

E-COMMERCE INQUIRY TO BUSINESS 2000

Introduction

E-commerce is likely to have a huge impact on the way we do business. It has the potential to lead to dramatic growth in trade, increase markets, improve efficiency and effectiveness and transform business processes. In recognition of its significance in the future performance of the economy, the UK Government set itself the target of becoming ‘the best environment in the world to do e-commerce.’¹

In response to this policy need, the Office for National Statistics (ONS) has developed a package of measures that will help monitor the UK’s progress towards this aim. One strand of the strategy is a survey of UK business that asks about their use of, and attitude to, the internet and e-commerce. This report sets out the results of the first annual E-commerce Inquiry.

The ONS’s E-commerce Inquiry

The ONS’s E-commerce Inquiry is part of an European Union (EU) initiative to produce comparable data for the EU countries². The UK element was a survey of 9,000 businesses randomly sampled from the Interdepartmental Business Register, stratified by employment size. The sampling methodology ensured wide coverage of the UK economy. The estimates produced cover all sectors except agriculture, fishing, mining, utilities, construction and the public sector, and all businesses with employment of 10 or more.³

The survey used the definition of e-commerce that was agreed by the Organisation for Economic Co-operation and Development (OECD) and the EU: it is the method by which the order is placed which determines whether a transaction is e-commerce – not the payment or delivery channels. The survey attempted to capture the level of wider electronic transactions including electronic data interchange (EDI), as well as those via the internet itself.

¹ DTI 1998 White Paper “*Our Competitive Future: Building the Knowledge-Driven Economy*” CM4176

² This is due to be published by the Statistical Office of the EU (Eurostat) by the end of 2001

³ Full methodology at Annex A and copy of the data collection instrument at Annex B

The E-commerce Inquiry was carried out in line with the rigorous standards of all National Statistics. However, it is important to realise that many businesses do not separately monitor e-commerce transactions (at least not in the same way) and could provide only estimates of the levels of their e-commerce sales and purchases.⁴

Results of the survey

Use of the internet

The results of the E-commerce Inquiry show that 92% of UK businesses now use PCs, workstations or terminals. If the data are weighted according to the size of the business⁵, this figure rises to 98%. The picture is consistent across most industries and most size of businesses and the only exceptions appear in smaller businesses in the manufacturing and hotel and catering sectors where the figure is around 70%.

The overall percentage web access is lower at 63%⁶. This masks major variations. For example, less than half of some manufacturing and retail sectors have access, while the figure for the largest businesses across all sectors is 94%.

Most businesses have been using the web for about a year, with this increasing to two years for those with more than 250 employees. Perhaps surprisingly, only 11% more businesses plan to start using the web during the next year, with the remaining 25% of respondents saying that they did not have any plans for it in 2001. This reluctance is most marked in the smallest companies surveyed (chart 1).

Websites

61% of businesses now have their own, or third party, websites⁷, with a further 19% planning to set one up within a year⁸. However, more than a third of respondents with less than 50 employees stated that they will not set up a website in the next year.

⁴ For further information on the statistical errors attached to the estimates, see Annex A

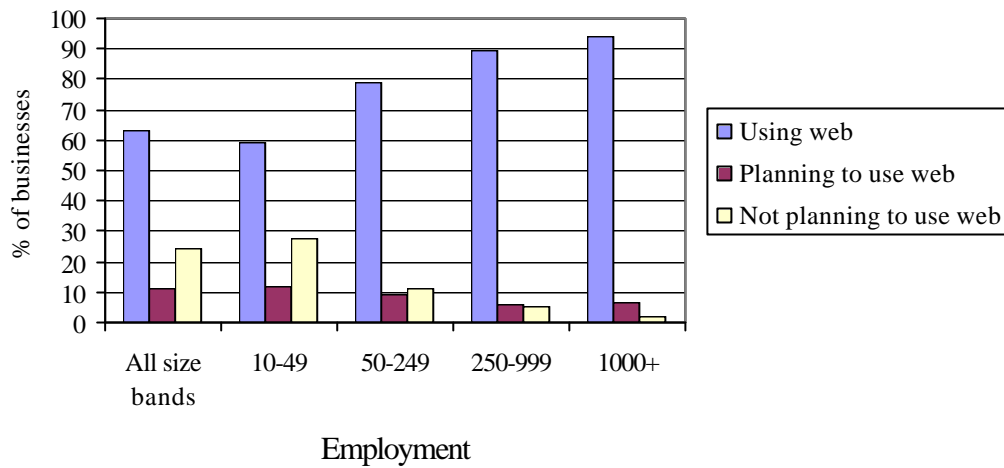
⁵ Weighting by size of business gives more weight, or importance, to larger businesses and less to the smaller businesses that tend to have slower take-up of technology. See Annex A for more detail on weighting

⁶ This figure rises, if size-weighting is used, to 85%

⁷ The size-weighted figure is 96%

⁸ Some businesses reported having both their own and a third-party website, so there is some overlap and the percentages will add to more than 100%

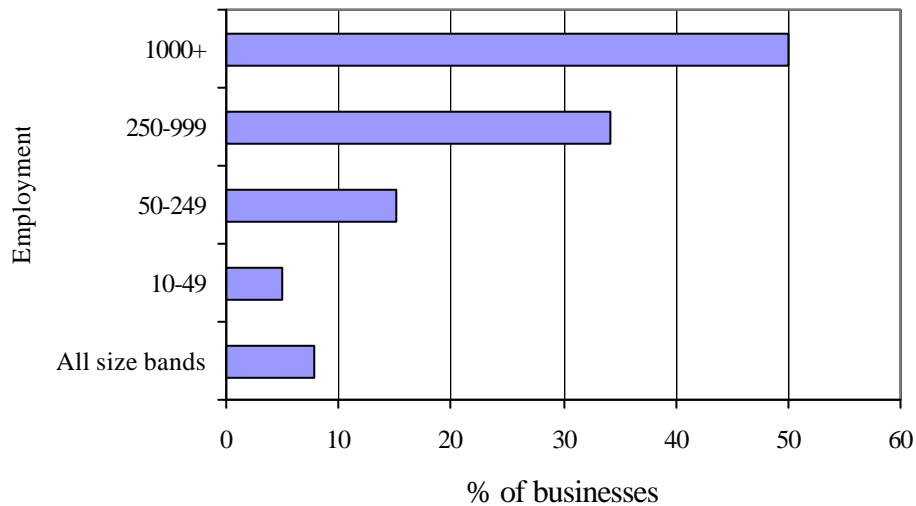
Chart 1 - Planned web access



Type of internet connection

Of the businesses who have internet access, 46% use dial-up connections and 32% use ISDN lines. Only 8% have broadband connections. The level of broadband connection varies from 5% for the smallest companies surveyed to 50% for those with 1000+ employees⁹ (chart 2).

Chart 2 - % of businesses using broadband connection



Barriers to using the internet

The survey asked respondents to indicate which of the suggested reasons were barriers their business faced in using the internet. Around 50% of respondents said the following were of some importance or very important:

⁹ There may be some overlap if companies said they had more than one type of broadband access

- cost of provision and access charges
- lack of knowledge
- no perceived benefits
- lost working time through ‘surfing’
- slow or unstable data communication

These problems were almost equally important across industry and size of business.

The barrier that was of most importance was the lack of security through viruses and hackers. 64% of respondents overall said this was a barrier to them, increasing to 80% for those with 1000+ employees.

Sales by e-commerce

Businesses were asked whether they used the internet or other computer-mediated networks (such as EDI) to make sales. Overall, 16% already did¹⁰, 12% planned to in the next year and nearly 70% did not plan to use e-commerce for sales within a year. This however varies with the size of business (chart 3). The insurance, air travel and computing and office machinery manufacturing sectors carry out much higher levels of e-commerce – around 30 to 40 % of their sales are via electronic networks.

The average length of time that business has carried out e-commerce for sales is only a matter of months and even for the very largest companies, the average is still less than a year.

When asked about the barriers they faced in making sales using e-commerce, 40% or more of respondents said that uncertainty with contracts and/or the cost of developing and maintaining the system were of most importance. The most commonly perceived benefit of e-commerce sales for all sizes of companies was the potential to reach more customers, but far fewer smaller companies saw any benefits (chart 4).

¹⁰ Size-weighted = 38%

Chart 3 - Internet usage for sales

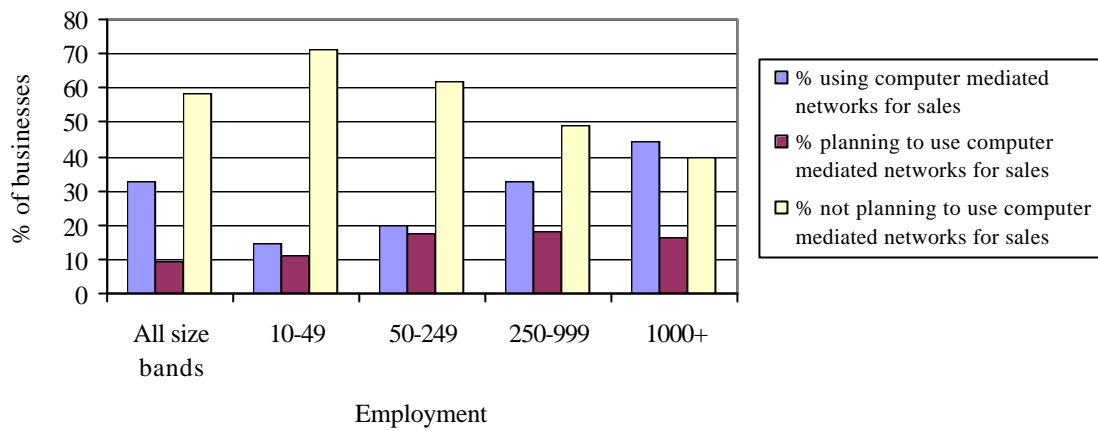
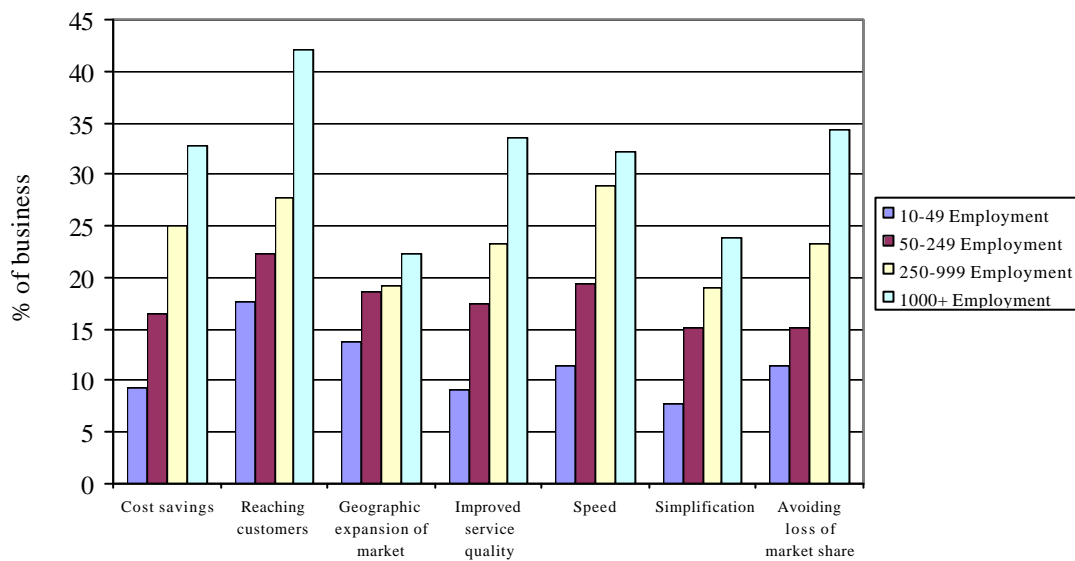


Chart 4 - Benefits of making sales by e-commerce



Purchases by e-commerce

Twice as many businesses (33%) use e-commerce for purchases than they do for sales¹¹. A further 9% intend to use it in the next year, while 58% do not. The computing (74%) and insurance (60%) sectors use the highest level of e-commerce for purchases. Once again the average length of time that e-commerce has been used for placing orders is less than a year.

¹¹ Size-weighted = 51%

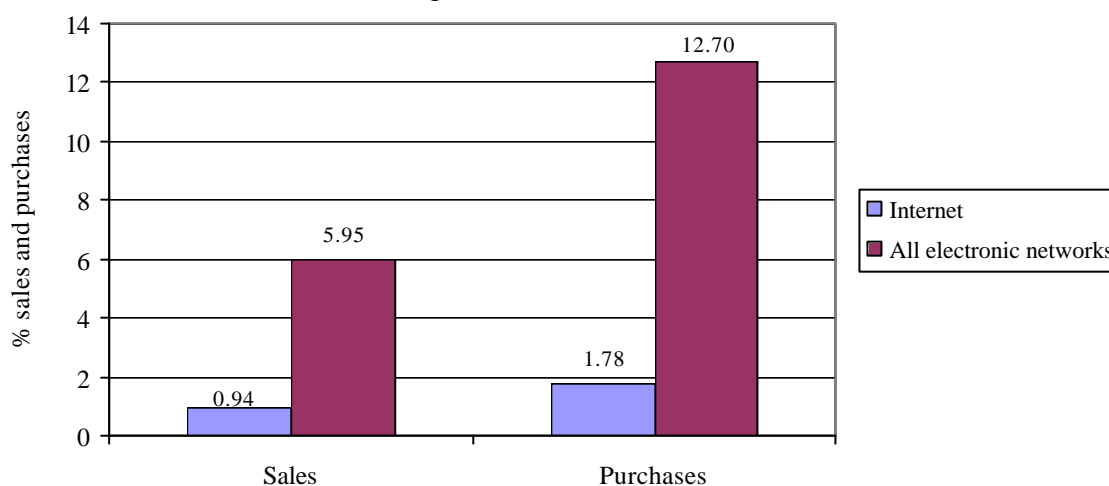
One in five respondents saw the benefit of using e-commerce for purchases as cost savings and one in four saw the benefit of speed. These levels rose to nearly one in two for the largest businesses.

Estimates of the value of e-commerce

Sales

Respondents to the survey were asked to provide an estimate of the percentage of their sales and purchases that they carried out using e-commerce. They were asked for two figures: transactions carried out using the internet; and transactions carried out using all electronic networks, including EDI¹² (chart 5).

Chart 5 - % Sales and purchases carried out using e-commerce
(excluding financial sector)



From the responses given, internet sales are estimated to be worth £56.6 billion¹³. This represents 2.04% of total sales for the sectors covered. Sales via all electronic networks are estimated to be worth £161.8 billion, or 5.83% of total sales.

Table 1 shows how the overall levels of e-commerce are split between different sized businesses and by sector. The larger businesses account for nearly 80% of all of e-commerce sales, while the financial sector account for 77% of all of e-commerce sales. If the financial

¹² See Annex B for definitions

¹³ There are no sales data held by ONS for much of the financial sector and so 'turnover' from administrative sources was used to produce estimates from the percentages supplied by business. This means that estimates for e-commerce in the financial sector must be treated with due caution. For information, in the National Accounts the effect of the financial sector is measured through output or value added and so the figures here cannot be compared with those.

sector are removed, the value of internet sales drops to £12.9 billion which represents 0.94% of all sales excluding the financial sector.

Table 1: Value of e-commerce sales split by sizeband and sector

	Internet Sales		All electronic networks	
	£ bn	%	£ bn	%
Total	56.6	2.04	161.75	5.83
Sizeband of business				
10-49	3.43	0.12	5.97	0.21
50-249	8.11	0.29	24.27	0.87
250-999	23.21	0.84	58.17	2.10
1000+	21.88	0.79	73.35	2.64
Sector of business				
Manufacturing	3.99	0.14	49.46	1.78
W'sale/retail/catering/travel	7.61	0.27	29.65	1.07
Financial and insurance	43.74	1.58	79.90	2.88
Computing and other business services	1.28	0.05	2.75	0.10

Less than one fifth of internet sales were to households, with an estimated value of £10 billion. The financial sector accounts for most of this and, when removed, internet sales to household are £1.2 billion which represents 0.09% of all sales.

Purchases

It was not possible to produce estimates of e-commerce purchases for the financial sector because there are no data on the sector's purchases as a whole; all estimates of e-commerce purchases therefore omit the financial sector. However, as the level of e-commerce sales by this industry is around £44 billion, it would be reasonable to assume that the level of e-commerce purchases¹⁴ would also be sizeable.

Internet purchases (without the financial sector) are estimated at £16.6 billion, which is 1.78% of total purchases, while purchases by all electronic networks (without the financial sector) are estimated at £118.5 billion – 12.7 % of total purchases.

¹⁴ Respondents in the financial sector estimated that 10% of their purchases were via the internet. See Annex A for more detail

METHODOLOGY NOTE

Definitions

The definitions of e-commerce and electronic networks used in the E-commerce Inquiry are in line with those agreed by OECD and the statistical office of the EU (Eurostat). Please see Annex B for fuller details.

Sample Design

The E-commerce Inquiry was a random sample survey of 9,000 businesses. The sample was selected from the Interdepartmental Business Register (IDBR) which holds records on all UK businesses registered for VAT and PAYE .

The sectors included in the sample were: manufacturing; wholesale and retail; hotel and catering; transport; financial services; and other business services. This equates to 43 divisions of the UK Standard Industrial Classification – SIC (92).

The sample was further stratified by four employment size bands:

Size band 1: 10-49

Size band 2: 50-249

Size band 3: 250-999

Size band 4: 1000+

Businesses with less than 10 employees were excluded in line with the policy to reduce the burden on small businesses. All of those in the relevant industries with more than 1000 employees were included.

Survey Instrument

The data were collected by postal questionnaire. As it was part of an EU-wide initiative to produce comparable European data, the ONS used the questionnaire agreed by Eurostat, with only minor variations to improve readability. See Annex B for full questionnaire.

The questionnaire was sent out in January 2001. Respondents were requested to provide estimates of their e-commerce sales and purchases for the year ending 31 December 2000. The rest of the data gave a 'snapshot' for January 2000.

Data Analysis

There were two methods of data analysis carried out:

Tick box data (this was everything apart from e-commerce sales and purchases)

To produce estimates by sizeband for each sector surveyed, the average percentage of all those surveyed was multiplied by the population totals of businesses in that sizeband and sector. The population totals were obtained from the Interdepartmental Business Register (IDBR).

For selected variables, employment weighted data were produced in parallel. These results give more importance to the results from bigger businesses, rather than to those strata with large numbers of smaller businesses.

For sales and purchases data, each survey response was employment weighted to produce estimated percentages for e-commerce sales and purchases for each SIC (92) division and sizeband. This e-commerce percentage was multiplied by the estimated sales and purchases for the cell to produce e-commerce estimates for sizeband, industry and overall economy. The sales and purchases information is collected by the ONS's Annual Business Inquiry (ABI) which surveys 70,000 businesses.

However, the ABI does not survey SIC (92) division 65, 'Financial Intermediation Without Insurance and Pensions'. Turnover data held on the IDBR were used to produce estimated e-commerce sales for this SIC, which should be treated with due caution. As there are no purchases data held by ONS on this SIC(92) division, no estimates of e-commerce purchases for the financial sector could be produced.

Quality of the Results

The levels of e-commerce sales and purchases published are estimates for UK businesses with employment of 10 or more. As the survey was only a sample of businesses, the responses received have been used to estimate for the sectors covered by the survey. As with

all surveys, these estimates have an associated sampling error that has been estimated for this survey as follows:

	<u>estimate</u>	<u>standard deviation</u>
	£ billion	£ billion
internet purchases	19.6	1.5
all electronic purchases	124.6	5.6
internet sales	50.9	4.3
all electronic purchases	160.7	12.2

It is normally assumed that 95% of values will lie within two standard deviations of the estimate. In other words, we are 95% confident that internet purchases lie between £16.6 billion and £22.6 billion and that internet sales lie between £42.3 billion and £59.5 billion.

QUESTIONNAIRE

Background Notes:

1. **Electronic commerce (e-commerce):** transactions conducted over the internet or over other computer-mediated networks (like EDI etc). 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.
2. **You should include any transactions where the order is placed via a computer-mediated network.**
3. Please complete this return for the business named on the front of the form only.
4. If your business did not have relevant transactions in the specified period then please enter nil.
5. If you do not have the exact percentage, please give the best estimate you can.
6. Definition of UK: excludes Channel Islands, the Isle of Man, and the Republic of Ireland.

Glossary:

ADSL	Asymmetric Digital Subscriber Line (one of the DSL techniques)
EDI	Electronic Data Interchange. Data interchange in structured form (EDIFACT).
Internet	relates to Internet Protocol based networks: WWW, Extranet over the Internet, EDI over the Internet, Internet-enabled cellular phones
Intranet	Internal Internet (only available within your business)
ISDN	Integrated Services Digital Network
Specialised business to business marketplaces	Specialised Internet commerce sites for businesses that internet allow buyers and suppliers to trade with each other
Third party web site	Web site with information on the enterprise that has been created with agreement of the enterprise
Web access	Access to the World Wide Web (www)
xDSL	Digital Subscriber Line, including IDSL, HDSL, SDSL, ADSL, RADSL, VDSL, DSL-Lite (DSL technologies are designed to increase bandwidth available over standard copper telephone wires)

E-COMMERCE INQUIRY - RETURN FOR THE YEAR (1 JANUARY TO 31 DECEMBER) 2000

USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES

A1: Does your business use personal computers, workstations or terminals? (please tick)

Yes No

A2: Does your business use, or plan to use, the following technologies?

	Use now	Since (year)	Plan to use in 2001	Do not plan to use in 2001
Intranet	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>
EDI	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>
Web access	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>

A3: Does your business have, or plan to have, a presence on the web?

	Have now	Plan to have in 2001	Do not plan to have in 2001
Own web site	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Third party web site	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

A4: If your business uses internet, what is the type of connection used? (please tick all that apply)

Mobile phone	<input type="checkbox"/>
Analogue modem (dial up)	<input type="checkbox"/>
ISDN	<input type="checkbox"/>
xDSL (ADSL,....)	<input type="checkbox"/>
Other broadband connection (>2Mbps) (please specify)	<input type="checkbox"/>
Don't use internet	<input type="checkbox"/>

A5: What are the problems or barriers that your business faces in using the Internet? (please tick all that apply)

	Very important	Some importance	Not important	Don't know
Costs to make it available too high	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Internet access charges too high	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of suitably qualified personnel /lack of specific knowledge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of perceived benefits for the company	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lost working time because of inappropriate surfing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Data communication too slow or unstable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of security (viruses, hackers)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (please specify)				

USE OF ELECTRONIC COMMERCE FOR PURCHASES

Electronic commerce (e-commerce): transactions conducted over the internet or over other computer-mediated networks (like EDI etc). 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.

B1: Does your business use, or plan to use, e-commerce to make purchases? (please tick as appropriate)

Use now	Since (year)	Plan to use in 2001	Do not plan to use in 2001
<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>

B2: What are the problems or barriers your business faces in making purchases using e-commerce? (please tick all that apply)

	Very important	Some importance	Not important	Don't know
Goods and services needed cannot be purchased using e-commerce	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Number of potential suppliers too small	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Delivery costs too high	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Logistical problems (speed and timeliness of delivery)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Uncertainty in making payments	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Uncertainty concerning contracts, terms of delivery and guarantees	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (please specify)				

B3: If your business make purchases by e-commerce, what are the perceived benefits? (Please tick all that apply)

Cost savings	<input type="checkbox"/>
Speed	<input type="checkbox"/>
Simplification	<input type="checkbox"/>
Large number of suppliers available	<input type="checkbox"/>
Other (please specify)	<input type="checkbox"/>

B4: Does your business make purchases through specialised business to business internet market places? (please tick)

Yes No

B5: What percentage of the value of the orders your business places are made by e-commerce? (please give your best estimate)

% of all purchases	Using internet	Using all electronic networks
	<input type="text"/>	<input type="text"/>

USE OF E-COMMERCE FOR SALES

C1: Does your business use, or plan to use, e-commerce to make sales? (please tick as appropriate)

Use now	Since (year)	Plan to use in 2001 in 2001	Do not plan to use
<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>

C2: What are the problems or barriers your business faces in making sales using e-commerce? (please tick all that apply)

	Very important	Some importance	Not important	Don't know
Goods and services not suitable for e-commerce	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Number of potential customers too small	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Uncertainty in payments	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Uncertainty concerning contracts, terms of delivery and guarantees	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cost of developing and maintaining and e-commerce system	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Logistical problems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Concern about existing sales channels	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (please specify)				

C3: If your business make sales by e-commerce, what are the perceived benefits? (Please tick all that apply)

Cost savings	<input type="checkbox"/>
Reaching customers	<input type="checkbox"/>
Geographic expansion of market	<input type="checkbox"/>
Improvement of service quality	<input type="checkbox"/>
Speed	<input type="checkbox"/>
Simplification	<input type="checkbox"/>
Avoiding loss of market share	<input type="checkbox"/>
Other (please specify)	<input type="checkbox"/>

C4: Does your business make sales through specialised business to business internet market places? (please tick)

Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
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C5(a): What percentage of the value of the sales of your business are made by e-commerce? (please give your best estimate)

	Using internet	Using all electronic networks
% of all sales	<input type="text"/> %	<input type="text"/> %

(b): Of the total value of e-commerce sales made by your business, what percentage are made to overseas customers?

% of e-commerce sales	<input type="text"/> %	<input type="text"/> %
- of which, other EU	<input type="text"/> %	<input type="text"/> %

(c): Of the total value of e-commerce sales made by your business, what proportion are made to households?

% of e-commerce sales	<input type="text"/> %	<input type="text"/> %
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YOUR COMMENTS AND FEEDBACK ON THE E-COMMERCE INQUIRY

We welcome your feedback. Please tell us what you think about this form and also about what type of published data would be useful to your business.

Time taken to complete this form :

Compiler of form

Tel No/Ext

Position in company

Fax No

Signature

Date