2000.
Source: E-commerce database, Eurostat

Table 3.13.1: Computer and network use in the United Kingdom, January 2001 (%)

	All	Small and medium	Large	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Financial services	Business services
Used computers	92	92	100	94	95	69	90	98	96
Used Intranet:									
at end 2000	27	26	61	28	26	13	27	41	34
did not use but plan to in 2001	9	9	18	8	9	5	9	16	13
did not use & do not plan to (or non-response)	64	65	21	63	65	83	64	43	54
Used EDI:									
at end 2000	15	13	46	19	16	5	14	43	14
did not use but plan to in 2001	5	5	7	4	5	3	5	6	5
did not use & do not plan to (or non-response)	81	82	47	77	78	92	81	51	80
Had web access:									
at end 2000	63	62	90	69	59	47	56	81	75
did not have but plan to in 2001	11	11	6	10	12	9	12	13	12
did not have & do not plan to (or non-response)	25	26	4	21	29	43	32	6	12
Had own web-site:	50	49	80	57	43	39	43	60	59
did not have but plan to in 2001	16	17	11	16	16	10	14	22	18
did not have & do not plan to (or non-response)	34	35	9	27	41	51	43	18	23
Had third party web-site:	11	11	16	9	10	19	9	13	11
did not have but plan to in 2001	3	3	3	2	3	4	2	5	3
did not have & do not plan to (or non-response)	86	86	81	89	87	76	90	81	86
Used Internet via:									
mobile phone	3	3	9	4	2	4	4	6	3
analogue modem	46	47	33	47	49	46	41	39	45
ISDN	32	31	55	37	29	12	31	55	42
xDSL	3	3	7	3	1	0	2	6	6
other broadband connection (> 2 Mbps)	5	4	31	5	3	1	7	16	8

Source: E-commerce database, Eurostat

Table 3.13.2: Barriers to Internet use in the United Kingdom, January 2001 (%) (1)

	All	Small and medium	Large	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Financial services	Business services
Set-up costs were too high	51	51	54	54	52	40	49	57	52
Internet access charges were too high	51	51	46	53	52	47	48	55	51
Lacking qualification of personnel / specific know how	49	49	46	51	54	44	46	50	46
Lack of perceived benefits for the company	53	53	56	58	56	41	48	55	51
Lost working time / irrelevant surfing	52	51	65	54	52	35	49	51	58
Data communications too slow or unstable	52	51	59	56	51	40	44	59	60
Lack of security (viruses, hackers)	64	63	78	68	62	49	58	79	74

(1) Share of respondents answering that these barriers were very important or had some importance.
Source: E-commerce database, Eurostat

Table 3.13.3: Use of specialised B2B Internet marketplaces in the United Kingdom, January 2001 (%)

	All	Small and medium	Large	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Financial services	Business services
Purchases made	8	8	12	7	10	4	12	16	10
Sales made	4	4	11	4	4	5	6	11	3

Source: E-commerce database, Eurostat

Table 3.13.4: Extent of network use for purchasing in the United Kingdom, January 2001 (%)

	All	Small and medium	Large	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Financial services	Business services
Used e-commerce:									
to make purchases	33	32	50	29	34	20	32	52	45
did not use, but plan to in 2001 via Internet	9	9	14	9	13	6	8	9	7
Made e-commerce purchases via Internet for:									
less than a year	0	0	1	0	1	0	0	1	0
Used Internet in 2000 for:									
1% or more of purchases	17	17	24	15	12	9	17	27	28
2% or more of purchases	10	10	14	9	7	4	10	18	19
5% or more of purchases	8	8	9	7	6	3	8	13	14
10% or more of purchases	3	3	5	3	4	1	4	4	5
25% or more of purchases	1	1	1	1	2	0	2	1	2
50% or more of purchases	1	1	1	1	1	0	1	1	0
Used all networks (Internet & EDI) in 2000 for:									
1% or more of purchases	20	19	30	17	20	11	18	33	29
2% or more of purchases	14	13	21	12	15	5	12	23	20
5% or more of purchases	12	7	11	9	14	5	10	18	15
10% or more of purchases	7	7	11	5	12	3	7	10	6
25% or more of purchases	4	4	6	2	10	0	3	5	2
50% or more of purchases	3	3	4	1	8	0	2	3	1

Source: E-commerce database, Eurostat

Table 3.13.5: Perception of barriers to and benefits from e-purchases in the United Kingdom, January 2001 (%) (1)

	All	Small and medium	Large	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Financial services	Business services
Barriers:									
goods & services can not be purchased by Internet	44	43	61	51	45	28	39	52	47
stock of (potential) suppliers too small	42	41	56	50	46	22	36	43	42
delivery costs too high	30	30	32	34	34	15	28	26	30
logistical problems (speed and timeliness of delivery)	36	36	45	41	39	22	30	43	37
uncertainty in making payments	41	41	46	46	43	20	39	52	47
uncertainty for contracts, terms of delivery & guarantees	46	45	58	52	46	25	40	53	52
Benefits:									
cost savings	21	20	39	21	19	14	19	37	27
speed of processing	25	25	40	24	26	18	24	43	31
simplification of tasks	19	18	38	19	19	10	17	30	24
offers from a large number of suppliers available	8	8	9	9	8	6	9	9	7

(1) Share of respondents answering that these barriers / benefits were very important or had some importance.
Source: E-commerce database, Eurostat

Table 3.13.6: Extent of network use for sales in the United Kingdom, January 2001 (%)

	All	Small and medium	Large	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Financial services	Business services
Used e-commerce:									
to make sales	16	16	35	20	16	20	19	30	11
did not use, but plan to in 2001 via Internet	12	12	18	15	14	7	13	13	11
Made e-commerce sales via Internet for:									
less than a year	0	0	1	0	0	0	0	0	0
Value of Internet sales in 2000 (as a share of total sales):									
total	2	1	2	1	1	1	1	3	1
to EU countries	0	0	0	0	0	0	0	0	0
to other countries	0	0	0	0	0	0	0	0	0
to households	0	0	0	0	0	0	0	1	0
Value of e-sales in 2000 (as a share of total sales):									
total	5	3	7	11	4	2	5	5	2
to EU countries	0	0	0	0	0	0	0	0	0
to other countries	0	0	0	1	0	0	0	0	0
to households	1	0	1	1	0	0	1	1	0
Used Internet in 2000 for:									
1% or more of sales	7	7	11	8	5	9	10	13	6
2% or more of sales	5	5	7	6	3	7	8	10	5
5% or more of sales	3	3	5	5	2	4	6	8	3
10% or more of sales	2	2	3	2	1	1	4	4	2
25% or more of sales	1	1	1	1	1	0	1	1	1
50% or more of sales	0	0	0	0	0	0	1	0	1
Used all networks (Internet & EDI) in 2000 for:									
1% or more of sales	9	9	21	12	8	11	11	18	8
2% or more of sales	7	7	17	10	6	8	10	15	6
5% or more of sales	5	5	14	8	4	5	8	12	4
10% or more of sales	4	3	12	6	3	3	5	9	3
25% or more of sales	2	1	8	3	2	0	4	5	1
50% or more of sales	1	1	5	2	1	0	3	3	1

Source: E-commerce database, Eurostat

Table 3.13.7: Perception of barriers to and benefits from e-sales in the United Kingdom, January 2001 (%) (1)

	All	Small and medium	Large	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Financial services	Business services
Barriers:									
goods & services not suitable for e-commerce	49	49	53	52	54	26	41	45	62
stock of (potential) customers too small	31	31	33	37	37	16	28	29	28
uncertainty for payments	37	37	40	44	48	19	34	32	33
uncertainty for contracts, terms of delivery & guarantees	38	38	48	46	45	18	33	39	36
cost of developing / maintaining system too high	46	46	64	53	54	22	43	58	46
logistical problems	39	39	49	45	48	18	34	40	38
consideration for damaging existing sales channels	33	33	46	41	43	16	27	37	25
Benefits:									
cost reductions	11	10	27	14	11	8	15	30	9
reaching new / more customers	19	18	31	21	21	17	20	28	16
geographic expansion of market	15	14	20	18	16	14	16	21	13
improvements to quality of service	11	10	26	14	11	11	14	22	8
speed of processing	13	13	30	16	14	12	16	23	12
simplification of tasks	9	9	20	12	9	9	14	19	6
avoid losing market share	13	12	26	14	15	11	13	22	11

(1) Share of respondents answering that these barriers / benefits were very important or had some importance.
Source: E-commerce database, Eurostat

3.14 NORWAY

ACTIVITY COVERAGE FOR NORWAY IS:
NACE SECTIONS D, F TO I, K AND DIVISION 93

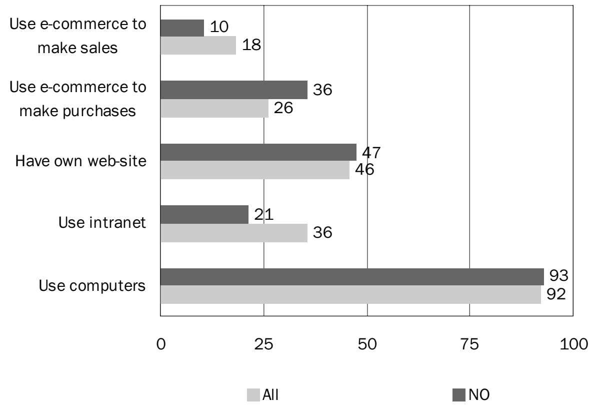
The results of the survey for Norway come as a confirmation of the relatively high penetration of IT equipment and e-commerce usage in Nordic countries, although generally to a lesser extent than in Denmark, Sweden or Finland. Some 93% of Norwegian enterprises were equipped with computers in November 2000 (the date of the survey), a rate higher than in the majority of surveyed countries. The proportion of enterprises using intranets (21%) in 2000 was however well below the average in the EU countries participating in the pilot survey. In contrast, the use of EDI (18%) was close to the average and web access was notably higher (73%) but was nevertheless the lowest amongst the Nordic countries.

In common with enterprises in many other countries, Norwegian enterprises perceive security concerns as the biggest disincentive to Internet use (64%), with costs (set up and access charges) ranked as the second and third most important barriers. The shortage of qualified personnel for installing and maintaining an Internet connection is perceived as less of a barrier than in several other countries.

The use of e-commerce for purchasing was high in Norway (35%), exceeded only by Denmark and Germany. Information is only available for two purchasing processes, ordering and payment, but both of these showed a rate of use approximately double the average in the participating EU Member States. Equally the use of B2B marketplaces for purchases (10%) was twice as common in Norway.

In contrast the proportion of Norwegian enterprises making sales by e-commerce was relatively low (10%), considerably below the leading rates recorded in Germany, Denmark and the Netherlands, and also below the proportions recorded in the other Nordic countries, the United Kingdom and Austria. The use of B2B marketplaces for e-sales was also low in Norway (2%).

Figure 3.14: Main indicators for Norway, November 2000 (%)



Source: E-commerce database, Eurostat

Table 3.14.1: Computer and network use in Norway, November 2000 (%)

	All	Small and medium	Large	NACE average	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Business services
Used computers	93	93	99	93	97	94	79	85	95
Used Intranet:	21	21	61	22	17	24	10	24	35
since 2000	0	0	0	1	0	0	1	6	0
since 1999	10	9	22	10	8	13	4	9	12
since 1998 or earlier	12	12	41	13	13	13	4	10	24
did not use but plan to in 2001	18	18	54	9	10	9	5	7	13
did not use & do not plan to (or non-response)	60	62	:	68	74	67	85	68	52
Used EDI:	18	18	43	20	23	22	13	17	15
since 2000	0	0	0	1	3	0	2	0	1
since 1999	5	5	7	4	5	4	4	5	4
since 1998 or earlier	13	13	37	14	15	18	7	14	10
did not use but plan to in 2001	7	7	12	7	7	8	6	6	5
did not use & do not plan to (or non-response)	75	75	45	74	70	71	82	77	80
Had web access:	73	73	94	73	82	64	63	67	88
since 2000	9	9	0	9	9	7	9	13	14
since 1999	25	25	24	24	27	26	24	23	15
since 1998 or earlier	39	38	70	40	47	32	31	31	59
did not have but plan to in 2001	7	7	2	7	7	8	7	7	3
did not have & do not plan to (or non-response)	20	20	3	20	10	27	30	26	9
Had own web-site:	47	47	79	48	52	39	48	41	67
did not have but plan to in 2001	16	16	8	16	22	15	15	16	11
did not have & do not plan to (or non-response)	36	37	14	36	26	46	37	42	22

Source: E-commerce database, Eurostat

Table 3.14.2: Barriers to Internet use in Norway, November 2000 (%) (1)

	All	Small and medium	Large	NACE average	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Business services
Set-up costs were too high	55	55	67	55	61	54	51	50	54
Internet access charges were too high	46	46	44	45	53	42	45	39	45
Lacking qualification of personnel / specific know how	37	37	39	36	40	37	36	34	26
Lack of perceived benefits for the company	39	39	44	38	44	38	25	39	34
Lost working time / irrelevant surfing	46	46	49	46	49	48	41	44	40
Data communications too slow or unstable	41	41	48	41	45	41	31	40	41
Lack of security (viruses, hackers)	64	64	86	64	73	64	42	57	72

(1) Share of respondents answering that these barriers were very important or had some importance.
Source: E-commerce database, Eurostat

Table 3.14.3: Use of specialised B2B Internet marketplaces in Norway, November 2000 (%)

	All	Small and medium	Large	NACE average	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Business services
Purchases made	10	10	25	10	8	9	12	8	16
Sales made	2	2	8	3	1	3	6	1	2

Source: E-commerce database, Eurostat

Table 3.14.4: Extent of network use for purchasing in Norway, November 2000 (%)

	All	Small and medium	Large	NACE average	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Business services
Used e-commerce:									
to make purchases	36	35	72	36	41	31	24	25	55
Used Internet in 2000 for:									
1% or more of purchases	16	16	25	16	15	16	12	13	23
2% or more of purchases	10	10	15	10	8	10	8	7	18
5% or more of purchases	8	8	10	9	5	9	7	5	15
10% or more of purchases	5	5	3	5	3	6	6	2	8
25% or more of purchases	2	2	1	2	1	3	2	0	4
50% or more of purchases	1	1	1	2	0	3	1	0	2

Source: E-commerce database, Eurostat

Table 3.14.5: Type of network use for purchasing in Norway, November 2000 (%)

	All	Small and medium	Large	NACE average	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Business services
E-purchasing via Internet:									
ordering	36	35	72	36	41	31	24	25	55
payment	15	15	30	15	17	11	15	11	26

Source: E-commerce database, Eurostat

Table 3.14.6: Extent of network use for sales in Norway, November 2000 (%)

	All	Small and medium	Large	NACE average	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Business services
Used e-commerce:									
to make sales	10	10	27	11	12	10	17	11	9
Value of Internet sales in 2000 (as a share of total sales):									
total	1	1	1	1	0	1	1	1	1
to own country	0	0	0	0	0	0	1	1	1
to EU countries	0	0	0	0	0	0	0	0	0
to other countries	0	0	0	0	0	0	0	0	0
to households	0	0	0	0	0	0	0	0	0
Value of e-sales in 2000 (as a share of total sales):									
total	8	7	10	9	7	12	4	6	2
Used Internet in 2000 for:									
1% or more of sales	8	7	14	8	8	6	16	6	8
2% or more of sales	5	5	7	5	5	3	11	5	5
5% or more of sales	3	3	6	3	4	2	7	4	4
10% or more of sales	2	2	2	2	2	1	3	2	2
25% or more of sales	0	0	0	0	0	0	1	0	2
50% or more of sales	0	0	0	0	0	0	0	0	1
Used all networks in 2000 (Internet & EDI) for:									
1% or more of sales	10	10	27	11	12	10	17	11	9
2% or more of sales	8	7	20	8	10	6	11	9	6
5% or more of sales	6	6	19	6	8	5	9	8	5
10% or more of sales	4	4	14	4	6	4	4	5	2
25% or more of sales	2	2	8	2	2	2	1	2	2
50% or more of sales	1	1	5	1	1	1	0	2	1

Source: E-commerce database, Eurostat

Table 3.14.7: Type of network use for sales in Norway, November 2000 (%)

	All	Small and medium	Large	NACE average	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Business services
E-sales via Internet:									
product information	44	43	76	44	49	35	44	36	64
taking orders	17	17	27	17	18	13	27	12	20
payment	4	4	5	4	6	3	4	4	3
electronic delivery	4	4	11	4	6	2	3	6	3

Source: E-commerce database, Eurostat

Table 3.14.8: Perception of barriers to e-sales in Norway, November 2000 (%) (1)

	All	Small and medium	Large	NACE average	Manu-facturing	Distribution	Hotels & restaurants	Transport & comm.	Business services
Barriers:									
goods & services not suitable for e-commerce	54	53	73	54	63	52	41	40	62
stock of (potential) customers too small	43	43	53	42	51	42	30	36	42
uncertainty for payments	39	38	55	39	42	43	34	32	33
uncertainty for contracts, terms of delivery & guarantees	42	41	54	41	46	43	30	31	41
cost of developing / maintaining system too high	40	40	55	40	47	44	27	29	34
logistical problems	30	30	39	29	31	36	20	19	18
consideration for damaging existing sales channels	34	34	52	35	44	38	23	24	23

(1) Share of respondents answering that these barriers were very important or had some importance.
Source: E-commerce database, Eurostat

INDEX

Belgian and French data

Belgium and France did not participate in the 2001 pilot survey on e-commerce. However, the results of a recent Eurobarometer survey are provided hereafter for information purposes. Please note that data should not be directly compared with the figures from the pilot survey; rather, they are provided in order to help situate the development of e-commerce within these two countries. The survey was carried out between 27 November and 17 December 2001 across the EU by polling 8,141 managers of enterprises employing at least 10 persons, not taking into account the farming sector. The sample size in Belgium was 558 and in France it was 804.

3.15 BELGIUM

The general picture of e-commerce in Belgium that emerges from the Eurobarometer survey is that of a country well equipped for embracing e-commerce, but with a relatively low level of e-commerce activity. Indeed, 93% of polled enterprises said they had an Internet connection, above the EU average of 89%, but only 61% had a company web-site, well below the average of 70% and amongst the lowest recorded rates.

The pilot survey results for other countries show that enterprises were more active in buying rather than selling on-line and the Eurobarometer survey reports a similar result in Belgium. As regards e-sales, only 24% of Belgian enterprises who had a presence on the web offered their web-site as a means of making orders, the lowest proportion in the EU reported by the Eurobarometer survey. Similarly, B2B market - places were used for selling purposes by only 7% of Belgian enterprises connected to the Internet, whilst the EU average was 13%. As regards e-purchasing, one in four enterprises that were connected to the Internet in Belgium reported that they went on-line to purchase at least some of their supplies. Furthermore, half of them made use of electronic marketplaces to do so; this was in both cases close to the EU average, although slightly below it.

Table 3.15.1: E-commerce infrastructure and use in Belgium, December 2001

	(%)	Non-response rate (%)
Proportion of enterprises with an Internet connection	93	0
of which, share with a web site	61	0
of which, share that can be used to make orders	24	1
of which, share that sell through electronic market places	7	0
of which, share that purchase on-line via the Internet	25	0
of which, share that purchase through electronic market places	13	0

Source: Flash Eurobarometer No. 116

Table 3.15.2: Internet sales by enterprises in Belgium as a share of their total sales value, December 2001 (%)

	Internet sales as a proportion of total sales													
	No sales	1%	2-4%	5%	6-9%	10%	11-19%	20%	25%	30%	31-50%	51-99%	100%	Non-response
% making Internet sales	84	5	2	3	1	2	1	1	0	0	0	1	0	1
% making Internet sales, limited to those making some	~	33	13	21	4	13	4	5	0	3	2	4	0	~

Source: Flash Eurobarometer No. 116

Table 3.15.3: Internet purchases by enterprises in Belgium as a share of their total purchases, December 2001 (%)

	Internet purchases as a proportion of total purchases													
	No purchases	1%	2-4%	5%	6-9%	10%	11-19%	20%	25%	30%	31-50%	51-99%	100%	Non-response
% making Internet purchases	70	7	6	6	0	4	1	1	1	1	1	1	0	1
% making Internet purchases, limited to those making some	~	26	20	22	1	14	3	4	2	2	2	4	0	~

Source: Flash Eurobarometer No. 116

Table 3.15.4: Proportion of enterprises in Belgium having experienced security problems during the six months prior to the survey, December 2001

Problems	(%)
Viruses	50
Illegal access	5
Denial of service	9
Defacement of web server	4
ID misrepresentation / theft	2
Occupation of domain name	3
Others	0
None	43
Don't know / non-response	2

Source: Flash Eurobarometer No. 116

Table 3.15.5: Proportion of enterprises in Belgium having taken measures against security problems, December 2001

Measures	(%)
Firewall	44
Virus scanner	79
Intrusion detection	25
SSL server site	13
Others	0
None / don't know / non-response	15

Source: Flash Eurobarometer No. 116

3.16 FRANCE

The outcome of the Eurobarometer survey highlights the low take up of Internet e-commerce in France, with nearly all indicators towards the lower end of the rankings when compared to the other Member States.

A particularly low proportion of French enterprises reported that they had access to the Internet (73%), with only Portugal recording a lower connectivity rate. In addition, amongst those who were connected, web presence was particularly poor, as only 59% had a web-site, more than ten percentage points below the EU average (70%); only Greece (58%), Spain (57%) and Portugal (54%) reported lower shares. The widespread use of Minitel is believed to be one of the reasons for the low Internet penetration in France.

Only one-quarter of French enterprise with web-sites gave the possibility of ordering on-line, the second lowest rate in the EU, well below the EU average (38%). Furthermore, the rate of usage of B2B marketplaces for selling (7% of connected enterprises) was lower only in Portugal and Spain.

Recourse to e-purchasing was equally low: only 14% of French enterprises with an Internet connection reported using it to purchase goods and services on-line, a proportion that was lower than in any other Member State except Portugal. Amongst these enterprises, however, B2B marketplaces were relatively popular, as they attracted more than half of the enterprises purchasing on-line (8% of Internet-enabled enterprises).

Table 3.16.1: E-commerce infrastructure and use in France, December 2001

	(%)	Non-response rate (%)
Proportion of enterprises with an Internet connection	73	0
of which, share with a web site	59	0
of which, share that can be used to make orders	26	1
of which, share that sell through electronic market places	7	1
of which, share that purchase on-line via the Internet	14	0
of which, share that purchase through electronic market places	8	1

Source: Flash Eurobarometer No. 116

Table 3.16.2: Internet sales by enterprises in France as a share of their total sales value, December 2001 (%)

	Internet sales as a proportion of total sales													
	No sales	1%	2-4%	5%	6-9%	10%	11-19%	20%	25%	30%	31-50%	51-99%	100%	Non-response
% making Internet sales	87	5	3	2	0	1	1	0	0	0	0	0	0	2
% making Internet sales, limited to those making some	~	44	28	13	0	4	5	4	0	1	0	0	2	~

Source: Flash Eurobarometer No. 116

Table 3.16.3: Internet purchases by enterprises in France as a share of their total purchases, December 2001 (%)

	Internet purchases as a proportion of total purchases													
	No purchases	1%	2-4%	5%	6-9%	10%	11-19%	20%	25%	30%	31-50%	51-99%	100%	Non-response
% making Internet purchases	83	6	2	2	0	2	0	1	0	0	1	0	0	2
% making Internet purchases, limited to those making some	~	37	14	15	0	13	1	8	0	2	7	1	2	~

Source: Flash Eurobarometer No. 116

Table 3.16.4: Proportion of enterprises in France having experienced security problems during the six months prior to the survey, December 2001

Problems	(%)
Viruses	41
Illegal access	3
Denial of service	5
Defacement of web server	5
ID misrepresentation / theft	2
Occupation of domain name	2
Others	2
None	55
Don't know / non-response	1

Source: Flash Eurobarometer No. 116

Table 3.16.5: Proportion of enterprises in France having taken measures against security problems, December 2001

Measures	(%)
Firewall	25
Virus scanner	81
Intrusion detection	19
SSL server site	13
Others	5
None / don't know / non-response	13

Source: Flash Eurobarometer No. 116

4. REFERENCE DATA

INDEX

4. REFERENCE DATA

4.1 AVAILABILITY OF SECURE SERVERS AND INTERNET HOSTS

Table 4.1.1 shows the number of Internet hosts (domain names) as provided by RIPE NCC. For the purposes of the count a host is a domain name like http://www.europa.eu.int/ where .int is the top level domain and .eu is a second tier domain. The domain name represents an underlying IP address record.

Table 4.1.2 shows the density of secure servers as recorded by Netcraft. At its core, a web-server serves content to a web-browser by loading a file from a disk and serving it across the network to a user's web-browser. This entire exchange is mediated by the browser and server talking to each other using HTTP. Secure servers allow users to encrypt information on, for instance, credit card data, which facilitates e-commerce. A count of secure servers, therefore, gives a reasonable measure of the distribution of e-commerce activities across countries.

For information on the use of network technologies in enterprises see sub-chapter 2.1.

Table 4.1.1: Number of Internet hosts (1)

	Internet hosts (thousands)					Growth (%)		Internet hosts per 100 habitants (2)
	Jan 2000	Jul 2000	Jan 2001	Jul 2001	Jan 2002	Jan 2001/ Jan 2000	Jan 2002/ Jan 2001	Jan 2002
EU-15 (3)	8,868	9,648	10,601	12,354	13,463	20	27	4
B	338	297	305	329	391	-10	28	4
DK	345	305	334	467	543	-3	63	10
D	1,640	1,867	2,160	2,361	2,488	32	15	3
EL	80	86	114	136	147	43	29	1
E	488	497	356	487	1,088	-27	206	3
F	1,264	1,363	1,164	906	897	-8	-23	2
IRL	100	109	116	116	127	16	10	3
I	522	438	1,020	879	810	95	-21	1
L	11	:	12	14	14	6	13	3
NL	1,021	1,369	1,638	2,550	2,453	60	50	15
A	285	419	504	516	331	77	-34	4
P	81	65	58	157	217	-28	271	2
FIN	490	521	545	785	898	11	65	17
S	524	634	598	670	762	14	27	9
UK	1,678	1,678	1,678	1,981	2,297	0	37	4

(1) Hosts counted minus duplicate hosts; based on country TLD (top level domains).
(2) Population data is for 2000, source Eurostat NewCronos (theme2/aux_ind).
(3) L, not available for July 2000.
Source: RIPE NCC

Table 4.1.2: Number of secure servers per one million inhabitants (units)

	Jul 1999	Jul 2000	Jul 2001
EU-15	17	38	65
B	16	26	42
DK	21	54	98
D	20	46	78
EL	5	8	17
E	11	19	30
F	11	22	33
IRL	26	65	123
I	8	14	22
L	60	100	155
NL	19	34	67
A	30	55	109
P	6	12	19
FIN	35	66	127
S	46	91	142
UK	29	74	132

Source: OECD and Netcraft (www.netcraft.com), December 2001

4.2 PENETRATION RATES OF PCs AND THE INTERNET

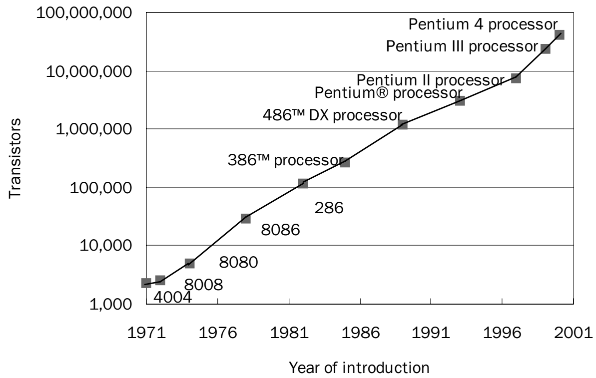
As the main access device, PC's are to a large extent a prerequisite for Internet access, which in turn is required for Internet e-commerce. Figures 4.2.1 and 4.2.2 provide information on the increasing power of PCs (source, Intel) and their falling prices (source, EITO). Table 4.2.1 shows the estimated total number of PCs as reported by ITU. In the EU the number of PCs grew by 14% or 15% per year between 1996 and 1998, since when growth slowed to between 11% and 13% per year. The Eurobarometer special survey 53 provides the data for table 4.3.1 (overleaf) on the proportion of households with computers. Over one-third of the respondents to this survey reported that they had a desktop at home and most of these reported that they used it. The proportion of households having or using a lap-top, palm computer or electronic personal organiser was considerably lower.

Web-enabled mobile phones and similar mobile devices such as personal digital assistants are alternative means of accessing the Internet. These generally require less initial expenditure on hardware and provide simplified access to the Internet. The development of this form of distribution is dependent upon the establishment of 3rd generation mobile telephone networks allowing broadband access. The number of mobile-phone subscriptions has grown at a rapid pace in the EU, providing a platform from which to launch mobile e-commerce (or m-commerce).

Table 4.3.2 (again overleaf) shows the number of Internet users as provided by the ITU. Year on year growth rates in the last few years have been higher than for PCs, although they have also fallen from 88% growth in 1998 to 33% by 2001. Because of these very high growth rates, the number of Internet users in the EU in 2001 was, for the first time, higher than the number of PCs in use.

For information on PC and Internet penetration in enterprises see sub-chapter 2.1.

Figure 4.2.1: Moore's law - development from the 4004 to the Pentium 4 processor (log scale)



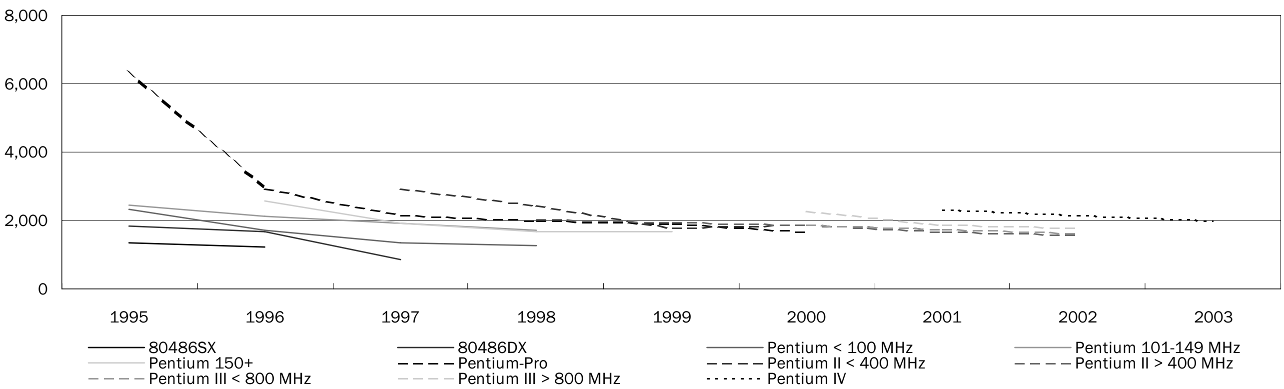
Source: Intel Museum

Table 4.2.1: Personal computers

	Number of PCs (thousands)			Growth (%)	per 100 inhabitants
	1999	2000	2001	2001/ 2000	2001
EU-15	93,860	106,130	117,997	11	31
B	3,200	3,500	3,800	:	37
DK	2,200	2,300	2,400	:	45
D	24,400	27,640	30,000	:	36
EL	640	750	860	15	8
E	4,800	5,800	6,800	17	17
F	15,680	17,920	20,000	12	34
IRL	1,180	1,360	1,500	10	39
I	9,000	10,300	11,300	10	19
L	170	200	230	15	51
NL	5,700	6,300	6,900	10	43
A	2,100	2,270	2,400	:	29
P	930	1,050	1,210	15	12
FIN	1,860	2,050	2,200	7	42
S	4,000	4,500	5,000	11	56
UK	18,000	20,190	22,000	9	37

Source: ITU; Eurostat estimate for 2001 for B, DK, D, A and EU-15.

Figure 4.2.2: Average selling prices for PCs in Europe (EUR)



Source: EITO 2002

4.3 CONSUMERS

According to a recent Eurobarometer survey[3], more than one-third (38%) of households had access to the Internet in the EU in November 2001. In four countries, a majority of households connected to the Internet, with a peak recorded in the Netherlands (64%), ahead of Sweden (61%), Denmark (59%) and Finland (50%). The least connected households were found in Greece (10%) and relatively low connection rates were also recorded in Spain (25%), Portugal (26%), France (30%) and Italy (34%).

Amongst Internet users, access was overwhelmingly done through a low bandwidth connection: almost three-quarters of Internet households reported using a normal telephone line (72%) and one-sixth an ISDN line (16%). However, some countries displayed a much higher use of ISDN, notably Germany and Luxembourg, where nearly half of the households accessing the Internet used this mode of connection.

Faster connections, such as via cable or ADSL were each used by less than one in ten Internet households in the EU. Some countries, however, clearly appeared as better equipped in this field. Modem cable connections were found in more than one in five households in Belgium, the Netherlands and Austria. As regards ADSL, some 18% of Belgian Internet households used this type of connection, 14% in Germany, 11% in Denmark and 10% in Sweden. Access via a mobile line was marginal in most countries, with the notable exceptions of Germany (11%) and Belgium (5%).

The barriers to using the Internet in households appeared to be more related to technical reasons or lack of interest than to financial considerations[4]. Amongst those households not using the Internet, most said that they simply did not have a personal computer (38% of non-users). Over one-quarter (27%) saw no interest in having an Internet connection, or did not want one and 15% did not know how to use a PC. Concerns about costs of PCs (12%) or Internet connections (11%) were invoked less frequently as a barrier to Internet use. Only 20% of those who use the Internet said that access to the world-wide-web did not change their everyday life. The biggest change reported was the feeling of being better informed (42%), ahead of time-savings (39%).

Over one-third of Internet users in the EU declared using it to buy products or services on-line at least sometimes: 4% were frequent on-line Internet shoppers, 16% occasional ones and 16% rare ones.

British households with Internet access were particularly active in e-commerce, as more than half of them had already purchased something on-line using the Internet, over one-quarter being occasional shoppers (27%), the highest proportion in the EU, and 7% frequent shoppers, second to Luxembourg (8%). Germany, Sweden and Luxembourg could also count on a relatively active e-consumer base, in contrast to Belgium, Italy, Spain, Greece and Portugal.

Internet on-line purchasing shows variations based on social and demographic characteristics. Among Internet users, e-purchasing was more likely to be done by men than women and the most active age group was between 25 and 39. The use of Internet e-commerce also increased with the level of education. The highest rates of use were found amongst persons living with one other person (aged 15 or over) or alone and then decreased in larger households. Following a breakdown into seven employment categories, Internet e-purchasing was most common amongst Internet users who were farmers and fishermen or self-employed[5] and was least common among retired persons. The variations, however, were less marked than for access to the Internet, indicating that the likelihood for an Internet user to become an Internet shopper was less dependent on social and demographic factors.

(3) Flash Eurobarometer n°112: "Internet and the public at large".
(4) Data for this paragraph has been taken from Eurobarometer 55.2 of spring 2001: "Europeans and e-inclusion".
(5) Note that the survey expressly concerned purchases for private use.

Table 4.3.1: Households with computers

	Persons having a desktop computer at home	Persons having a laptop computer at home	Persons having a palm computer or personal organiser at home
EU-15	35	5	3
B	42	7	3
DK	59	11	2
D	32	5	2
EL	15	1	3
E	34	3	2
F	29	5	3
IRL	28	5	3
I	35	1	2
L	45	10	8
NL	66	18	9
A	32	7	3
P	20	3	2
FIN	45	7	1
S	56	11	4
UK	36	8	6

Source: Eurobarometer No. 53

Table 4.3.2: Internet users

	Number of Internet users (thousands)			Growth (%)	per 100 inhabitants
	1999	2000	2001	2001/ 2000	2001
EU-15	58,087	89,723	119,102	33	31
B	1,200	2,326	2,881	24	28
DK	1,500	1,950	2,400	23	45
D	14,400	24,000	30,000	25	36
E	2,830	5,388	7,388	37	18
EL	750	1,000	1,400	40	13
F	5,370	8,500	15,653	84	26
IRL	679	784	895	14	23
I	8,200	13,200	16,000	21	28
L	75	100	130	:	29
NL	3,000	3,900	5,300	36	33
A	1,250	2,100	2,600	24	32
P	1,000	2,500	3,600	44	35
FIN	1,667	1,927	2,235	16	43
S	3,666	4,048	4,600	14	52
UK	12,500	18,000	24,000	33	40

Source: ITU; Eurostat estimate for 2001 for L and EU-15.

Table 4.3.3: Proportion of persons having access to the Internet at home (%)

	EU-15	B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK
Access	38	36	59	38	10	25	30	48	34	43	64	47	26	50	61	49
No access	62	63	41	61	89	75	70	52	66	57	36	52	74	50	39	51
Non-response	0	0	0	1	1	0	0	0	0	0	0	1	0	0	0	0

Source: Flash Eurobarometer No. 112

Table 4.3.4: Proportion of persons with Internet access at home using various types of access (%)

	EU-15	B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK
PSTN	72	65	61	49	80	77	88	91	80	50	56	48	81	65	75	88
ISDN	16	9	19	46	10	3	1	5	9	49	18	24	3	13	3	5
ADSL	6	18	11	14	1	4	4	0	4	1	4	7	0	5	10	2
Cable	9	25	7	8	2	8	5	4	1	4	21	22	14	14	7	12
Mobile	4	5	0	11	1	1	1	1	1	0	1	2	1	1	1	2
Other	1	0	1	1	0	1	1	0	0	0	1	0	0	1	1	1
Non-response	3	2	2	3	9	8	1	1	6	2	2	6	2	5	5	2

Source: Flash Eurobarometer No. 112

Table 4.3.5: Proportion of persons with access to the Internet buying products or services for their private use through the Internet (%)

	EU-15	B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK
Frequently	4	3	4	4	3	2	3	4	1	8	3	5	2	2	5	7
Occasionally	16	7	13	16	4	10	11	19	10	17	14	15	6	10	17	27
Rarely	16	10	21	24	7	7	13	15	8	16	14	15	5	25	22	15
Never again	1	1	1	1	1	1	1	0	1	1	1	2	1	0	0	1
Never	64	79	63	55	85	80	72	61	80	58	68	61	86	63	56	50
Non-response	0	1	0	0	1	0	0	0	0	0	1	2	1	0	0	0

Source: Flash Eurobarometer No. 112

Table 4.3.6: Proportion of persons with access to the Internet buying products or services for their private use through the Internet; breakdown by socio-economic category in the EU (%)

	Frequently	Occasionally	Rarely	Never again	Never	Non-response
Total	4	16	16	1	64	0
Sex:						
men	5	17	17	1	61	0
women	3	13	14	1	69	0
Age:						
15-24	3	12	16	1	69	0
25-39	5	19	16	1	59	0
40-54	4	17	15	1	64	0
55 and more	2	11	13	1	72	1
Age when finishing full-time education:						
15 and less	2	11	12	1	74	0
16-20	4	14	15	1	66	0
21 and more	5	19	17	1	59	0
Residence:						
metropolitan	4	16	16	1	62	0
urban zone	3	16	15	1	65	0
rural zone	4	14	16	1	65	0
Household size (number of other persons aged 15 or more):						
none	4	15	16	1	64	0
one	5	18	15	1	62	0
two	3	14	16	1	66	0
three	3	14	15	1	68	0
four and more	2	14	17	1	67	0
Profession:						
farmer or fisherman	6	16	23	3	53	0
self-employed and managers	6	21	16	1	56	0
non-manual worker including middle managers	4	17	15	1	63	0
manual worker	4	14	14	1	68	0
retired	2	9	14	1	73	1
at home	4	17	16	0	64	0
students	3	10	17	1	69	0

Source: Flash Eurobarometer No. 112

INDEX

4.4 GENERAL BUSINESS AND ECONOMIC DATA

Table 4.4.1: Business population: number of enterprises, 1999

NACE	B	DK	D (1)	EL	E	F	IRL (2)	I	L (3)	NL (4)	A	P	FIN	S	UK	NO (5)
C	224	222	1,950	:	1,724	2,801	64	4,150	8	230	333	1,310	1,239	591	1,924	:
CA	19	45	141	:	108	167	7	57	0	95	14	3	784	143	488	:
CB	205	177	1,809	:	1,616	2,634	57	4,093	8	135	318	1,307	455	448	1,436	279
D	37,431	20,525	236,282	:	157,131	252,476	4,524	559,408	973	46,225	25,096	78,553	26,215	50,668	179,328	10,759
DA	9,033	1,965	45,241	:	25,870	68,818	693	69,019	233	5,205	4,324	8,543	2,004	2,885	8,486	1,365
DB	2,979	1,206	12,188	:	18,123	18,680	307	79,681	48	3,155	1,965	15,214	2,463	3,279	13,783	470
DC	202	98	1,337	:	5,970	2,508	25	24,285	0	490	212	3,298	352	415	1,229	46
DD	1,651	790	16,928	:	11,612	10,665	248	50,461	21	2,200	3,112	8,456	2,974	5,677	9,010	1,000
DE	5,481	3,342	21,670	:	14,731	31,159	576	32,186	186	7,880	1,579	4,649	3,023	8,674	33,916	2,092
DF	32	8	83	:	13	122	3	484	0	35	5	1	9	41	269	2
DG	747	372	2,921	:	3,598	4,017	207	6,362	21	820	406	923	316	800	4,286	145
DH	973	714	7,138	:	4,455	5,139	279	13,552	24	1,300	588	1,102	685	1,503	7,270	322
DI	1,674	824	11,448	:	9,926	8,628	251	27,414	39	1,700	1,102	4,880	954	1,492	5,884	429
DJ	5,967	4,050	46,769	:	28,308	30,385	583	98,036	191	7,205	3,240	14,307	4,549	9,951	33,508	1,422
DK	1,638	2,334	23,177	:	9,196	16,230	362	42,670	43	3,805	1,955	3,625	3,562	4,827	15,377	1,219
DL	1,978	1,987	25,689	:	6,243	19,864	454	53,957	65	3,520	1,736	2,133	1,726	4,116	17,790	720
DM	736	642	3,426	:	2,971	4,914	115	6,475	12	2,500	283	792	848	1,955	6,735	674
DN	4,340	2,193	18,268	:	16,115	31,347	421	54,826	90	6,410	4,588	10,630	2,750	5,053	21,785	853
E	81	5,392	3,643	:	1,174	1,952	11	2,025	65	280	710	294	907	1,157	339	:
F	53,417	26,423	274,317	:	:	308,503	:	491,248	1,707	62,335	17,528	77,973	28,272	50,818	208,178	33,808
G	144,004	50,140	471,680	:	774,893	621,712	33,680	1,324,028	6,596	163,905	60,391	225,831	49,957	117,171	409,096	57,452
H	41,323	13,313	185,616	:	256,190	203,152	18,476	246,163	2,482	40,450	37,895	59,665	10,536	20,096	114,353	:
I	15,578	16,532	127,682	:	223,913	96,186	4,756	164,068	821	26,375	11,840	19,900	23,708	31,215	79,153	:
K	79,765	61,743	739,545	:	406,917	489,618	17,948	753,584	5,356	103,205	39,253	51,218	40,370	151,264	495,937	:

(1) 1998 for NACE Section E.
(2) 1998 provisional data for NACE Sections G, H, I and K.
(3) 1995 for NACE Section I; all data provisional.
(4) 1997 provisional data for NACE Section K.
(5) 1998 for NACE Section D and NACE Sub-sections within NACE Sections C and D.
Source: Eurostat NewCronos (theme4/sbs/enterpr/enter_ms)

Table 4.4.2: Business population: turnover, 1999 (million EUR)

NACE	B	DK	D (1)	EL	E	F (2)	IRL (3)	I	L (4)	NL	A	P	FIN	S	UK	NO (5)
C	753	2,521	16,029	:	3,214	6,119	854	6,479	53	:	1,108	998	620	1,648	40,117	:
CA	35	2,263	8,574	:	1,161	1,179	:	3,034	0	:	162	1	257	135	33,593	:
CB	718	259	7,455	:	2,053	4,939	:	3,445	53	581	946	997	363	1,513	6,524	709
D	160,365	66,625	1,384,144	:	343,945	877,241	79,858	721,524	7,086	196,005	100,100	65,054	84,936	150,173	702,908	52,570
DA	26,968	17,554	164,966	:	64,435	138,853	17,865	90,249	605	48,217	:	10,762	7,950	13,597	108,083	12,913
DB	8,977	1,889	30,008	:	16,260	28,308	952	61,545	513	3,979	3,739	8,521	1,281	1,410	24,526	693
DC	365	386	4,155	:	5,637	4,476	77	24,504	0	462	844	2,796	234	156	2,788	59
DD	2,412	1,746	26,397	:	7,825	11,272	764	14,028	135	2,541	5,047	3,473	4,917	7,298	8,864	2,017
DE	9,966	6,120	86,735	:	21,317	51,217	8,640	36,579	374	17,754	8,519	4,282	17,971	18,147	66,132	5,683
DF	10,043	60	58,849	:	15,095	44,946	:~c	49,378	0	10,033	:~c	4,044	3,048	770	42,091	0
DG	25,579	5,939	126,298	:	31,168	96,479	18,899	59,135	506	30,241	6,404	3,519	4,640	10,587	70,395	3,545
DH	7,582	2,593	56,744	:	13,505	31,645	1,192	30,088	817	5,589	3,795	1,652	2,015	3,485	29,459	893
DI	6,643	2,742	47,823	:	21,089	23,388	1,535	30,057	499	6,385	4,857	4,657	2,270	2,569	17,818	1,454
DJ	19,775	5,748	154,192	:	40,327	78,076	1,679	91,903	2,739	18,211	13,902	4,976	7,772	16,015	63,286	7,434
DK	8,878	8,389	162,660	:	19,090	52,111	1,605	84,454	561	13,905	10,283	2,843	8,919	17,554	50,854	3,708
DL	9,829	7,300	177,578	:	23,596	95,271	24,385	63,275	194	20,554	13,325	4,945	19,445	26,783	98,615	3,442
DM	18,259	2,420	250,027	:	53,566	197,672	963	54,418	30	12,677	8,453	5,727	2,647	27,951	95,583	8,725
DN	5,089	3,738	37,713	:	11,034	22,107	955	31,912	112	5,458	4,285	2,859	1,826	3,850	24,414	1,818
E	21,547	9,598	124,874	:	26,616	53,377	2,078	43,707	690	16,278	10,292	7,646	6,290	15,731	70,979	:
F	25,811	18,093	192,812	:	:	123,639	:	124,744	2,209	53,891	22,482	25,226	13,604	23,467	169,021	15,912
G	225,506	120,945	1,019,894	:	442,646	874,543	45,316	631,561	14,206	346,028	127,355	99,586	75,565	156,689	1,034,177	98,770
H	7,419	4,386	40,481	:	33,477	45,624	5,240	40,953	724	12,542	9,180	7,987	3,690	6,669	66,966	:
I	38,182	30,531	199,092	:	81,630	162,820	8,983	121,196	2,365	48,438	27,480	15,171	18,573	41,231	239,072	:
K	43,116	29,370	433,774	:	104,878	270,834	8,226	139,523	2,974	:	25,571	24,470	15,822	59,110	346,902	:

(1) 1998 for NACE Section E.
(2) 1998 for NACE Sub-sections DA and DN.
(3) 1998 provisional data for NACE Sections E, G, H, I and K; 1995 for NACE Sub-section DN.
(4) 1995 for NACE Section I; all data provisional.
(5) 1997 for NACE Sub-sections DA and DF; 1998 for NACE Section D, NACE Sub-section CB and for NACE Sub-sections in NACE Section D other than DA and DF.
Source: Eurostat NewCronos (theme4/sbs/enterpr/enter_ms)

Table 4.4.3: Population and the economy, 2001 (1)

	EU-15	B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK	NO	US	JP
Population (millions)	380.4	10.3	5.4	82.4	10.9	40.3	60.7	3.8	57.9	0.4	16.0	8.1	10.1	5.2	8.9	59.9	4.5	285.9	127.2
Employment (millions)	167.1	4.0	2.8	38.7	3.9	16.0	24.7	1.7	23.0	0.2	8.3	4.0	5.0	2.3	4.3	28.2	2.3	149.6	66.2
GDP at current market prices (billion EUR)	8,812	257	181	2,063	130	650	1,456	116	1,217	22	427	211	123	135	234	1,591	183	11,398	4,634

(1) Including forecasts.
Source: Eurostat NewCronos (theme2/aux_ind/aux_perm); Eurostat NewCronos (theme2/aggs/aggs_gdp/a_gdp_c)

Table 4.4.4: Share in total value added at basic prices, latest year (%)

	EU-15	B	DK	D	EL	E	F	IRL	I	L	NL	A	P	FIN	S	UK	NO	US	JP
NACE	2001	1999	1999	1999	2000	1999	1999	2000	2001	2000	1999	1999	1999	1999	1996	1999	1997		1998
A	:	1	3	1	7	4	:	3	3	1	3	2	4	4	2	1	1	:	1
B	:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	:	0
C	:	0	1	0	1	0	0	1	0	0	2	0	0	0	0	2	18	:	0
D	:	19	16	22	11	18	18	33	20	12	17	20	19	25	21	18	12	:	23
E	:	3	2	2	2	2	2	1	2	1	2	3	3	2	3	2	3	:	3
F	5	5	5	5	7	8	4	7	5	6	6	8	8	5	4	5	4	:	9
G	:	12	13	10	14	11	10	10	13	10	13	13	16	11	10	11	11	:	11
H	:	2	2	1	7	8	3	3	4	2	2	4	3	1	1	3	1	:	:
I	:	7	8	6	8	8	6	6	7	10	7	7	7	10	8	8	10	:	6
J	:	7	5	5	5	5	4	5	6	23	6	6	2	3	4	6	4	:	5
K	:	21	18	26	17	14	24	15	20	18	20	16	12	18	20	21	14	:	14
L	:	8	7	6	7	6	8	4	5	6	8	7	9	5	6	5	5	:	4
M	:	6	6	4	5	5	5	4	5	4	4	5	7	5	4	5	5	:	1
N	:	6	10	6	5	5	6	6	5	4	7	4	6	8	11	6	8	:	:
O	:	3	4	5	3	3	3	3	3	3	3	4	3	4	4	5	3	:	23
Total (Sections A to Q)	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	:	100

Source: Eurostat NewCronos (theme2/brkdowns/nace_a17/b_a17_c)

Table 4.4.5: Exchange rates (1)

1 euro = … national currency	1995	1996	1997	1998	1999	2000	2001
B	38.5519	39.2986	40.5332	40.6207	40.3399	40.3399	40.3399
DK	7.32800	7.35930	7.48360	7.49930	7.43550	7.45380	7.45210
D	1.87370	1.90950	1.96440	1.96910	1.95580	1.95580	1.95580
EL	302.989	305.546	309.355	330.731	325.820	336.678	340.750
E	163.000	160.748	165.887	167.184	166.386	166.386	166.386
F	6.52510	6.49300	6.61260	6.60140	6.55960	6.55960	6.55960
IRL	0.815500	0.793400	0.747500	0.786200	0.787600	0.787600	0.787600
I	2,130.14	1,958.96	1,929.30	1,943.65	1,936.27	1,936.27	1,936.27
L	38.5519	39.2986	40.5332	40.6207	40.3399	40.3399	40.3399
NL	2.09890	2.13970	2.21080	2.21970	2.20370	2.20370	2.20370
A	13.1824	13.4345	13.8240	13.8545	13.7603	13.7603	13.7603
P	196.105	195.761	198.589	201.695	200.482	200.482	200.482
FIN	5.70850	5.82820	5.88060	5.98250	5.94570	5.94570	5.94570
S	9.33190	8.51470	8.65120	8.91590	8.80750	8.44520	9.25510
UK	0.828800	0.813800	0.692300	0.676400	0.658700	0.609500	0.621900
NO	8.28570	8.19660	8.01860	8.46590	8.31040	8.11290	8.04840

(1) Exchange rates of first 11 euro-zone currencies fixed since January 1999 and Greece since January 2001.
Source: Eurostat NewCronos (theme2/aux_ind/aux_cra/eur_nat)

5. METHODOLOGY OF THE EU PILOT STUDY ON E-COMMERCE AND OTHER SOURCES

5.1 BACKGROUND

Most of the data presented in this publication are derived from a pilot study on e-commerce undertaken by 13 of the 15 EU Member States and Norway. Eurostat started to develop its e-commerce questionnaire at the end of the second quarter of 2000. The first draft questionnaire was largely based on the Nordic model questionnaire proposed to the OECD. The questionnaire was discussed with Commission services and in Eurostat's Information Society Task Force meetings in June 2000) and was modified and shortened as a result of this process. For the underlying definition the OECD recommendations were taken into account. The Working Group Information Society statistics also examined the questionnaire[6] in November 2000 before it was finalised and sent out to Member States at the end of November 2000.

The surveys were carried out during the first half of 2001. Exceptionally, Denmark carried out the survey at the end of 2000. The reference period for all variables was generally the date at which the survey was conducted, except for the turnover data that had 2000 as its reference year. Further exceptions are the indicators concerning the usage of intranets and EDI as well as web access where the surveys collected information on the year since when these technologies had been used; this publication shows the rate of usage at the end of 2000.

(6) Member States transformed the list of variables into a final questionnaire.

5.2 POPULATION COVERAGE

The target population in activity terms was to cover the following NACE Sections:

D - Manufacturing;

G - Distribution;

H - Hotels and restaurants;

I - Transport, storage and communication;

J - Financial intermediation;

K - Business services
(real estate, renting and business activities).

The target population in enterprise size class terms was to cover enterprises with 10 or more persons employed. The coverage of smaller enterprises was optional.

5.3 TABULATIONS

Within the coverage specified above results were compiled for Eurostat by Member States for two sets of data.

1. An activity breakdown of the population of enterprises with 10 persons employed or more:

Compulsory - 19 NACE Sub-sections.
Optional - Divisions 50, 51, 52, 60+61+62+63, 64, 70+71+73, 72, 74, Class 52.31 (retail sales of pharmaceuticals), Class 74.12 (accounting, book-keeping and auditing).

In practice few Member States provided the optional activity breakdowns and this publication concentrates on the compulsory ones.

2. A size-class breakdown of the population of enterprises in NACE Sections D, G, H, I, J and K combined:

Compulsory - 10-49 persons employed (small) and 50 and more persons employed (medium and large).
Optional - split of the medium and large size class between 50-249 and 250 and more persons employed; extended size class coverage to 5-9 persons employed.

In practice most Member States provided the compulsory and optional size classes to distinguish separately small, medium and large enterprises. In general in this publication results for smaller enterprises (10-49 persons employed) have been combined with the results for medium-sized enterprise and presented as an SME total alongside the results for large enterprises. A few Member States have provided data for enterprises with 5-9 persons employed[7] and these have been included in the country chapters.

The activity breakdown and the enterprise size class breakdowns were not cross-tabulated.

(7) Some countries also provided results for the 1-9 persons employed size class but these have not been included in this publication.

5.4 VARIABLES - DATA TRANSMISSION QUESTIONNAIRE

The following pages show the list of variables for the pilot surveys provided by Eurostat. The list was the basis for preparing the national questionnaires in the participating countries. In some cases the layout in the national questionnaires followed closely the layout in the list of variables.

MODULE A: USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES

A1 Does your enterprise use personal computers, workstations or terminals? yes □ no □
If no go to the end of the survey

A2 Does your company use/plan to use the following technologies?

	Use	Since (year)	Plan to use (in 2001)	Do not use (and do not plan to use in 2001)
Intranet				
EDI				
Web access				

Note: the results of question A2 asking about the year since when the technologies have been used was compiled under the following categories: since 2000; since 1999; since 1998 or earlier.

A3 Does your company have a presence on the web?

via	Available	Plan to have (in 2001)	Do not have (and do not plan to have in 2001)
Own web site			
Third party web site			

A4 If your company uses Internet, what is the type of connection used (several answers possible)?

Mobile phone	
Analogue modem (dial up)	
ISDN	
xDSL (ADSL,…)	
Other broadband connection (> 2Mbps)	

A5 What are the problems or barriers your company faces using the Internet?

(multiple choice)	Very important	Some importance	Not important	Do not know
Costs to make it available too high				
Internet access charges too high				
Lacking qualification of personnel/lack of specific know how				
Lack of perceived benefits for the company				
Lost working time because of irrelevant surfing				
Data communication too slow or unstable				
Lack of security (viruses, hackers)				

MODULE B: USE OF ELECTRONIC COMMERCE FOR PURCHASES

B1 Does your company use electronic commerce to make purchases? yes □ no □
If no you do not need to answer questions B4 to B8.

B2 What are the problems or barriers your company faces as regards making purchases using e-commerce?

	Very important	Some importance	Not important	Do not know
Goods and services required cannot be purchased using e-commerce				
Stock of (potential) suppliers too small				
Delivery costs				
Logistic problems (speed and timeliness of delivery)				
Uncertainty in making payments				
Uncertainty concerning contracts, terms of delivery and guarantees				

B3 If your company does not make e-commerce purchases, do you plan to use it in 2001?

	Internet	EDI
Plan to use		

B4 If your company makes e-commerce purchases, since how long?

	Internet	EDI
Less than 1 year		
1-2 years		
More than 2 years		

B5 For which of the following business processes related to purchases does your company use e-commerce?

	Internet	EDI
Ordering		
Payment		
Electronic Delivery		

B6 If you make purchases by e-commerce, which are the perceived benefits in it?

Cost savings	
Speed of processing	
Simplification of tasks	
Offers from a large number of suppliers available	

B7 Does your company make purchases through specialised business to business Internet market places? yes □ no □

B8 What proportion of the value of all purchases of your company would you estimate is made by e-commerce?

	Using Internet	Using all networks
% of all purchases	%	%

Note: the results of question B8 were compiled to show the number of enterprises using e-commerce for a proportion of their purchases. The following proportions were used: 1% or more of purchases; 2% or more; 5% or more; 10% or more; 25% or more; 50% or more.

MODULE C: USE OF ELECTRONIC COMMERCE FOR SALES

C1 Does your company use e-commerce facilities to make sales? yes □ no □
If no you do not need to answer questions C4 to C8.

C2 What are the problems or barriers your company faces as regards making sales using e-commerce facilities?

	Very important	Some importance	Not important	Do not know
Goods and services available not suitable for sales by e-commerce				
Stock of (potential) customers too small				
Uncertainty in payments				
Uncertainty concerning contracts, terms of delivery and guarantees				
Cost of developing and maintaining an e-commerce system				
Logistic problems				
Consideration for existing channels of sales				

C3 If your company does not make e-commerce sales, do you plan to use it by the end of 2001?

	Internet	EDI
Plan to use		

C4 If your company makes e-commerce sales, since how long?

	Internet	EDI
Less than 1 year		
1-2 years		
More than 2 years		

C5 For which of the following business processes does your company provide e-commerce facilities?

	Internet	EDI
Product information		
Price information		
Taking orders		
Payment		
Electronic Delivery		

C6 If you make sales by e-commerce, which are the perceived benefits in it?

Cost reductions (rationalisation)	
Reaching new/more customers	
Geographic expansion of market	
Improvement of service quality	
Speed of processing	
Simplification of tasks	
Avoiding loss of market shares to companies already using e-commerce	

C7 Does your company make sales through specialised business to business Internet market places? yes □ no □

C8 If you make sales by e-commerce, what would you estimate is the value of the sales of your company made by electronic commerce?

Clients located in:	Using Internet	Using all networks
Total		
- of which own country		
- of which other EU		
- of which rest of world		
- of which to households (end consumers)		

What proportion of the value of all sales by your company would you estimate is made by e-commerce?

	Using Internet	Using all networks
% of all purchases	%	%

Note: the results of this second part of question C8 were compiled to show the number of enterprises using e-commerce for a proportion of their sales. The following proportions were used: 1% or more of sales; 2% or more; 5% or more; 10% or more; 25% or more; 50% or more.

5.5 NATIONAL SURVEYS

	Institution	Coverage		Sample size	Response rate	Date of survey
		NACE Sections	Lower employment size threshold			
DK	Danmarks Statistik	D, F to I, K and Division 93	5	5,042	67%	Oct-00
D	Statistisches Bundesamt	G and H	1	31,000	23% for enterprises with 10 persons employed or more	Feb/Mar-01
EL	National Statistical Service	D, G to K	10	2,500	42%	Jun/Sep-01
E	INE	D, G to K	1	5,627	63%	Feb-01
IRL	CSO	D (excluding Division 37), G to K	10	101	56%	Jun-01
I	ISTAT	D, G to I, K	10	12,000	61%	Apr/May-01
L	STATEC/ceps	D, G to K	10	1,000	41%	May /Jun-01
NL	CBS	D, F to K	5	13,000	57%	Jul-00
A	Statistik Österreich	D, G to K	10	4,698	50%	Mar-01
P	INE	C to K	10	7,945	77%	Jun-01
FIN	Statistics Finland	D, F to I, K	5	4,946	56%	Jan/Feb-01
S	Statistics Sweden (SCB)	D, G to K	10	3,955	71%	Apr/May-01
UK	ONS	D, F to K	10	9,000	80%	Jan-01
NO	Statistics Norway	C, D, F to K, Divisions 40 and 93 and Groups 92.2 and 92.4	1	3,885 (above 10 employees)	75%	Nov-00

SOURCES USED BY MEMBER STATES

All Member States used postal questionnaires apart from Greece that carried out the survey by face-to-face interview. All surveys were voluntary except in Portugal and the United Kingdom where they were compulsory. Of the countries carrying out a postal questionnaire all followed-up non-response except Germany. In most cases there was at least one written reminder to enterprises that had not returned the completed questionnaires.

COMPILATION OF POPULATION RESULTS FROM THE SAMPLE SURVEYS

All Member States carried out sample surveys. In Greece and Spain some countries larger enterprises were surveyed exhaustively. In general sample results were raised to population levels using the number of enterprises as a weighting factor. The value of sales by e-commerce was raised using turnover as a weighting factor.

TREATMENT OF ITEM NON-RESPONSE

Item non-response occurs when a survey respondent returns a questionnaire but has not answered all questions. For example, a respondent may know that e-commerce is used in his/her enterprise but not since when this has been the case and so may answer the question about current use but be a non-respondent for the question asking about the date from which it has been used. In general, item non-response was not treated. Hence, results presented in percentage terms show the proportion of respondents to a particular question as a proportion of the total population. As such, levels and percentages may be undervalued for some variables.

COMPILATION OF STANDARD COVERAGE FROM NATIONAL SURVEYS

As a pilot study the coverage in terms of the target population and the detailed list of questions asked by each statistical authority varied. Although several Member States conducted surveys that were wider in coverage than foreseen by the pilot survey, either in terms of a lower employment threshold or more activities, most of these compiled a special series of results corresponding to the required coverage. Where this was not done, the remaining differences in terms of the activities included and the size of enterprises surveyed are in some cases significant and this should be borne in mind when interpreting the data. The following tables indicate the main differences in the coverage of the data presented in this publication.

Compared to the target activity coverage of the survey, the following exceptions should be noted:

DK	Includes NACE Section F (construction) and Division 93 (other service activities) and excludes Section J.
D	Excludes NACE Sections D, I, J and K.
I	Excludes NACE Section J.
FIN	Includes NACE Section F and excludes Section J.
UK	Includes NACE Section F.
NO	Includes NACE Section F (construction) and Division 93 (other service activities) and excludes Section J.

Size class breakdown exceptions:

NL	Results reported for small and medium-sized enterprises in fact only cover small enterprises and hence exclude enterprises with between 50 and 249 persons employed.

Whenever an average is presented for several Member States (referred to in the tables, figures and comments as "All") it is an average of the available data for that variable. As a result the averages provide an indication for each particular variable presented but these can not be compared within a table or across a table without first checking to see if the same Member States are present. Furthermore, any divergences from the standard activity and size coverage definitions within individual Member States that are used to compile averages are also present in the average. For example, averages including the United Kingdom will include data for Section F for the United Kingdom. Averages have been calculated using the number of enterprises to weight the Member State data.

PROBLEMS ENCOUNTERED WITH THE QUESTIONNAIRE

Type of network

A major problem of the pilot survey questionnaire according to Member States was the confusion for respondents between EDI and Internet. E-commerce via "all networks" should in most Member States be interpreted as Internet and EDI together. Although several Member States referred explicitly to EDI in the questionnaire, confusion between Internet and EDI seems to be one of the major problems of the pilot survey.

The term "e-commerce" seems to also confuse some respondents, especially in connection with EDI. Austria, for example, mentions that "the use of EDI for ordering or selling goods was very often not considered as e-commerce because this technology has been existing for many years and was not regarded as the big 'step forward' in the development of e-business. Therefore several respondents reported 'No e-commerce activities' although they actually use EDI for sales and purchases".

The problems with confusing the two networks seem to be strengthened because of the on-going technological convergence between the Internet and EDI. The need for delimitation seems to be especially important as EDI-sales in some Member States seem to exceed Internet sales several times over.

E-purchases and e-sales

One of the central questions on e-purchases was B8: "What proportion of all purchases of your company would you estimate is made by e-commerce". The item non-response of this question was in general high. Thus, in several Member States more than 40% of the enterprises purchasing on the Internet were not able to state the proportion of purchases made.

Several possible reasons for this have been identified:

- e-purchases do not figure in accounts;
- e-purchases could not be estimated because of decentralised purchases;
- total purchases were unknown;
- the IT manager (to whom questionnaires were normally addressed) has often little knowledge of these figures;
- respondents required a more detailed definition of "purchases";
- enterprises without e-purchases are lead through the e-purchase survey module with little possibility to give relevant answers (this problem also occurs in the e-sales survey module).

The high non-response rate makes the results on purchases difficult to interpret. In comparison with e-sales, the figures for turnover were better known by the enterprises and estimates on the percentage of e- sales will probably be more accurate.

The exclusion of sales based on the receipt of e-mails (and purchases based on sending of e-mails) involves some difficulties. Though the exclusion seems reasonable, some enterprises cannot distinguish between different channels of Internet sales. Thus, Internet sales could be suspected to include a certain amount of e-mail orders.

Many enterprises have very little e-commerce, which in some cases they seem to include in answers to the survey and in other cases not. If the e-commerce is measured in value / currency terms, this problem will not make a big difference, but it strongly affects the number of enterprises conducting e-commerce.

Very often "use of e-commerce facilities" is merely the capability to receive orders through a homepage. The orders might be immeasurable. Some countries suggest the need for a threshold for e-sales and e-purchases in order to eliminate enterprises with small, infrequent and casual purchases.

A significant proportion of enterprises that were able to state total e-sales had problems providing the breakdown of e-sales by customer and the destination of sales, making these lot more uncertain than the totals. However enterprises with large e-sales might be more aware of the distribution of their sales between different categories of customers and which may reduce this problem.

Third-party web-site

Questions concerning third-party web-sites caused problems in some countries as the concept was not well understood, notably being confused with outsourcing of the design and maintenance of a web-site.

Barriers to e-commerce

The model questionnaire contained two barrier questions: B2 in relation to purchases using e-commerce and C2 in relation to sales using e-commerce. The two questions seem to identify similar barriers in each case. Furthermore, a number of Member States mentioned problems with low response rates and little variation in answers, notably between activities.

Several possible reasons for this have been identified:

- not all of the suggested barriers were relevant for all enterprises;
- it is hard to get useful answers from enterprises without e-commerce activities as they may not have faced these questions yet;
- some important barriers/aspects may have been missing.

5.6 NEW ROUND OF SURVEYS FORESEEN FOR 2002

A new round of e-commerce surveys is being carried out in the first quarter of 2002. All 15 Member States of the EU are participating in this second round of surveys. First results will become available in the second half of 2002. It is foreseen to publish results in the first quarter of 2003.

While in the first round of surveys carried out in 2001 underlying definitions were harmonised with OECD recommendations, in the 2002 round of surveys the questionnaire has also been strongly harmonised with the model questionnaire prepared by the OECD in 2001.

5.7 LIST OF OTHER SOURCES

The data sources that have been used in this publication other than the pilot survey are:

Organisation	Web address	Sources used	Description
Eurostat	http://europa.eu.int/comm/eurostat/	New Cronos (Eurostat's reference database) themes 2 and 4	New Cronos is Eurostat's reference database.
Directorate General of the European Commission for the Information Society	http://europa.eu.int/information_society/index_en.htm	Flash Eurobarometer 112	Internet and the public at large carried out between 1/11/2001 and 19/11/2001.
		Flash Eurobarometer 116	E-commerce carried out between 27/11/2001 and 17/12/2001.
		Special Eurobarometer 53	Measuring the information society carried out between 1/4/2000 and 31/5/2000.
		Special Eurobarometer 55.2	Europeans and e-inclusion carried out between 10/5/2001 and 15/6/2001.
OECD	http://www.oecd.org	Communications Outlook 2001	The 2001 Communications Outlook presents the most recent comparable data on the performance of the communications sector in OECD countries and on their policy frameworks.
EITO	http://www.eito.com	European Information Technology Observatory 2002, 10th edition	EITO publishes a yearbook that presents the most comprehensive and up-to-date data including the entire information and communications technology market in Europe.
ITU	http://www.itu.int	Yearbook of statistics	The Yearbook of Statistics was previously the "Yearbook of Common Carrier Telecommunication Statistics" or "ITU Statistical Yearbook". The ITU statistical yearbook provides a source of data about the evolution of the public telecommunications sector.
Nestsizer	http://www.netsizer.com	Internet growth reports	Provides daily updates of the number of Internet hosts.
Netsafe	http://www.netcraft.com	Netcraft Web Server Survey	The Netcraft Web Server Survey is a survey of Web Server software usage on Internet connected computers.
RIPE	http://www.ripe.net	The RIPE Region Hostcount	RIPE Network Coordination Centre. Provides a monthly host count.

DEFINITIONS

ABBREVIATIONS

ADSL:	Asymmetric Digital Subscriber Line
B2B:	Business to Business
B2C:	Business to Consumer
EDI:	Electronic Data Interchange
EUR:	euro
HTTP:	Hypertext Transfer Protocol
ICT:	Information and Communication Technology
Internet:	Internet Protocol-based networks
IP:	Internet Protocol
ISDN:	Integrated Services Digital Network
ISP:	Internet Service Provider
IT:	Information Technology
NACE:	Statistical classification of economic activities in the European Community
NSP:	National Service Provider
POP:	Point of presence
PSTN:	Public Switched Telephone Network
SME:	Small and Medium-sized Enterprises
www:	WorldWideWeb
xDSL:	various types of Digital Subscriber Line, including IDSL, HDSL, SDSL, ADSL, RADSL, VDSL, DSL-Lite (DSL technologies are designed to increase band width available over standard copper telephone wires)

EU:	European Union
B:	Belgium
DK:	Denmark
D:	Germany
EL:	Greece
E:	Spain
F:	France
IRL:	Ireland
I:	Italy
L:	Luxembourg
NL:	The Netherlands
A:	Austria
P:	Portugal
FIN:	Finland
S:	Sweden
UK:	The United Kingdom

SYMBOLS

:	not available
~	not relevant

CONCEPTS

Third-party web-site
Web-site with information on the enterprise that has been created with agreement of the enterprise by another enterprise.

Web access
Access to the WorldWideWeb.

Electronic commerce (e-commerce)
Transactions conducted over Internet Protocol-based networks and over other computer mediated networks. The goods and services are ordered over those networks, but the payment and the delivery of the good or service may be conducted on or off-line.

Internet
Internet Protocol based networks including www, extranet over the Internet, EDI over the Internet, Internet-enabled cellular phones.

"All networks"
Internet and/or EDI.

Specialised business to business Internet marketplaces
Specialised Internet commerce sites for businesses that allow buyers and suppliers to trade with each other.