

Article

# Monitoring e-commerce: 2014

In 2014, as the consequence of a 2013 European Union e-commerce taskforce, chaired by Lord Young of Graffham, the Office for National Statistics began a project to consider how it could contribute to the monitoring of e-commerce nationally. This report proposes the use of an indicator set, combining a dashboard approach alongside an interactive graphic, and sets out some potential future developments.

Contact:  
Hazel Clarke  
esociety@ons.gsi.gov.uk

Release date:  
7 August 2014

Next release:  
To be announced

## Table of contents

1. [Executive summary](#)
2. [Background and definitions](#)
3. [Statistics collated relating to e-commerce](#)
4. [Possible approaches for monitoring e-commerce](#)
5. [Further enhancements](#)
6. [Annex 1: Analysis of the indicators - section A](#)
7. [Annex 1: Analysis of the indicators - section B](#)
8. [Annex 1: Analysis of the indicators - section C](#)
9. [Annex 2: E-commerce purchases question](#)
10. [Annex 3: Eurostat indicators](#)
11. [Annex 4: EC digital agenda scoreboard](#)
12. [Supporting information](#)
13. [References](#)
14. [Background notes](#)

# 1. Executive summary

In 2014, as the consequence of a 2013 European Union e-commerce taskforce, chaired by Lord Young of Grafton, the Office for National Statistics began a project to consider how it could contribute to the monitoring of e-commerce nationally.

The initial phase of the work considered, but rejected, the idea of creating a national “e-commerce index”. Instead, this report proposes the use of an indicator set, combining a [dashboard](#) approach alongside an [interactive graphic](#), to enable a user to take an over-arching and flexible view of the topic.

The report also sets out some future developments which could be carried out, depending on the views of stakeholders and subject to resource constraints. The two key recommendations are:

- ONS, with users, to look into expanding the e-commerce survey to broaden its coverage and whether the sample size of the survey could be increased,
- the indicator list should be flexible and reflect changes to the e-commerce landscape. ONS with input from stakeholders to keep the proposed list of indicators under review.

## What do you think?

On 7 August 2014, ONS launched a public consultation on the future publication of statistics to measure the digital economy to ensure these statistics continue to meet user needs. As part of this consultation ONS are seeking user views on some of the recommendations raised in this article such as whether an indicator set of the type proposed would be of value to users and what the value of expanding the e-commerce survey to broaden the coverage would be to users. The publication will close on 30 October. The full consultation document can be found on the [ONS Consultation pages](#). To respond to this consultation please complete the [online questionnaire](#) or send the questionnaire in Annex A of the consultation document to: [esociety@ons.gsi.gov.uk](mailto:esociety@ons.gsi.gov.uk)

# 2. Background and definitions

One of the important economic trends over the last 10 years has been the increased use of e-commerce, by consumers and businesses alike. The take-up of Information and Communication Technologies (ICT) by businesses is seen as crucial to the raising of productivity potential and future growth prospects. Eurostat (2009), for example, reported that the main difference between the United States and the European Union productivity differentials in the period 1995-2005 rests in the adoption of ICT. In terms of the proportion of total turnover derived from e-commerce, when compared with other European countries, the latest [Eurostat data](#) places the UK in fifth position.

## What is e-commerce?

Electronic or digital commerce, commonly known as e-commerce, is where the buying and selling of products or services is conducted over electronic systems such as the Internet and other computer networks. Modern e-commerce typically uses the Internet at least at one point in a transaction's life-cycle, although it may encompass a wider range of technologies such as e-mail, mobile devices and social media.

The Organisation for Economic Co-operation and Development (OECD) defines an e-commerce transaction as “the sale or purchase of goods or services, conducted over computer networks by methods specifically designed for the purpose of receiving or replacing orders”. Under this definition “the goods or services are ordered by those methods, but the payment and the ultimate delivery of the goods or services do not have to be conducted online”. This definition is used by the ONS to measure e-commerce in the UK.

### 3. Statistics collated relating to e-commerce

ONS first collected statistics on Internet access in 1998 and currently produces two reports:

- an annual bulletin 'E-Commerce and ICT Activity' which measures the adoption and use of Information and Communication Technologies (ICTs) and electronic trading by UK businesses with 10 or more employees<sup>1</sup>,
- an annual 'Internet Access - Households and Individuals' publication which explores the use of the Internet by adults and households in Great Britain.

Information estimating the numbers of people in the United Kingdom who have 'ever' and 'never' used the Internet is also available through the Labour Force Survey and was, until recently, released in the publication Internet Access Quarterly Update<sup>2</sup>.

It is important that these publications are not viewed in isolation, especially when one is seeking to take an overarching look at e-commerce. The ability, for example, of individuals to partake in e-commerce activities is inextricably linked to their ability to access and make use of the Internet.

Complementary information is also available from other sources - the retail sales inquiry holds Internet sales information and the Department for Business, Innovation and Skills' 'Small Business Survey' collects data on Internet and website usage by small businesses (including those with no employees). The latter is particularly important as currently ONS' e-commerce survey only includes businesses with 10 or more employees.

#### E-commerce and ICT activity

On an annual basis ONS publishes estimates of the values of e-commerce and the adoption of the use of ICT, taken from the annual UK e-commerce survey. The [latest available estimates are for 2012](#)<sup>3</sup>.

In this release, total e-commerce sales are estimated by aggregating sales received over a website and sales received over Electronic Data Interchange (EDI). EDI is the computer-to-computer exchange of documents in a standard electronic format, and accounts for around twice the volume of sales over a website.

#### Constraints

The provision of data and aggregated estimates to Eurostat is a requirement set out in EU Regulation 808/2004 and the survey is conducted in order to meet this requirement. The following should therefore be noted:

- estimates only relate to those parts of the economy where coverage is required by Eurostat<sup>4</sup>. The survey, as it is currently run, does not provide full coverage of all UK ICT and e-commerce business activity,
- estimates do not cover businesses which have no employees,
- estimates (from 2005 onwards) only cover businesses with 10 or more employees. It is not possible to estimate what the current survey results would be if businesses with fewer than 10 employees were covered. Until the 2004 survey, businesses with fewer than 10 employees were included in the survey; subsequently the survey was refocused on what was required under the EC regulation as funding could not be prioritised to maintain a wider coverage,
- estimates are subject to change over time given the regulation may stipulate different collections or definitions in different years. This means for some variables it is not possible to undertake time-series analysis.

Two of the key outputs from this survey are the value of e-commerce sales and the proportion of business turnover they represent. The actual questions used to arrive at these estimates (shown in Image 1) do not directly ask for the value of e-commerce sales but ask, of all orders, what percentage was received via a website (Q30) or via electronic transmission methods (Q34). This approach is internationally agreed and endorsed.

These estimates are then matched to business sales from the [Annual Business Survey](#) in order to derive the actual value and the proportion of turnover (see the [Quality and Methodology Information Report for e-commerce and ICT \(99.7 Kb Pdf\)](#)).

### Image 1: Questions from the ONS 2013 e-commerce survey relating to proportion of orders received by the business that were received either via their website or via electronic transmission methods

**Section J - E-Commerce**

**Web Sales**

29. During 2013, did this business receive any orders from customers via a website?  
Include:  
 • orders received for utilities, goods, materials and services over a website or via web forms over the Internet or an extranet  
Exclude:  
 • manually typed email and other ICTs such as EDI, PC based fax, automated telephone entry, phone (person to person) and conventional fax  
 • enquiries that did not result in receiving an order  
 Please  one box only  
 Yes   
 No  → Go to question 33 <sup>234</sup>

30. During 2013, of the total monetary value of all orders received from customers by this business, what percentage was received via a website?  
Include orders received for utilities, goods, materials and services.  
 Please provide percentages to 1 decimal place where possible.    .  % <sup>235</sup>

**EDI type Sales**

33. During 2013, did this business receive any orders from customers via electronic transmission methods which allowed their automatic processing, for example Internet or non-Internet EDI, XML, EDIFACT etc?  
Include:  
 • orders received for utilities, goods, materials and services using Internet and non-Internet EDI and automated telephone entry  
Exclude:  
 • manually typed email, orders received over a website and other ICTs such as PC based fax, phone (person to person) and conventional fax  
 • enquiries that did not result in receiving an order  
 Please  one box only  
 Yes   
 No  → Go to question 35 <sup>257</sup>

34. During 2013, of the total monetary value of orders received from customers by this business, what percentage was received via electronic transmission methods which allowed their automatic processing?  
Include orders received for utilities, goods, materials and services.  
 Please provide percentages to 1 decimal place where possible.    .  % <sup>258</sup>

## Internet access - household and individuals

ONS first collected detailed statistics on Internet access in 1998. Since then, a number of changes have been made to the survey, including the publication of annual results from 2006. The latest published results are for 2014<sup>5</sup>.

The source of this information is the [Opinions and Lifestyle survey](#) – a multi-purpose survey developed by ONS for use by government departments, public bodies, charities, academics and the media. A random sample of about 1,800 adults, aged 16 and over, living in private households throughout Great Britain are selected each month for the survey. After accounting for refusals and where no contact can be made, approximately 1,000 interviews are conducted each month.

## Constraints

- The provision of the results to Eurostat is a requirement set out in EU Regulation 808/2004 and the survey is conducted in order to meet this requirement. Estimates are subject to change over time given the regulation may stipulate different collections or definitions in different years. This means for some variables it is not possible to undertake time-series analysis.
- While there is the flexibility to amend and/or add questions to the Opinions and Lifestyle survey, the sample size makes it difficult to analyse data at a low level of disaggregation, for example, by age and sex.

## Notes for statistics collated relating to e-commerce

1. This is in line with European reporting requirements.
2. A consultation looking at future publication of statistics to measure the digital economy (August 2014) can be found on the [ONS consultation pages](#).
3. [Information from previous e-commerce surveys](#) is also available – 2013 data is provisionally scheduled for release in November 2014.
4. The parts of the Standard Industrial Classification 2007 not covered by the survey are as follows: Agriculture, Forestry and Fishing (A); Mining and Quarrying (B); Finance and Insurance Activities (K); Veterinary Activities (Division 75); Public Administration and Defence, Social Security (O); Education (P); Health and Social Work (Q); Arts, Entertainment and Recreation (R); Other Service Activities (S) except SIC 95.1, Repair of computers.
5. [Information from previous Internet access - household and individual surveys](#) is also available.

## 4. Possible approaches for monitoring e-commerce

### Background

This section lists a series of measures which could be considered when monitoring and evaluating e-commerce performance in the UK. Although it is within the remit of ONS to suggest possible indicators to assist with the future measurement of e-commerce, suggesting targets for improvement is beyond its remit.

While it would be technically possible to produce a national e-commerce index, this is not the approach that has been taken forward. Such an index could be formed by calculating a weighted average of relevant indicators. The key argument for production of such an index would be the apparent simplicity of a one number approach to monitoring and evaluation. However, apart from the complexity (and subjectivity) of assigning weights to each of the indicators, a one-number approach can mask some of the underlying trends which can help interpret what is really happening and, to some extent, why. The approach outlined below enables one to take an over-arching look at e-commerce. A flexible approach, where indicators could be removed and or introduced is also seen as important given the fast changing nature of e-commerce and Internet usage.

Eurostat make use of a series of different indicators to help benchmark digital Europe from the perspectives of the individual, the household and the enterprise. Some of these relate directly to e-commerce, whereas others potentially impact on the ability of these entities to partake in e-commerce activities. Annex 3 shows Eurostat's list of indicators. The [Digital Agenda for Europe](#) also has a set of indicators, shown in Annex 4.

This report proposes the use of an indicator set, combining a dashboard approach alongside an interactive graphic. The indicators can be organised into three groups.

A. "Key performance indicators" - the headline figures on e-commerce performance (monetary value of sales and proportion of turnover).

B. "Business engagement" - businesses activity associated with e-commerce (differences by size of business, industry, access to websites, broadband etc.)

C. "Engagement by households and individuals" - activity associated with e-commerce (including adoption of mobile devices and engagement with social media).

## **List of proposed indicators:**

### **A. Key performance indicators**

A1. Volume of e-commerce sales via EDI or via website

A2. E-commerce sales as a percentage of total turnover

### **B. Business engagement**

(Note - currently measured using data from businesses with 10 or more employees)

B3. E-commerce sales as a percentage of total turnover by size of business

B4. Businesses making sales online by industry

B5. Businesses having purchased online (further detail by industry)

B6. Proportion of businesses with a website

B7. Speed of Internet connection (businesses)

B8. Businesses with fixed broadband access (further detail by other types of access)

### **C. Engagement by households and individuals**

C9. Use of the Internet for ordering goods or services from UK, EU, rest of world (individuals)

C10. Daily use of the Internet (individuals)

C11. Use of selected mobile devices to access the Internet (individuals)

C12. Use of the Internet for participating in social networks (individuals)

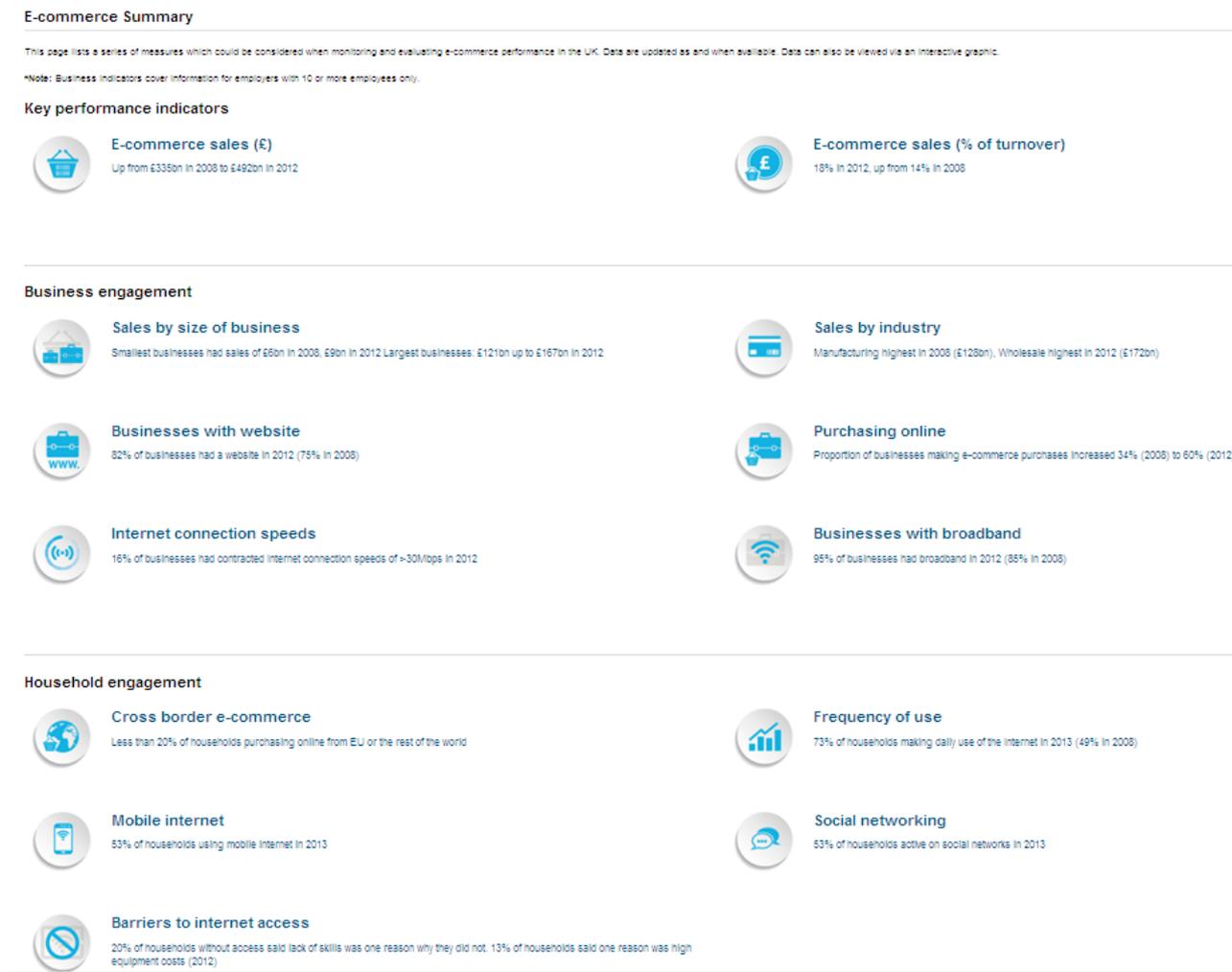
C13. Reasons for not having Internet access (households)

Analysis of the indicators is included in [Annex 1](#).

## Presentation of the indicators

The indicator set has been presented on the [ONS website](#) in the form of a dashboard (similar to Image 2). An [interactive graphic](#) has also been created, linked from the dashboard.

### Image 2: The dashboard approach (screengrab from the ONS website)



## 5. Further enhancements

### Data collection

As discussed in the section “Statistics collated relating to e-commerce”, there are some constraints associated with the current data collection. The following recommendations may improve the accuracy of the estimates. As with any change to a survey question or methodology, adoption of these recommendations will cause a break in the time series thus making monitoring of progress more complex. Adoption of these recommendations is also subject to the usual resource constraints and prioritisation within ONS. Support from interested parties, including provision of funding, may overcome some of these constraints.

### Recommendations:

ONS, with appropriate support from partners, to look into the feasibility, from a cost-benefit, burden and quality perspective, of expanding the e-commerce survey to:

- cover businesses with fewer than 10 employees,
- widen the range of industries<sup>1</sup>, and
- explore whether the sample size could be increased.

ONS to consider the relationship between these estimates and those from the Annual Business Survey and explore whether there are any improvements that can be made - including asking for the actual monetary value of e-commerce sales rather than the proportion of sales.

## Indicator set

Discussions with interested parties have identified several potential subject areas that are not currently represented in the indicator set. In some cases no data exists, in others, there is information available, but there are either concerns over data quality or issues with comparability/availability of the information over time.

## Business engagement

1. Cross border e-commerce – in addition to indicator C9 which looks at household purchases, a further indicator on cross border engagement by businesses could be considered – this (or C9) could also in some way incorporate barriers to cross border e-commerce.
2. 'Micro and non-employing' businesses (businesses with zero to nine employees) or SMEs (small to medium sized enterprises, i.e. 0-249 employees) – information from the Small Business Survey could be considered for inclusion alongside the other indicators for the larger employers and/or (as mentioned under Data Collection) the e-commerce survey coverage could be expanded to cover micro businesses.
3. Value of orders placed online by businesses – a related question, asked in 2013, is shown in Annex 2. Subject to an assessment of data quality and comparability over time this could be included as an indicator - or a further question could be considered for inclusion in the survey in future.
4. Big data and data analytics – an area of policy interest which as yet is not clearly defined and is therefore currently impractical to collect /release information on.
5. Retail sales inquiry information could be considered as a separate indicator – currently this is not incorporated into the indicator set.
6. Regional information – there is potential to look at developing regional estimates from the e-commerce survey.
7. Indicator B8 arguably may lose relevance as the proportions of businesses using fixed broadband becomes more prevalent - this could be removed in future.

## Engagement by household and individuals

1. Mobile ICT – indicator C11 looks at use of mobile devices to access the Internet but there are other aspects such as m-commerce which could be reflected in the indicator set in future, should there be an appropriate data source.
2. Cloud computing – data collected for 2012 and 2014, could be included as an indicator in the next update, subject to assessment of data quality
3. Social media as a communications tool – information regarding use of social media was collected from the household survey (and published) in 2012 with a partial collection in 2013. An indicator relating to social media could be incorporated in the next update.

## Recommendation:

The indicator list should be flexible and should reflect changes to the e-commerce landscape. ONS, with input from stakeholders, to keep the proposed list of indicators under review.

To summarise, this paper does not recommend the creation and maintenance of an 'e-commerce index'. Instead, it proposes the use of an indicator set, combining a [dashboard](#) approach alongside an [interactive graphic](#), to enable a user to take an over-arching and flexible view of the topic.

## Notes for further enhancements

1. Subject to the coverage of the Annual Business Survey. The value of e-commerce sales in Section K (Finance and Insurance Activities), apart from being problematic for businesses to report (issues with definitions), may also skew the analysis for the rest of the economy (due to high levels of electronic cash transfers). Section K is not covered by ABS. The value of e-commerce sales within the other sectors currently excluded may be too small to warrant surveying but could be considered. These are Agriculture, Forestry and Fishing (A); Mining and Quarrying (B); Veterinary Activities (Division 75); Public Administration and Defence, Social Security (O); Education (P); Health and Social Work (Q); Arts, Entertainment and Recreation (R); Other Service Activities (S) except SIC 95.1, Repair of computers.

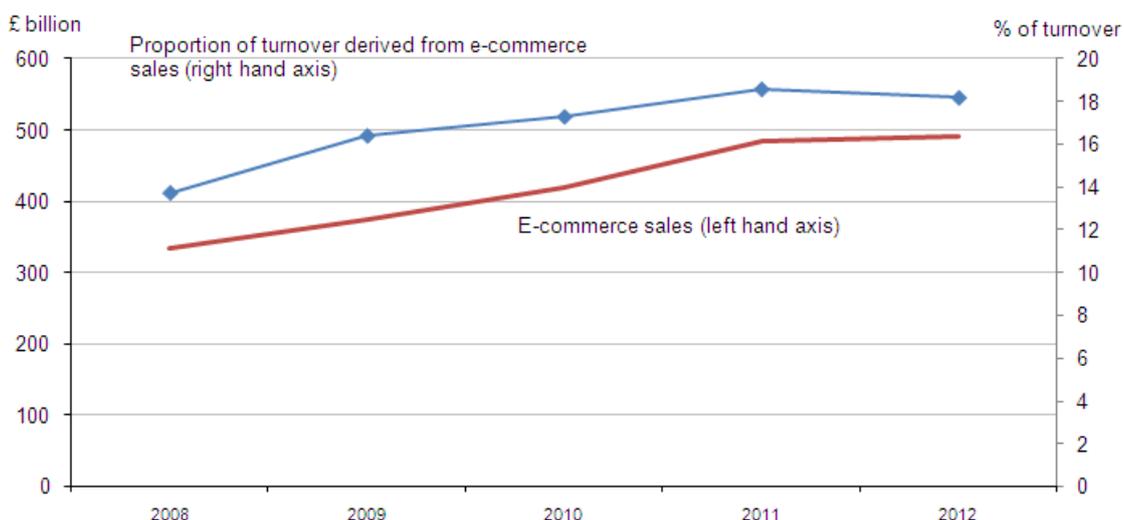
## 6. Annex 1: Analysis of the indicators - section A

This section shows the key charts which sit within each indicator and discusses the trends.

### A1&A2: Volume of e-commerce sales – via EDI or via website / e-commerce sales as a percentage of total turnover

E-commerce sales are the key measure which can be used for monitoring e-commerce performance. Total e-commerce sales consist of sales received over a website and sales received over Electronic Data Interchange (EDI). EDI is the computer-to-computer exchange of documents in a standard electronic format. EDI is a central part of e-commerce because it enables businesses to exchange information electronically, much faster, more cheaply, and more accurately, than is possible using a paper-based system. Figure 1.1 shows e-commerce sales in terms of value (£) and e-commerce sales as a proportion of turnover. Figure 1.2 breaks this down into sales made over the website and via EDI. Estimates relate to businesses with 10 or more employees.

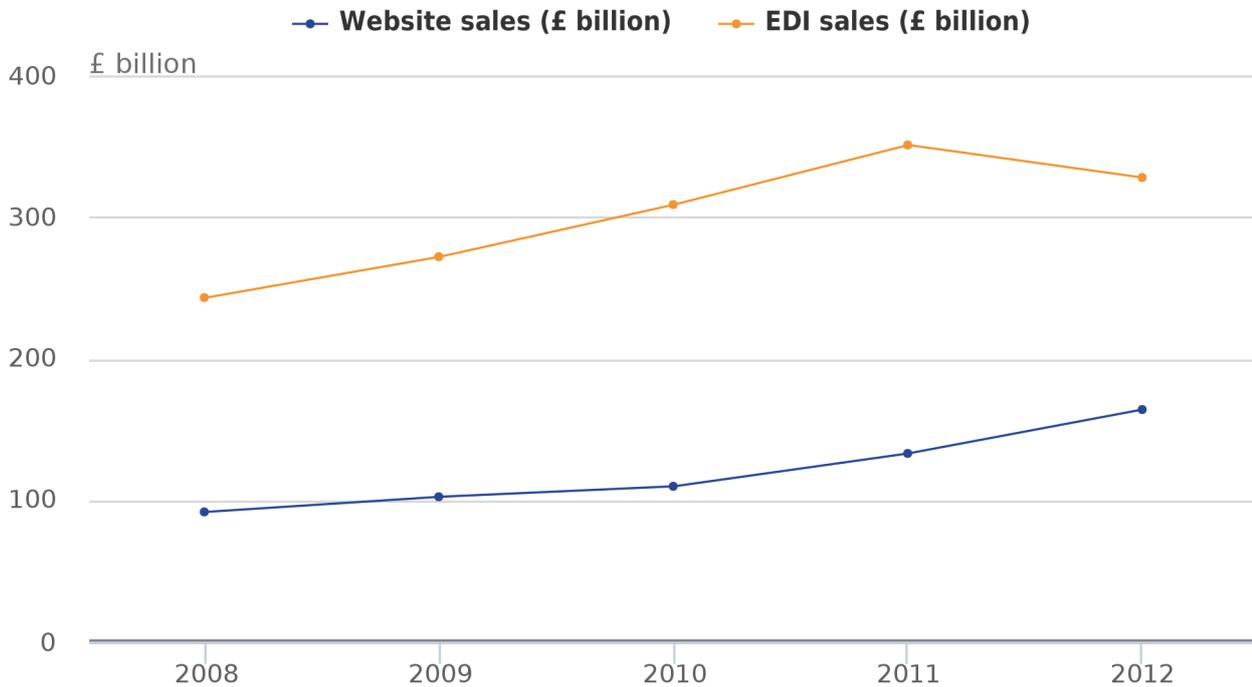
**Figure 1.1: Total value of e-commerce sales (£, left hand axis, red line) and e-commerce sales as a percentage of total turnover (% , right hand axis), 2008 to 2012, UK**



Notes:

1. Businesses with 10 or more employees

Figure 1.2: Total value of e-commerce sales via Electronic Data Interchange (EDI) or website, 2008 to 2012, UK



Source: E-Commerce Survey - Office for National Statistics

Notes:

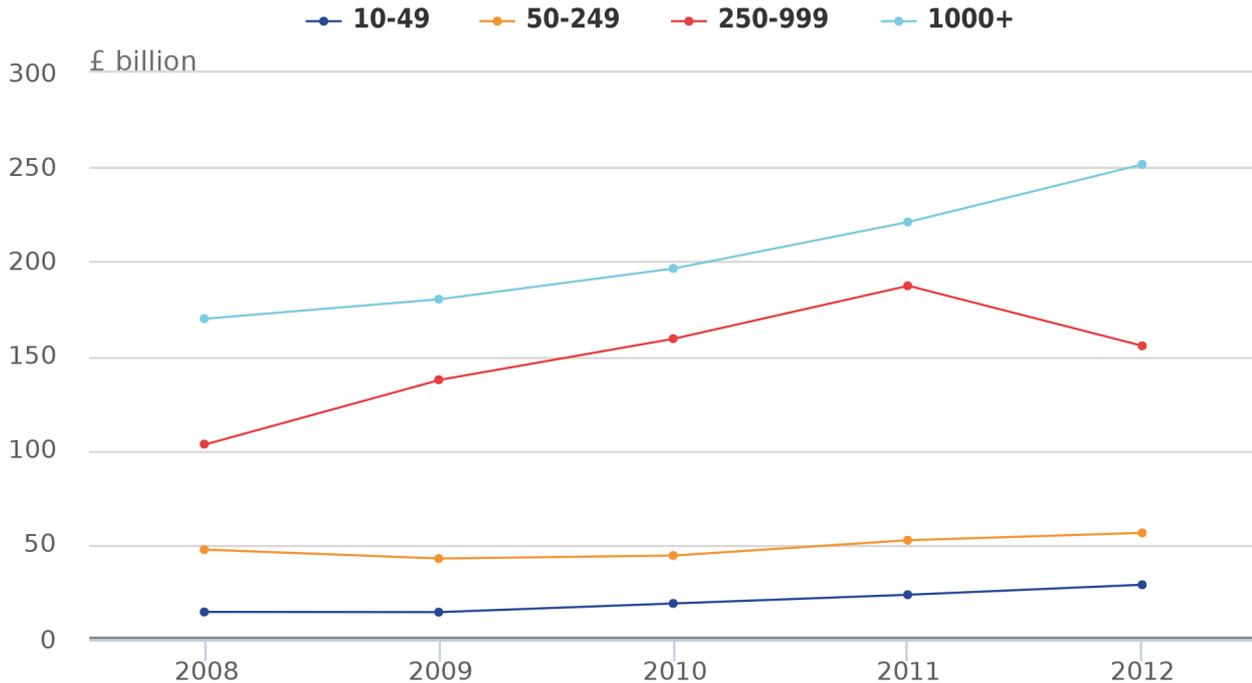
1. Businesses with 10 or more employees.
- E-commerce sales represented 18% of business turnover in 2012, down from 19% in 2011, but up 4.5 percentage points from the 2008 estimate of 14%.
  - The value of e-commerce sales has risen from £335 billion to £492 billion between 2008 and 2012.
  - Sales by EDI made up two-thirds (67%) of total e-commerce sales in 2012, with the remainder (33%) from website sales. In 2008, sales by EDI represented 73% of total e-commerce sales. However, the value of sales by EDI in 2008 (£243 billion) was lower than in 2012 (£328 billion).
  - Website sales (£164 billion) represented 6% of business turnover in 2012, up from 5% (£133 billion) in 2011 and 3.8% (£92 billion) in 2008.

# 7. Annex 1: Analysis of the indicators - section B

## B3: E-commerce sales by size of business

The [2012 e-commerce bulletin](#) shows that size of business is likely to affect whether the business has the infrastructure for e-commerce. Size can influence the Internet connection speed a business will experience (shown for all business with more than 10 employees in indicator B7). Also, whereas virtually all of the largest businesses (1000 or more employees) had a website (99%), not all of the smallest (10 to 49 employees) businesses (80%) in the UK were making use of this medium to generate sales. Figures 1.3a and 1.3b respectively show the value of e-commerce sales and the proportion of turnover generated through e-commerce for each of the different employment size bands. (Information on the proportion of businesses making e-commerce sales, by size of business, is also available in the excel download file for Figure 1.3a.)

**Figure 1.3a: Value of e-commerce sales by size of business, 2008 to 2012, UK**

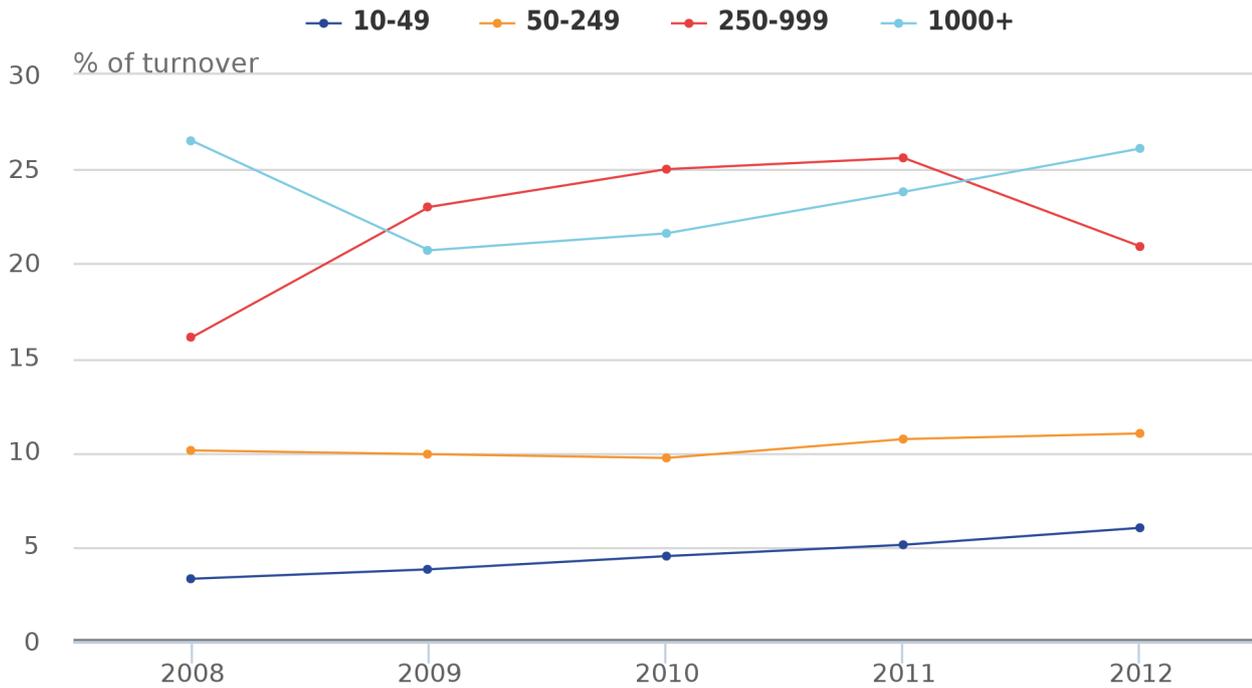


Source: E-Commerce Survey - Office for National Statistics

**Notes:**

1. Information on the proportion of businesses making e-commerce sales, by size of business, is also available in the excel download file.
2. Businesses with 10 or more employees.

**Figure 1.3b: Proportion of business turnover derived from e-commerce sales, by size of business, 2008 to 2012, UK**



Source: E-Commerce Survey - Office for National Statistics

**Notes:**

1. Businesses with 10 or more employees
  - Larger businesses have driven the increase in e-commerce sales between 2008 and 2012, although e-commerce sales in smaller businesses have increased since 2008 (Figure 1.3a).
  - The proportion of business turnover derived from e-commerce sales is higher in larger businesses (26% in the 1000+ employees group in 2012) than smaller businesses (6% in the 10-49 employees group) (Figure 1.3b).
  - In the smallest employment size band (10-49 employees), the proportion of business turnover derived from e-commerce sales was estimated at 3% in 2008 and 6% in 2012.
  - For businesses with 250-999 employees, proportion of turnover from e-commerce was 21% in 2012, up from 16% in 2008.

Information is not collected from businesses with fewer than 10 employees in the e-commerce survey. However, the Small Business Survey does include some related information.

- Data from the 2012 Small Business Survey shows that 32% of those businesses with 0-9 employees were selling goods and services over the Internet. 33% of those businesses with 0-249 employees (SMEs) were selling goods and services over the Internet.

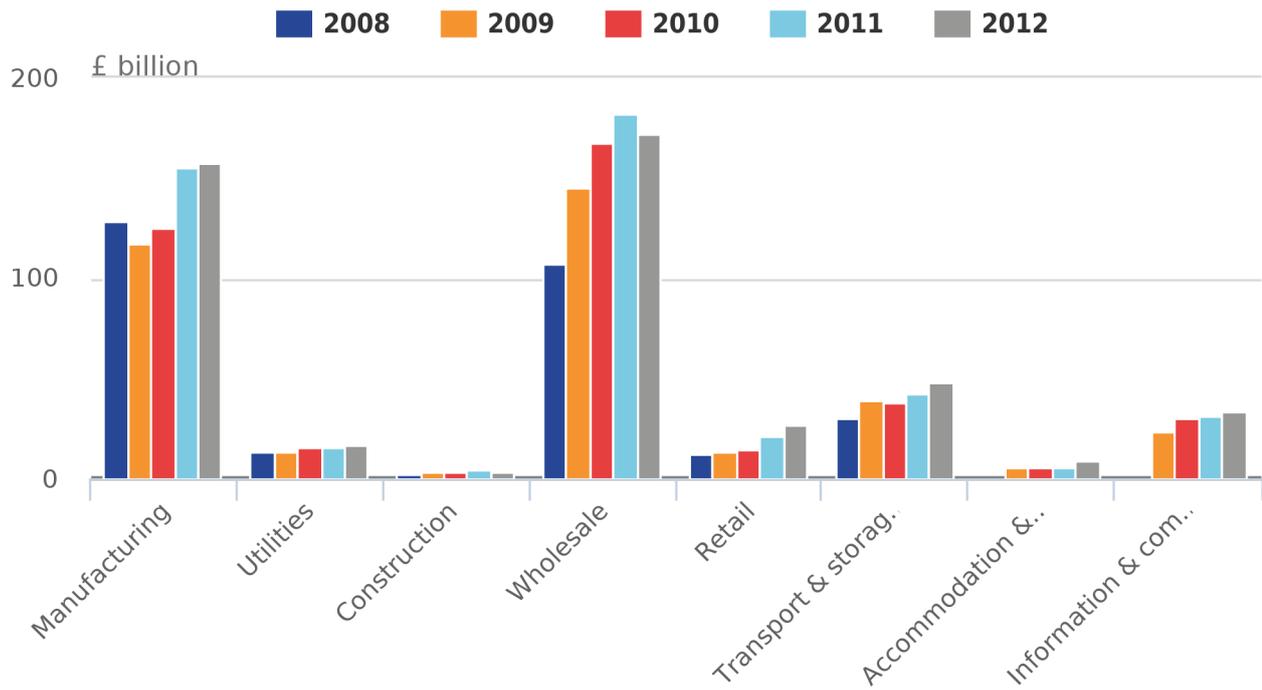
## **B4: Businesses making sales online by industry**

Analysis by industry is of interest because levels of sales can vary between the different industries captured by the e-commerce survey.

- The wholesale and manufacturing industries reported the highest levels of e-commerce sales. In 2012 wholesale sales were £172 billion (£107 billion in 2008) and manufacturing sales were £157 billion (£128 billion in 2008).
- The accommodation and food services industry reported comparatively low e-commerce sales (£9 billion). However, this industry, which includes hotels, campsites and restaurants, reported the highest proportional

increase in total e-commerce sales in 2012, an annual increase of 57%, from £6 billion in 2011. In 2008, e-commerce sales in this industry were £3 billion.

**Figure 1.4: Value of e-commerce sales, by industry, 2008 to 2012, UK**



**Source: E-Commerce Survey - Office for National Statistics**

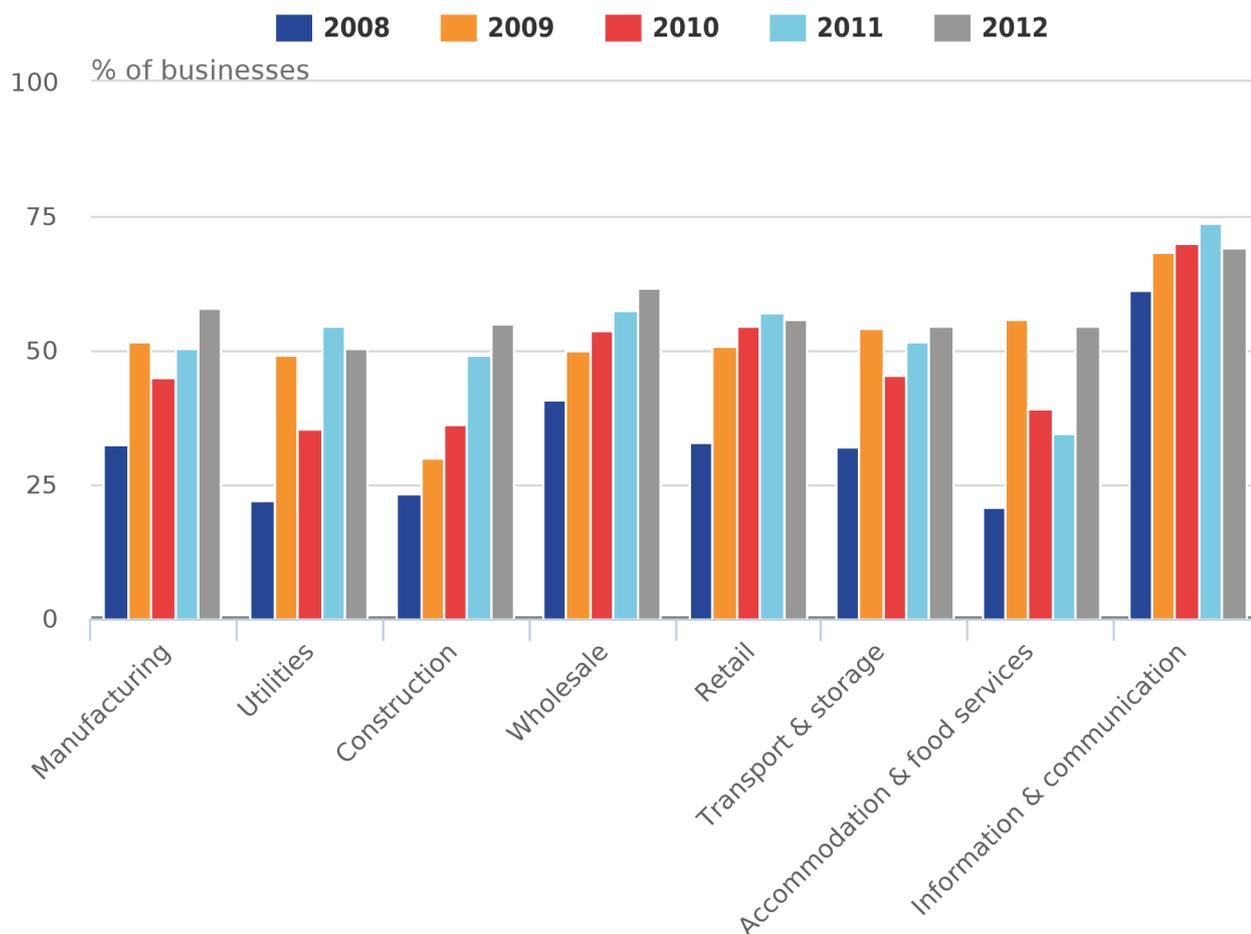
**Notes:**

1. Businesses with 10 or more employees.
2. Accom&food = accommodation and food services, Info&comms = Information and communication services.

## B5: Businesses having purchased online by industry

- The proportion of businesses making e-commerce purchases increased between 2008 and 2012 from 34% to 60%.
- The information & communication industry had the highest proportion of businesses making e-commerce purchases, 69% in 2012.
- The accommodation and food services industry had the highest increase in proportion of businesses purchasing online between 2008 and 2012 (34 percentage points).

Figure 1.5: Proportion of businesses making e-commerce purchases, by industry, 2008 to 2012, UK



Source: E-Commerce Survey - Office for National Statistics

### Notes:

1. Businesses with 10 or more employees

## B6: Proportion of businesses with a website

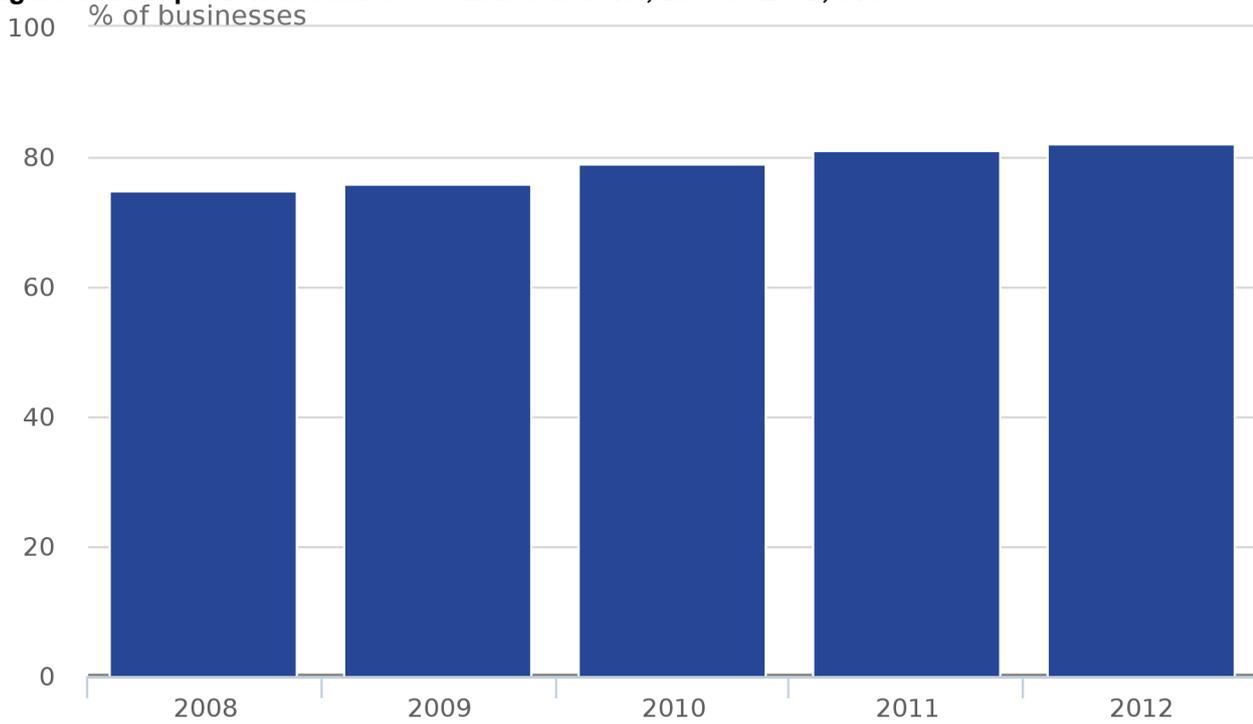
Indicator A1 shows that sales via a website, though lower than EDI sales, are increasing. The potential for businesses to increase their e-commerce is at least partly dependent upon whether they have a website.

- 82% of businesses (with 10 or more employees) in 2012 had a website compared with 75% in 2008.
- 21% of businesses had a website with online ordering or reservation/booking functionality.
- 7% of businesses had order tracking available on-line.

(Note – proportions are expressed as a proportion of all businesses not just those with a website)

- Data from the 2012 Small Business Survey shows that 68% of micro businesses (with 1-9 employees) had their own website. 61% of those businesses with 0-249 employees (SMEs) had their own website.

**Figure 1.6: Proportion of businesses with a website, 2008 to 2012, UK**



Source: E-Commerce Survey - Office for National Statistics

**Notes:**

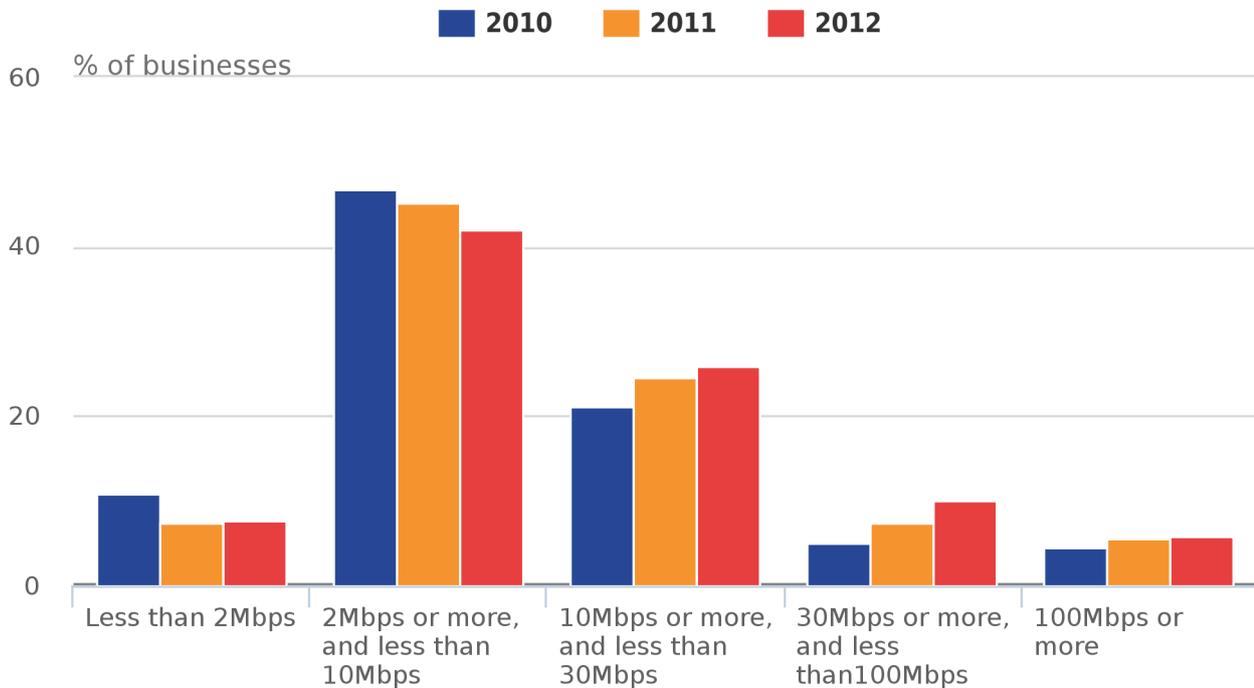
1. Businesses with 10 or more employees.

## **B7: Speed of Internet connection (businesses)**

As high speed fibre optic broadband is rolled out across the UK by providers offering improved speeds for businesses and households, the potential for e-commerce expands.

- In 2012, only 8% of businesses (with 10 or more employees) reported maximum contracted speeds fewer than two Mega bits per second (Mbps), down from 11% in 2010.
- The number of businesses subscribing to broadband with a connection speed between 30Mbps and 100Mbps, increased from 5% in 2010 to 10% in 2012.
- Superfast broadband, above 100Mbps, was used by 6% of businesses in 2012, up from 5% in 2010.

**Figure 1.7: Proportion of businesses by maximum contracted Internet connection speed, 2010 to 2012, UK**



Source: E-Commerce Survey - Office for National Statistics

**Notes:**

1. Businesses with 10 or more employees.
2. Data available from 2010 only.

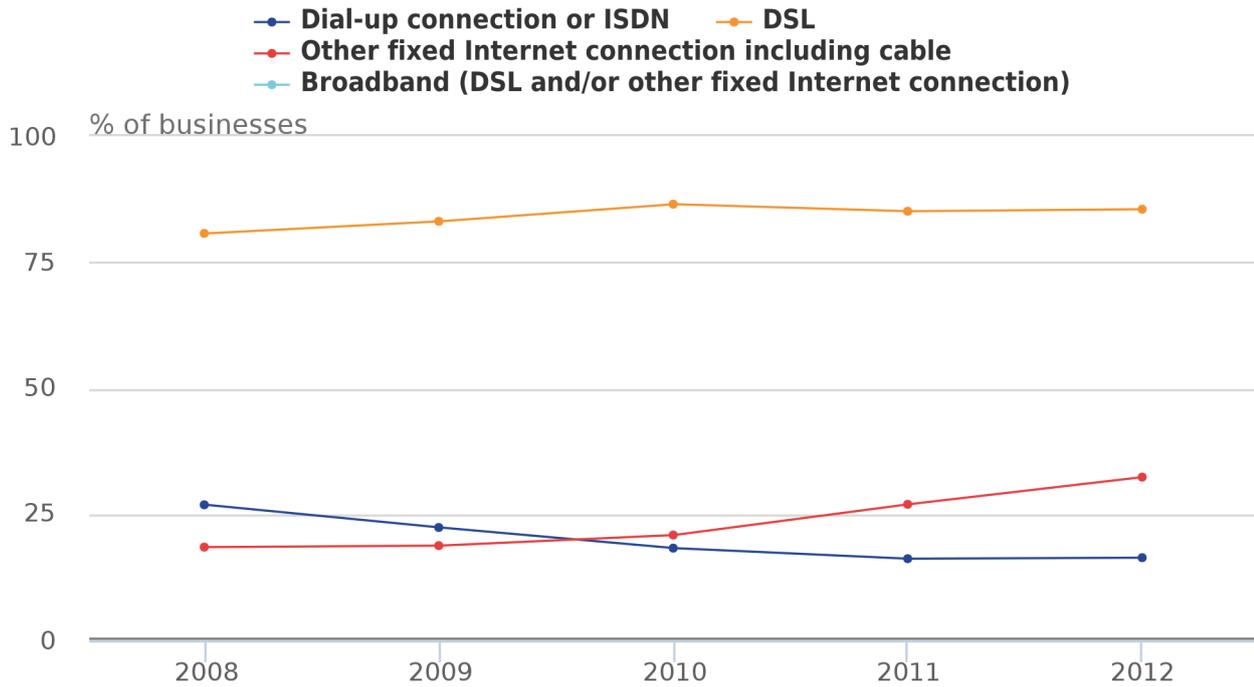
**B8: Businesses with fixed broadband access (further detail by other types of access)**

Broadband technologies are considered to be important when measuring access to, and use of, the Internet, as they offer users the possibility to transfer large volumes of data rapidly and keep access lines open. The take-up of broadband is considered to be a key indicator within the domain of Information and Communication Technologies (ICT) policymaking. Widespread access to the Internet via broadband is seen as essential for the development of advanced services, such as e-business, e-government, e-commerce or e-learning. Digital subscriber lines (DSL) remain the main form of delivery for broadband technology, although alternatives, such as the use of cable, satellite, fibre optics and wireless local loops are becoming more widespread.

- 95% of UK businesses (with 10 or more employees) used broadband Internet in 2012 (Figure 1.8).
- In 2012, as in previous years, the vast majority (86%) of businesses used DSL broadband with only a third reporting that they made use of ‘other fixed Internet’ broadband, including cable. (Note - businesses can report use of more than one way of accessing the Internet.)
- A decreasing proportion of businesses make use of dial-up connections or ISDN, 27% in 2008 down to 16% in 2012.

- According to the 2012 Small Business Survey, most (91%) of businesses with 0-9 employees and 92% of SMEs (with 0-249 employees) have Internet access with the majority of those having broadband

**Figure 1.8: Proportion of businesses by type of Internet connection, 2008 to 2012, UK**



Source: E-Commerce Survey - Office for National Statistics

**Notes:**

1. Businesses with 10 or more employees.
2. DSL = Digital Subscriber Line, ISDN = Integrated Services Digital Network.
3. Business can report more than one way of accessing the Internet.

## 8. Annex 1: Analysis of the indicators - section C

### C9: Use of the Internet by individuals for ordering goods or services from UK, EU, rest of world

Use of the Internet for ordering goods or services is a key indicator for showing whether individuals are making use of e-commerce opportunities. One would anticipate an increase in this measure to be mirrored by an increase in actual sales (A1 and A2). Though e-commerce sales are increasing, a key area of interest of the Task Force chaired by Lord Young was why only about 10% of all EU consumers buy cross-border. This indicator will assist in keeping track of the UK's performance in this area.

The Opinions and Lifestyle Survey covers households in Great Britain. The two questions relevant to this indicator are:

'When did you last buy or order goods or services for private use over the Internet (excluding manually typed e-mails, SMS, MMS)?

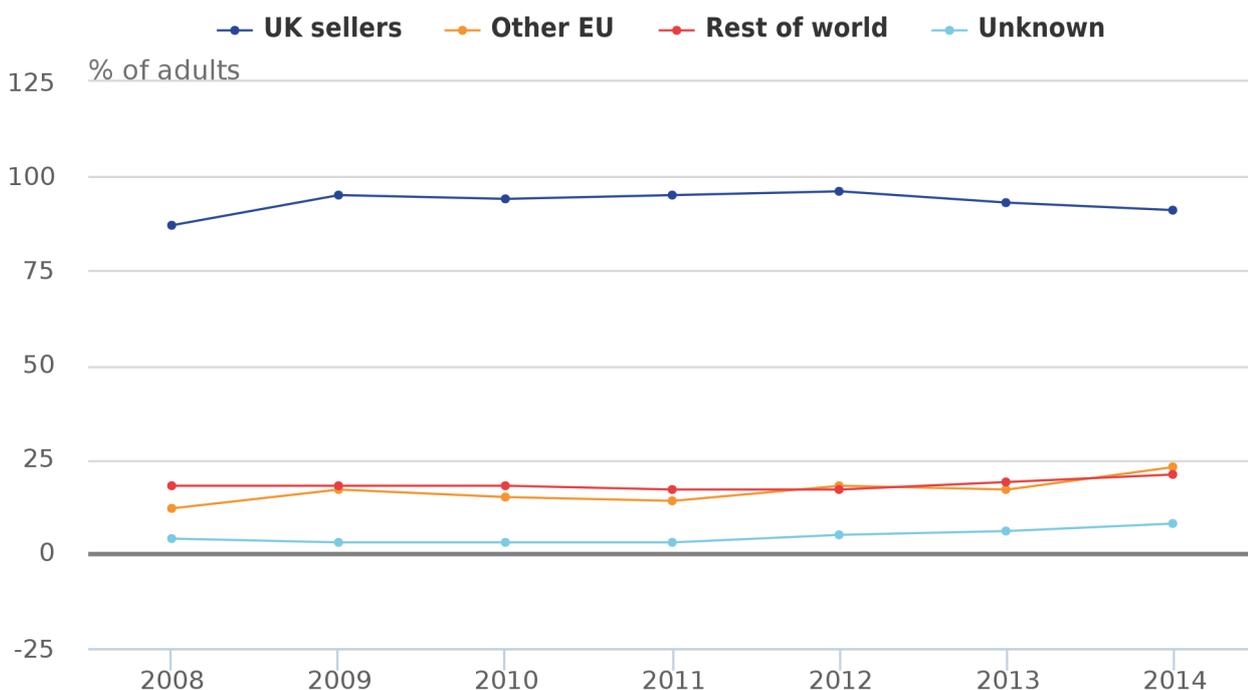
- Within the last 3 months
- Between 3 months and a year ago
- More than 1 year ago
- Never bought or ordered

From whom did you buy or order goods or services for private purpose over the Internet in the last 12 months? (tick all that apply)

- a) UK sellers
- b) Sellers from other EU countries
- c) Sellers from the rest of the world
- d) Country of origin of sellers is not known'

Figure 1.9 expresses the numbers of adults ticking each option in the second question as a proportion of those that tick either the first or second box in the first question, i.e. proportions are of those adults who have purchased goods or services over the Internet within the last year.

**Figure 1.9: Proportion of adults (16+) purchasing from the UK, EU and the rest of the world, 2008 to 2014, GB**



Source: Opinions and Lifestyle Survey - Office for National Statistics

Notes:

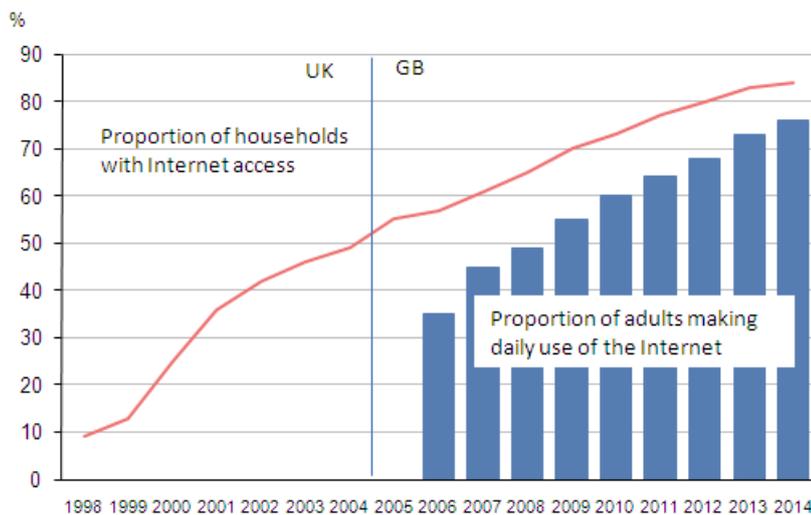
- Percentages sum to more than 100 because respondents can tick more than one option.
- Purchases from UK sellers far exceed purchases from other countries. Of those who had purchased goods or services, 87% of adults had purchased from UK sellers in 2008 rising to 91% in 2014.
  - The proportion of adults buying from sellers from other EU countries is estimated to have increased from 12% in 2008 to 23% in 2014.
  - Estimates of the proportion of adults buying from sellers from the rest of the world has stayed fairly flat over the period 2008 (18%) to 2014 (21%).

## C10: Daily use of the Internet (individuals)

How often individuals are using the Internet is likely to be directly related to their ability to make use of e-commerce opportunities.

- Use of the Internet on a daily basis has more than doubled, from 35% of all adults in Great Britain in 2006 to 76% in 2014.
- 2014 estimates for Great Britain show that 13% of adults had not used the Internet in the last three months, down from 40% of adults in 2006.
- The proportion of households with Internet access has increased markedly since 1998 from 55% in 2005 to 84% in 2014 (see Figure 1.10).

**Figure 1.10: Proportion of households with Internet access (red line) and proportion of adults (16+) making daily use of Internet (blue bars), 1998 to 2014, GB**



**Source: Opinions and Lifestyle Survey - Office for National Statistics**

**Notes:**

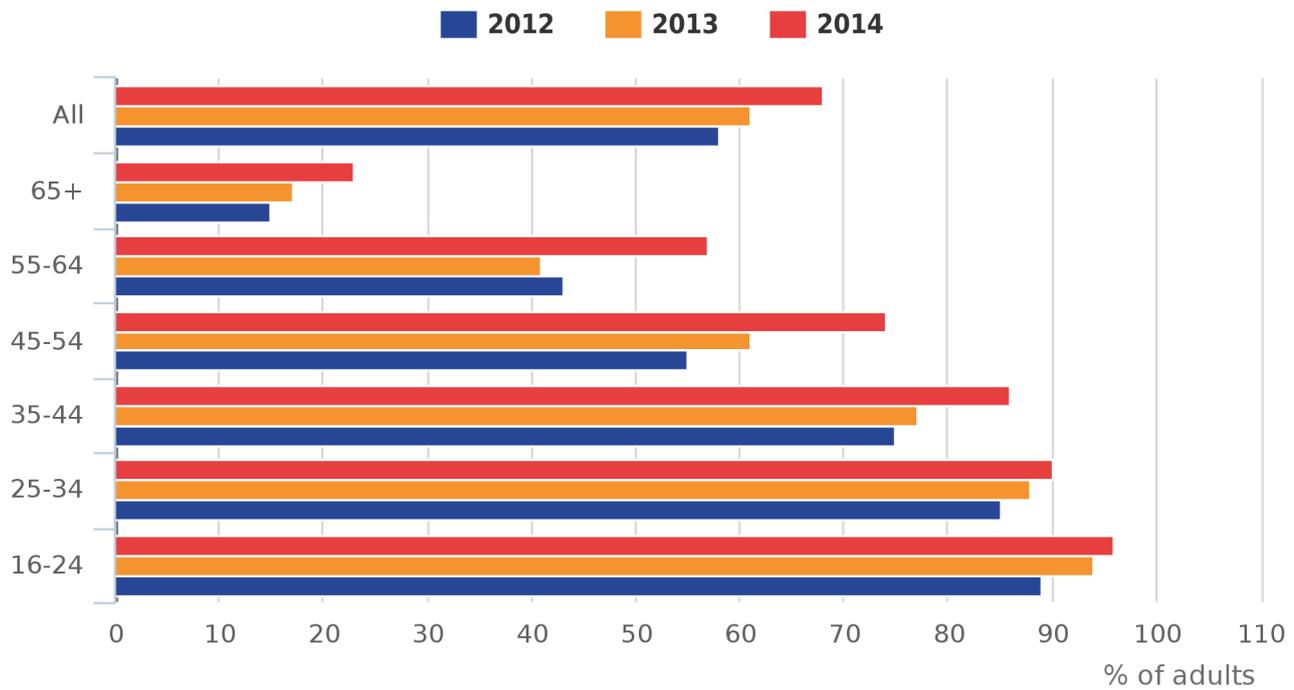
- UK estimates from 1998 to 2004. GB estimates from 2005 to 2014.

## C11: Use of selected mobile devices to access the Internet (individuals)

Mobile Internet is fast growing (UK m-commerce<sup>1</sup>, according to [IMRG](#), represented a third of the UK online retail market) and is changing the nature of shopping, blurring the boundaries between online and offline sales. Consumers search for products online while out shopping, comparing in-store prices with online offers, and downloading coupons and vouchers at the point of sale in store. The concept of the 'store in the pocket' has become important for retailers, yet the use of mobile telephony when shopping cross-border is being hindered by relatively high data roaming charges when outside the consumer's home country.

- In 2014, 68% of adults in Great Britain had accessed the Internet 'on the go' using a mobile phone and/or a portable computer. This was up from 58% of adults in 2012.
- In 2014, the most popular device used to access the Internet 'on the go' was a mobile phone, with over half of all adults (58%) accessing the Internet this way.

**Figure 1.11: Proportion of adults (16+) who have accessed the Internet 'on the go', 2012 to 2014, GB**



Source: Opinions and Lifestyle Survey - Office for National Statistics

Notes:

1. Data available from 2012 only.

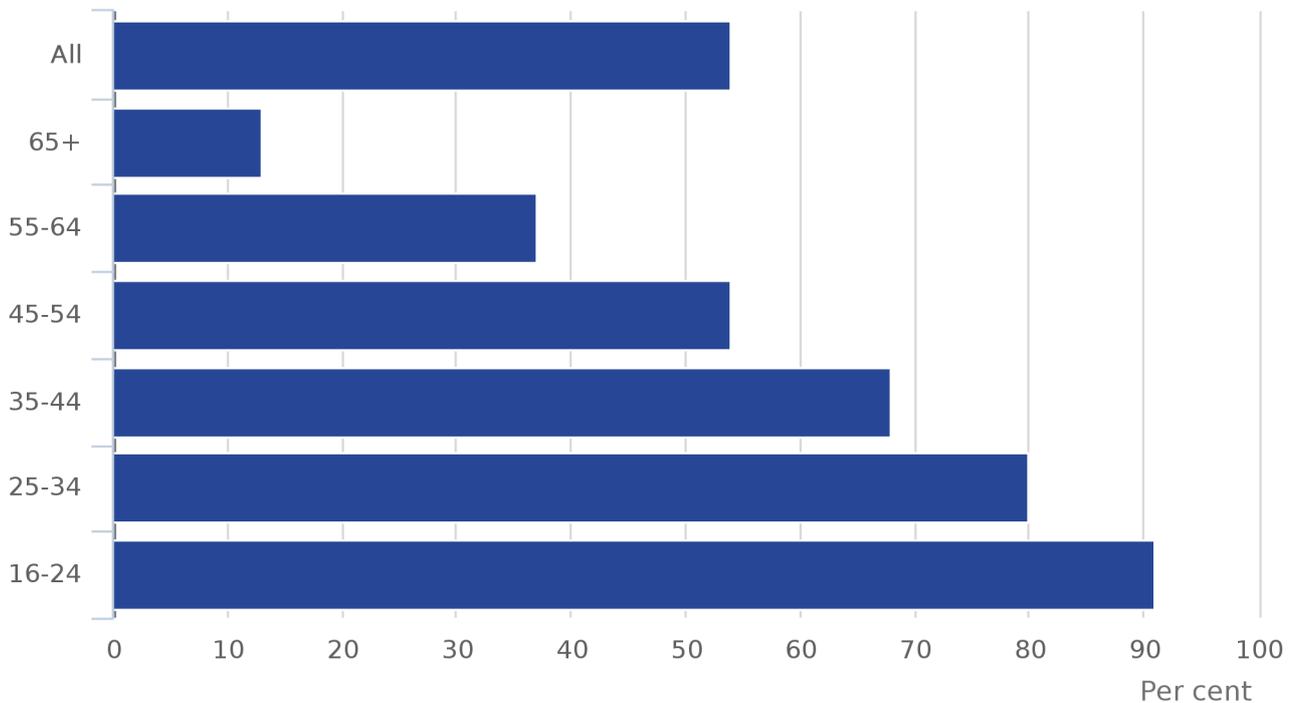
## C12: Use of the Internet for participating in social networks (individuals)

Social networks are increasingly becoming another route for businesses to advertise and promote their products.

- In 2014, 54% of adults in Great Britain had used the Internet for social networking. This compares with 45% in 2011 (when estimates were first available).
- There is little difference between men and women in terms of the proportions who use the Internet for social networking. However, age is an important factor. In general, the proportion of adults recently using social networks decreases with age. In the 16 to 24 age group, 91% had used social networks in the three months prior to being interviewed compared with only 13% of those aged 65+ (Figure 1.12).

[Social Networking: The UK as a Leader in Europe](#) looks at UK estimates for 2012 in an international context.

**Figure 1.12: Proportion of adults (16+) using the Internet for social networking, by age group, 2014, GB**



Source: Opinions and Lifestyle Survey - Office for National Statistics

Notes:

1. Use of Internet for social networking in the three months prior to the interview.

### C13: Reasons for not having Internet access (households)

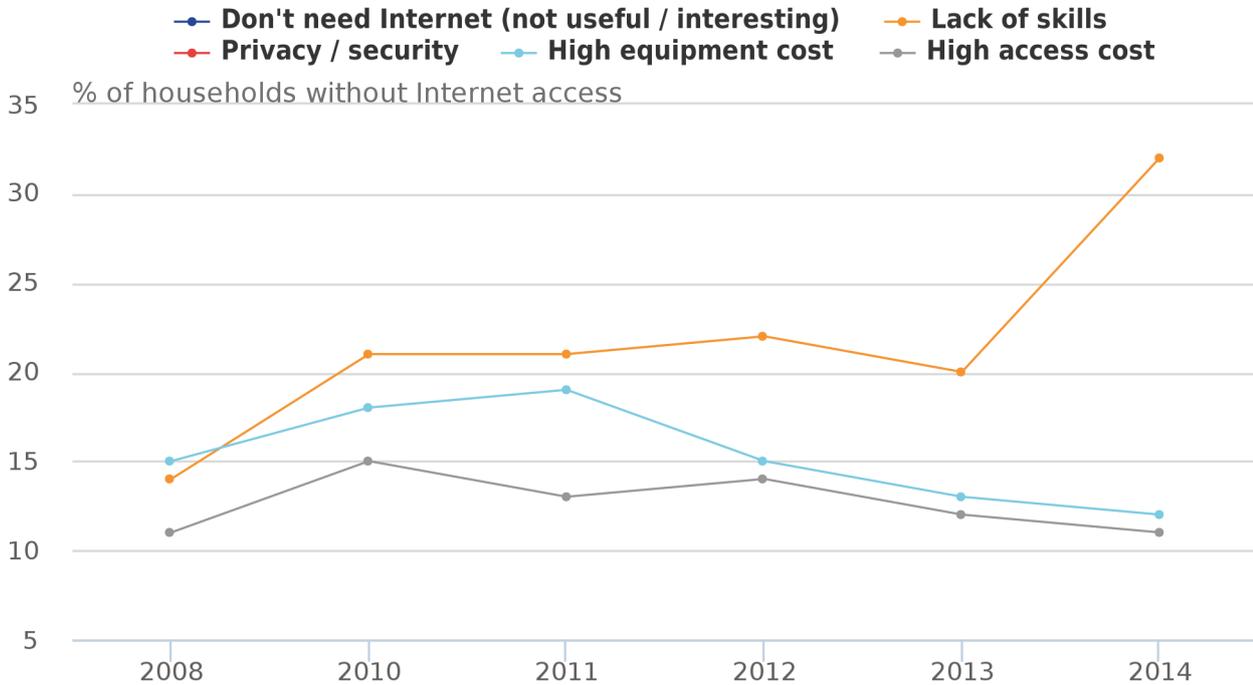
The reasons people do not have Internet access are potentially relevant to understanding why people do not engage with e-commerce. It is fair to assume that there will always be a proportion of the population who do not wish, or are unable, to engage in e-commerce activities. However, for others, access to e-commerce may be prohibitive and so it is important to understand the reasons why.

Figure 1.13 shows proportions of households by each reason, expressed as a proportion of those households who do not have Internet access. From Figure 1.10 we know that the proportion who do not have access is falling. There will be a core of people, probably defined at least to some extent by age, who are never likely to engage with the Internet (contributing to the 'don't need Internet' line in Figure 1.13). The usefulness of this indicator in monitoring the reasons for lack of engagement is therefore likely to reduce over time as these data reflect the views of an increasingly smaller pool of households.

In 2014, of those households with no Internet access:

- nearly a third (32%) cited lack of skills as a reason for not having Internet access,
- 12% felt equipment costs were too high with a similar proportion (11%) thinking the same about access costs,
- 6% were deterred from gaining access by privacy or security concerns.

**Figure 1.13: Proportion of households by reasons for household not having Internet access, 2006 to 2014, GB**



Source: Opinions and Lifestyle Survey - Office for National Statistics

**Notes:**

1. These questions were not asked in 2009.
2. Percentages sum to more than 100 because respondents can give more than one answer.
3. Households in Great Britain without Internet access.

**Notes for annex 1: Analysis of the indicators - section C**

1. M-commerce can be defined as the act of shopping on a portable device rather than a traditional desktop or laptop computer. The portable device is most commonly a smartphone or tablet.

## 9. Annex 2: E-commerce purchases question

Image 2.1: Detail of question on e-commerce purchases from the 2013 ONS e-commerce survey

### E-commerce Purchases

35. During 2013, did this business place any orders for goods or services via a website or EDI type messages?

Include:

- orders placed for utilities, goods, materials and services over websites or via web forms over the Internet or an extranet, other ICTs such as EDI, automated telephone entry

Exclude:

- manually typed email, phone (person to person) and conventional fax
- enquiries that did not result in placing an order

Please  one box only

Yes

No  → Go to question 37 254

36. During 2013, was the value of the orders that this business placed electronically greater than or equal to 1% of the total purchases' value (in monetary terms, excluding VAT)?

Please  one box only

Yes

No  385

## 10. Annex 3: Eurostat indicators

Eurostat make use of a series of different indicators to help benchmark digital Europe from an Individual, Household and Enterprise perspective. Some of these relate directly to e-commerce, whereas others potentially impact on the ability of individuals, households and businesses (enterprises) to partake in e-commerce activities. Those that are applicable, in some way, to e-commerce are listed below, by sector:

### Individual

At a high-level their Key Performance Indicators (KPIs) are:

- Individuals using the Internet for ordering goods or services;
- Individuals using the Internet for ordering goods and services from other countries;
- Individuals regularly using the Internet;
- Individuals never having used the Internet;
- For monitoring the digital economy over the period 2011-2015:
- Individuals having accessed the Internet at home;
- Individuals having accessed the Internet only at home;
- Individuals having accessed the Internet at work;
- Individuals having accessed the Internet at place of education;

- Individuals using selected mobile devices to access the Internet;
- Individuals using a mobile phone (via 3G) to access the Internet;
- Individuals using a laptop via a wireless connection to access the Internet;
- Internet use by individuals;
- Individuals frequently using the Internet;
- Individuals using the Internet for participating in social networks;
- Individuals using the Internet for reading/downloading online newspapers;
- Individuals using the Internet for listening to web radio/watching web television;
- Individuals using the Internet for Internet banking;
- Individuals using the Internet for selling goods and services;
- Individuals using the Internet to buy or order content online;
- Individuals using the Internet for playing or downloading games, images, films or music.

## Household

For monitoring the digital economy over the period 2011-2015:

- Households with Internet access at home;
- Households with broadband access;
- Reasons for not having Internet access at home.

## Enterprise

At a high-level the Key Performance Indicators (KPIs) are:

- Enterprises having purchased online (at least 1%);
- Enterprises having received orders online (at least 1%);
- For monitoring the digital economy over the period 2011-2015:
- Enterprises with fixed broadband access;
- Enterprises giving portable devices for a mobile connection to the Internet to their employees.

For keeping track of ICT usage by enterprises:

- Share of enterprises' turnover on e-commerce;
- Enterprises sharing electronic information on sales or on purchases with the software used for any internal function;
- Enterprises using automated data exchange with customers or suppliers;
- Enterprises using Radio Frequency Identification (RFID) instrument;
- Enterprises whose business processes are automatically linked to those of their supplier and/or customers

- Enterprises using software solutions, like CRM to analyse information about clients for marketing purposes

For assessing the use of ePublic services by Enterprises:

- Enterprises using the Internet for interaction with public authorities;
- Enterprises using the Internet for interaction with public authorities, by interaction;
- Enterprises using the Internet for submitting a proposal in a public electronic tender system to public authorities.

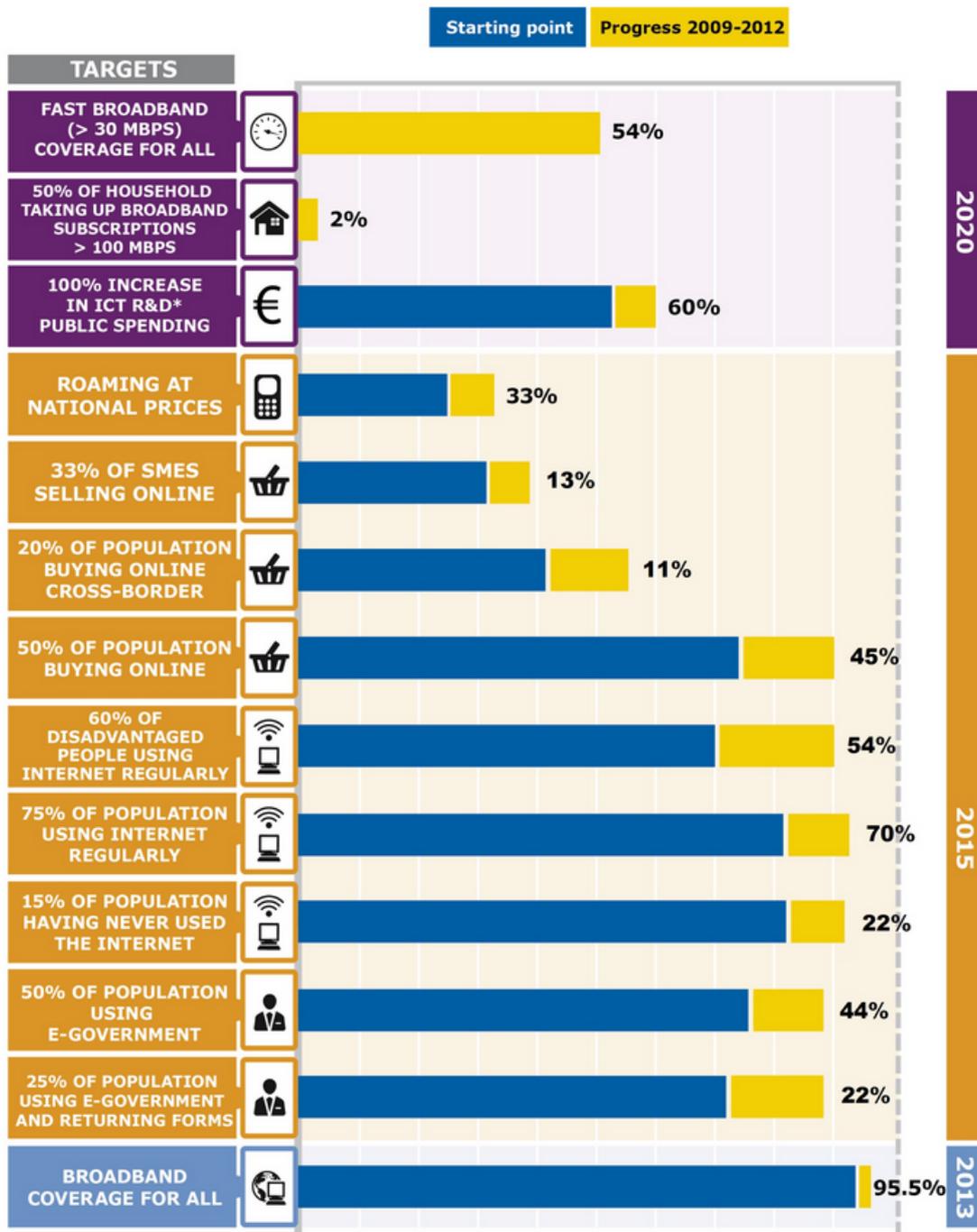
With respect to computers and the Internet in enterprises:

- Enterprises having remote employed persons who connect to the enterprises' IT systems from home.

## **11. Annex 4: EC digital agenda scoreboard**

The European Commission [Digital Agenda Scoreboard](#) assesses progress with respect to the targets set out in the Digital Agenda for Europe.

Image 4.1: Digital Agenda Scoreboard (screengrab from the Digital Agenda website)



\*R&D: Research & Development

## 12. Supporting information

### Further information

[Internet Access - Households and Individuals](#) - Use of the Internet by adults over the age of 16 in Great Britain and how households connected to the Internet in 2014. It provides information on what adults use the Internet for and the types of purchases made online.

[ICT Activity of UK Businesses](#) - This release provides estimates of the values of e-commerce and the adoption and use of Information and Communication Technologies (ICTs) by UK businesses. The source of the information is the E-commerce Survey of UK Businesses.

[National Accounts Articles](#) - Articles to support National Accounts outputs

## 13. References

1. Cabinet Office (1999): [e-commerce@its.best.uk](#)
2. Cabinet Office: [Government Digital Strategy](#)
3. Department for Business, Innovation & Skills: [Small Business Survey](#)
4. Department for Culture, Media and Sport: [Stimulating private sector investment to achieve a transformation in broadband in the UK by 2015](#)
5. European Commission: [e-commerce statistics](#)
6. European Commission: [Digital Agenda for Europe](#)
7. Eurostat: [Statistics database](#)
8. OECD: [Understanding the drivers of e-commerce diffusion](#)
9. Office for National Statistics: [Consultation pages \(open consultations\)](#)
10. Office for National Statistics: [E-commerce and ICT activity of UK businesses](#)
11. Office for National Statistics: [E-commerce dashboard](#)
12. Office for National Statistics: [E-commerce interactive graphic](#)
13. Office for National Statistics: [Internet Access quarterly update](#)
14. Office for National Statistics: [Internet Access – Households and Individuals](#)
15. Office for National Statistics: Clayton (2002): [Towards a Measurement Framework for International e-Commerce Benchmarking \(462.4 Kb Pdf\)](#)
16. Office for National Statistics: Jones (2014): [E-commerce: measuring, monitoring and gross domestic product](#)
17. UN conference on trade and development: [Fredriksson \(2013\)](#)

## 14. Background notes

1. Details of the policy governing the release of new data are available by visiting [www.statisticsauthority.gov.uk/assessment/code-of-practice/index.html](http://www.statisticsauthority.gov.uk/assessment/code-of-practice/index.html) or from the Media Relations Office email: [media.relations@ons.gsi.gov.uk](mailto:media.relations@ons.gsi.gov.uk)