

INDUSTRY, TRADE AND SERVICES

THEME 4 - 12/2002

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Manuscript completed on: 20.02.2002 ISSN 1561-4840 Catalogue number: KS-NP-02-012-EN-N © European Communities, 2002

E-commerce in Europe

Richard Deiss

Electronic commerce (e-commerce) can be defined as the trading of goods and services over computer mediated networks (such as the Internet); the payment and/or delivery of the products may or may not be made over such a network. E-commerce differs from traditional commerce primarily in the way 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.

As enterprises have embraced this new way of trading, demand for statistics to analyse the phenomenon has grown, both from policy makers and the business community. In response Eurostat, in conjunction with the European Commission's Directorate General for Enterprise, launched a pilot survey on e-commerce in which 13 Member States participated. This Statistics in Focus presents key results of the survey for the 2000/2001 reference year (for methodological notes see page 7). A full report with detailed tables will be published in Spring 2002.

The main findings of the survey are (enterprises of 10 employed persons or more):

- 92% of enterprises used computers at the time of the survey, 75% had web access and 38% had their own web site at the end of 2000;
- at the beginning of 2001 26% of enterprises implemented e-purchasing processes, but only 19% used e-commerce to make sales;

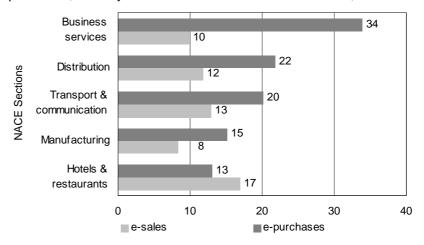


Figure 1: Share of enterprises using e-commerce for sales and purchases, presentation by NACE Sections ranked by e-purchases, 2001 (%)

Country coverage: DK, EL, I, L, NL, A, P, FIN, S, UK

- 14% of enterprises used e-commerce for at least 1% of their purchases in 2000 and 6% used it for at least 1% of their sales;
- business services enterprises were far more prone to use specialised B2B marketplaces for e-purchases (7.7%) than for e-sales (1.9%);
- the main barriers to the use of e-purchasing were uncertainties about the conditions under which transactions take place, whilst cost considerations appear as the main obstacle for not using e-commerce sales;
- speed gains are amongst the main benefits of both e-purchasing and e-sales, ahead of cost savings.

Use of Information and Communication Technology by enterprises

	Enterprise size class	All	DK	D	FL	F		-	NL	Α	P	FIN	S	UK
	•	All	DIX						INL			1 11 4	0	OIX
Computer	Total	92	95	96	85	91	86	91	88	92	89	98	97	92
	Small and medium	92	95	96	84	91	86	90	87	92	89	98	96	92
	Large	97	100	96	98	100	99	99	:	100	99	100	100	100
Web access	Total	68	87	67	51	67	66	55	65	76	72	91	90	63
	Small and medium	67	86	67	50	66	66	54	62	76	72	91	90	62
	Large	81	99	77	84	97	94	70	:	91	94	97	99	90
Own web site	Total	46	63	67	29	7	9	41	35	54	30	60	68	50
	Small and medium	44	62	65	28	6	9	39	31	53	30	58	67	49
	Large	80	89	86	54	35	22	67	:	86	59	93	91	80

Table 1: Share of enterprises using ICT, end of 2000 (computers: time of survey) (%) All is the weighted average for the Member States appearing in the table.

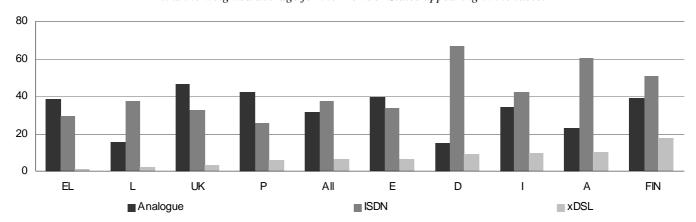


Figure 2: Share of enterprises using selected types of Internet access, ranked by xDSL, end of 2000 (%) All is the weighted average for the Member States appearing in the graph.

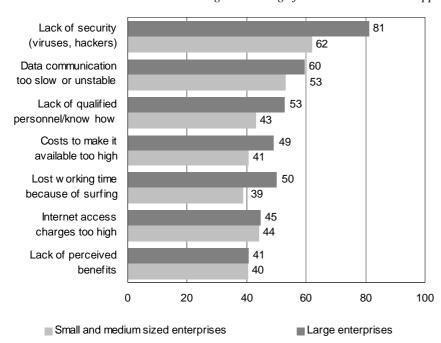


Figure 3: Proportion of respondents citing various barriers to Internet use as very important or of some importance, ranked by response for large enterprises, 2001 (%)

Country coverage: EL, E, I, L, A, P, UK

IT has made its way into practically every large enterprise in the EU and only 8% of the SMEs were not equipped with computers at the time of the survey. When it comes to web access, or web presence, the gap between larger enterprises and SMEs widens - see table 1. The main barriers to Internet use indicate that technical ones (security, hardware and know-how) were felt to be more important than economic ones (notably cost) – see figure 3.

Different solutions are available when connecting to external networks - see figure 2. Analogue connection (dial-up access) is the traditional way of access. ISDN access is somewhat faster (up to 64 kilobits/sec. per channel) and is currently the most popular digital method of access. DSL also relies on a standard telephone line, but uses a technology that allows broadband connections.



Use of e-commerce for purchases

	Enterprise size class	All	DK	D	EL	Ε		L	NL	Α	Р	FIN	S	UK
e-commerce used	Total	26	37	37	5	9	10	19	25	15	12	35	31	33
	Small and medium	25	36	35	5	9	10	18	23	14	12	34	31	32
	Large	47	66	51	8	20	21	28	:	30	22	45	37	50
Internet e-commerce	Total	3	:	5	1	3	2	5	:	4	3	:	:	:
used for more than 2	Small and medium	3	:	5	1	3	2	5	:	4	2	:	:	:
years	Large	2	:	2	1	3	3	8	:	7	5	:	:	:
Internet e-commerce	Total	8	3	9	5	18	1	7	12	14	7	11	:	9
planned for 2001	Small and medium	8	3	9	5	18	1	6	12	14	7	11	:	9
	Large	10	5	9	11	23	5	15	:	18	8	22	:	14

Table 2: Share of enterprises using e-commerce for purchases, 2001 (%) All is the weighted average for the Member States appearing in each line of the table.

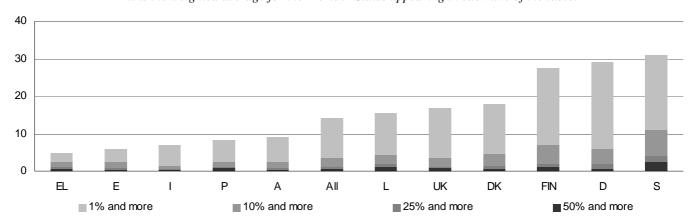


Figure 4: Proportion of enterprises using e-commerce for a specified share of total purchases, 2000 (%) All is the weighted average for the Member States appearing in the graph.

Over one-fifth of surveyed enterprises turn to e-commerce to purchase at least some of the goods and services needed for their activity. It should be noted that these figures concern e-commerce made via all kinds of computer networks, not just the more talked about Internet Protocol (IP) based ones. In

fact, Internet has been a recent development in the procurement strategy of most enterprises and, by 2001, most of those using epurchasing had only been using the Internet for less than 2 years (see table 2).

In total, e-purchasing (including all networks, IP or not) still represented a very small share of the purchases made by enterprises, although it reached 1% or more of the total in more than one-quarter of Finnish, German and Swedish enterprises – see figure 4.

B2B market places have emerged to facilitate transactions between enterprises. These consist of specialised sites that allow buyers and suppliers to meet each other virtually and to trade. Enterprises of business services (NACE Section K) were the most frequent users of these marketplaces for purchases – see figure 5.

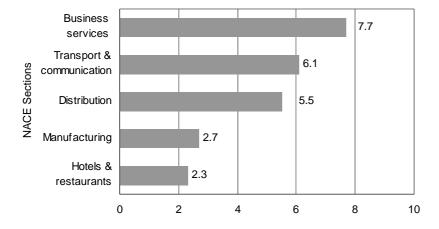


Figure 5: Share of enterprises using specialised B2B marketplaces for purchases, 2001 (%)

Country coverage: DK, EL, I, L, A, P, S, UK



	Enterprise size class	All	DK	D	EL	Ε		L	NL	Α	Р	FIN	S
Ordering	Total	18	34	30	5	9	8	18	25	14	10	35	54
	Small and medium	18	34	29	5	8	8	17	23	13	10	34	53
	Large	34	62	40	6	16	17	25	:	25	16	45	71
Payment	Total	7	17	8	1	3	5	8	14	5	4	10	48
	Small and medium	6	17	8	1	3	5	8	13	5	4	10	48
	Large	7	37	7	3	8	9	14	:	7	6	12	33
Electronic delivery	Total	6	47	6	1	4	4	6	:	3	2	46	65
	Small and medium	6	46	6	1	4	3	6	:	3	2	44	64
	Large	6	73	4	1	9	8	11	:	6	5	74	87

Table 3: Share of enterprises using Internet e-purchasing for specified processes, 2001 (%)

All is the weighted average for the Member States appearing in each line of the table.

DK,FIN, S: data for electronic delivery relate to the share of enterprises receiving goods and services in digital form, incl. non-purchased goods and services.

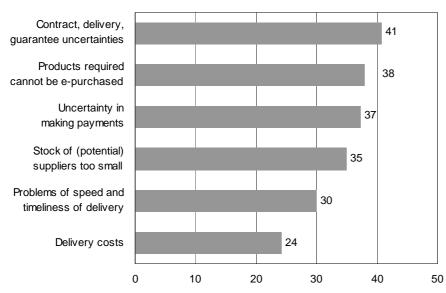


Figure 6: Proportion of enterprises citing various barriers to e-purchasing as very important or of some importance, 2001 (%)

Country coverage: EL, E, I, L, A, P, UK

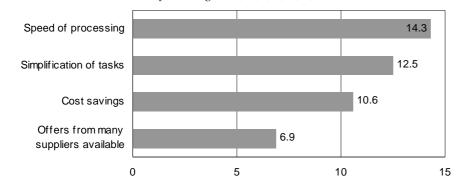


Figure 7: Proportion of enterprises citing various benefits of e-purchasing as very important or of some importance, 2001 (%)

Country coverage: EL, E, I, L, A, P, UK

While the questions underlying figure 6 were answered by all enterprises, the questions underlying figure 7 were answered in general only by the enterprises using e-commerce for purchases (22 % of the enterprises). This leads to lower % shares for the benefits and should be taken into account when comparing the % of graphs 6 and 7. The same applies to figure 11.

E-commerce may be used several different stages of transaction. including ordering, payment and electronic delivery for example in the case of merchandise such as software, documents or graphics. Note that for this survey sending or receiving orders via manually written e-mails was not considered as e-commerce. Electronic payment in particular may require specific efforts, including building a secure environment and establishing the trust of both parties regards the security confidentiality of data exchanged. may partly explain why payment was generally less frequent than ordering - see table 3.

Confirming the need of a trustworthy environment, enterprises cited the uncertainties about the conditions under which transactions take place, notably for payments (37%), as amongst the main reasons discouraging them from making epurchases. In contrast, enterprises having embraced e-purchasing value speed (14.3%)simplification of tasks (12.5%) as the main benefits of their choice, ahead of cost savings (10.6%), although these may also be achieved indirectly from the other benefits.



Use of e-commerce for sales

	Enterprise size class	All	DK	D	EL	Е	I	L	NL	Α	Р	FIN	S	UK
Use of e-commerce	Total	19	28	31	6	6	3	10	23	12	6	14	12	16
	Small and medium	17	27	29	6	6	3	9	22	11	6	13	11	16
	Large	42	46	48	13	24	8	27	:	26	19	26	19	35
Internet e-commerce	Total	2	:	4	1	1	1	2	:	3	1	:	:	:
used for more than 2	Small and medium	2	:	4	1	1	1	2	:	3	1	:	:	:
years	Large	4	:	5	3	6	1	7	:	7	4	:	:	:
Internet e-commerce	Total	11	13	13	5	14	2	7	14	16	6	13	18	12
planned for 2001	Small and medium	11	13	12	5	14	2	7	13	16	6	13	17	12
	Large	16	25	16	6	15	7	5	:	22	5	21	28	18

Table 4: Share of enterprises using e-commerce for sales, 2001 (%) All is the weighted average for the Member States appearing in each line of the table.

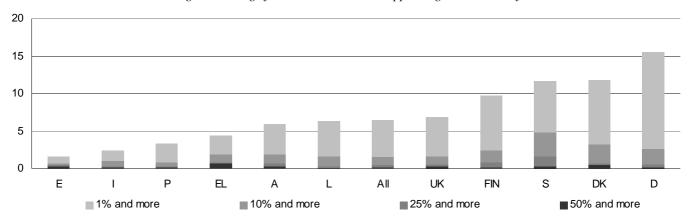


Figure 8: Proportion of enterprises using e-commerce for a specified share of total sales, 2000 (%) All is the weighted average for the Member States appearing in the graph.

One conclusion of the survey is that, active selling by electronic means in 2000/2001, enterprises were less than purchasing. Indeed, only 19%

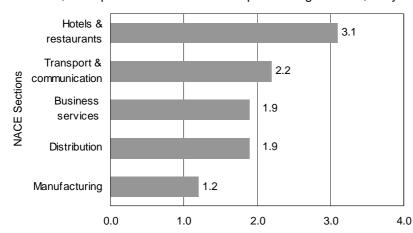


Figure 9: Share of enterprises using specialised B2B marketplaces for sales, 2001 (%)

Country coverage: DK, EL, I, L, A, P, S, UK

of surveyed enterprises made use of e-sales (see table 4) and only 6% of enterprises used e-sales for more than 1% of their sales. Contrary to e-purchasing, sales via electronic commerce addresses both the business-to-business (B2B) and the business-to-consumer (B2C) markets; the latter relies mostly on the Internet rather than other networks and this was virtually non existent as a distribution channel before 1998.

Turning to B2B marketplaces, enterprises in the sector of hotels and restaurants were the most active suppliers (3.1%), whilst they were at the same time the least active buyers – compare figure 9 with figure 5. Manufacturing enterprises were clearly the least prone to sell on-line (1.2%) via B2B market places.



	Enterprise size class	All	DK	D	EL	Ε	ı	L	NL	Α	Р	FIN	S
Product information	Total	13	:	26	6	5	2	8	:	11	5	29	:
	Small and medium	12	:	25	6	4	2	7	:	10	5	28	:
	Large	32	:	41	10	17	6	26	:	22	12	50	:
Taking orders	Total	12	24	22	5	4	2	7	23	11	4	14	17
	Small and medium	11	24	20	5	4	2	6	22	10	3	13	17
	Large	29	29	37	9	11	5	22	:	20	9	26	26
Electronic delivery	Total	1	7	2	1	1	0	2	:	1	1	:	4
	Small and medium	1	7	2	1	1	0	1	:	1	1	:	4
	Large	3	13	3	3	7	1	10	:	4	1	:	7

Table 5: Share of enterprises using Internet e-sales for specified processes, 2001 (%) All is the weighted average for the Member States appearing in each line of the table.

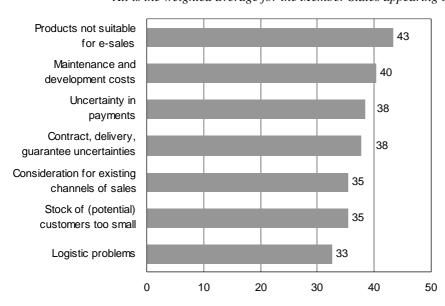


Figure 10: Proportion of enterprises citing various barriers to e-sales as very important or of some importance, 2001 (%)

Country coverage: EL, E, I, L, A, P, UK

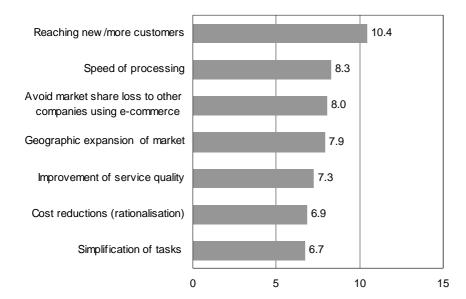


Figure 11: Proportion of enterprises citing various benefits of e-sales as very important or of some importance, 2001 (%)

Country coverage: EL, E, I, L, A, P, UK

Using e-commerce for selling may range from the simple presentation of the company and its products over the Internet - an electronic version of company brochures and catalogues - to more developed interfaces allowing the taking of orders and, if applicable, the delivery of products. Overall 12% of enterprises take orders by means of the Internet, a share that reached almost 25% in Denmark, Germany and the Netherlands. Please note that figures in the column "all" in table 5 are not directly comparable between the processes as they average different country coverage. Also note that the shares refer exclusively to Internet based ecommerce, to the exclusion of other types of networks.

Unlike e-purchases cost considerations (40%) appear as the main obstacle to e-commerce sales, not taking into consideration the cases where the products are not suitable for e-commerce (43%) see figure 10. Overcoming this barrier and embracing this new channel of distribution is perceived to lead to an enlarged market (10.4%) and improved processing speeds (8.3%) - see figure 11 (it should be considered that only 1/7 enterprises do e-Commerce sales).



> ESSENTIAL INFORMATION - METHODOLOGICAL NOTES

The survey

All of the data presented in this publication are derived from a pilot study on e-commerce undertaken by 13 of the EU Member States during the first half of 2001. Exceptionally Denmark carried out the survey at the end of 2000. The reference period for all variables was the date at which the survey was conducted, except for the turnover data which had 2000 as its reference year. At the time of preparing this publication the results for some Member States were not available. Eurostat intends to publish a more complete set of results from this survey in Spring 2002 including the results from all of the participating countries.

The pilot survey concentrated on the measurement of e-commerce in enterprises as regards sales and purchases via the Internet and other computer mediated networks and also looked at the use of basic ICT. The survey was a sample survey and most of the population results have been compiled using the number of enterprises as the weighting factor.

SME — enterprises with between 10 and 249 persons employed;

Large — enterprises with 250 or more persons employed.

As a pilot study the coverage in terms of the target population and the detailed list of questions asked varied in practice. The differences in terms of the activities included and the size of enterprises surveyed are particularly significant and this should be borne in mind when interpreting the data.

The following tables indicate the main differences that apply to all data presented for each Member State.

	Activity exceptions
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 Section J
FIN	Includes Section F and
	excludes Section J
UK	Includes Section F

Population

The target population foreseen was to cover NACE Sections:

D — manufacturing:

G — distribution;

H — hotels and restaurants;

I — transport, storage and communication;

J — financial services;

K — business services (real estate, renting and business activities).

Unless otherwise specified, all results have been presented for the sum of these NACE Sections for enterprises with 10 or more persons employed. For data presented with a size class breakdown the following definitions were used:

NL Small and medium sized enterprises excludes enterprises with between 50 and 249 persons employed

Whenever an average is presented for several Member States ("All") it is an average of the available data. As a result the averages provide an each indication for 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, divergences from the standard activity and size coverage in the Member States used to compile the 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.

Abbreviations/definitions

B2B: Business to Business

B2C: Business to Consumer

EDI: Electronic Data Interchange

Electronic commerce: Transactions conducted over computer mediated networks.

Internet: Internet Protocol based networks

IP: Internet Protocol

ISDN: Integrated Services Digital Network

IT: Information Technology

ICT: Information and Communication Technologies

NACE: Statistical classification of economic activities in the European Community

SME: Small and Medium sized Enterprises

xDSL: various types of Digital Subscriber Line, for example ADSL



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