29 Internet security

A Attack and defence

Melissa Vorster is a consultant on Internet security:

'I work with companies to try to prevent **hackers** from penetrating their computer systems in order to steal or destroy the information on them. Hackers are people who may write programs designed to **overload** an organization's system with requests for information so that users cannot access it. We call this a **denial of service attack,** and it causes huge inconvenience for customers and lost business for companies.

Another problem is **viruses.** A virus is a small program designed to make computers misfunction, despite the **firewalls** and **anti-virus programs** that we **install** as the technical defences against them.'

B Cybercrime

'Some companies that I work with sell goods and services over the Internet and need to reassure their customers that their credit card details are safe and will not be stolen by hackers. Credit card details and other confidential information to be transmitted is **encrypted,** or coded, so that it cannot be read by others. Companies that sell on the Internet will display the level of **encryption** that users of their site benefit from.

This is a defence against one form of **cybercrime** – criminal activity on the Internet.'

C Privacy and confidentiality

'When someone uses the Internet, they leave an **electronic trail,** a record of the sites they visit, and if they buy something, their personal details. This raises issues of **privacy** and **confidentiality.** Who should have the right to access and analyze this information?

This is all part of the debate about the powers of **surveillance** (the powers to watch and examine the activities of private individuals) that **law enforcement agencies,** such as the police, should have. Critics call this **snooping,** and there are big issues of **human rights law** and **civil liberties** at stake because these are freedoms that ordinary people should be able to enjoy.'

29.1 Replace the underlined phrases in the headlines with expressions from A and B opposite.

1 <u>Badly-intentioned intruders</u> penetrate Pentagon computers

2 Xenon's system down for 5 hours in <u>action designed to exclude access</u>

3 Companies' <u>system defences</u> withstand latest attack (2 possibilities)

4 Latest methods of <u>translating to 'code'</u> make confidential messages unreadable by outsiders

5 <u>Illegal internet activity</u> increases three-fold

6 <u>Programs designed to slow computer functions</u> found in attachments to company emails

29.2 Complete the article with expressions from C opposite. (Two expressions are used twice.)

Snooping system is illegal, say police

(1) .... powers allowing law enforcement agencies to access the communications records of telephone and Internet users are in such a legal mess that they are untenable, one of Britain's most senior police officers will today tell a parliamentary inquiry. Jim Gamble, assistant chief constable of the national crime squad and head of the association of chief police officers' data communications group, will admit to MPs that the current system to access web, email and phone logs is illegal under (2) .... , the Guardian has learned.

He will also complain that legal difficulties with the legislation passed to resolve this problem are "leaving the communications industry uncertain of the legal position". His astonishing intervention on behalf of the UK law enforcement community piles pressure on ministers to rethink their raft of (3) .... measures. These will require communications providers to stockpile customers' records for long periods and allow (4) .... to access them without need for a judicial or executive warrant.

Richard Allan, Liberal Democrat home affairs spokesman and the inquiry's joint chair, said: "Jim Gamble's submission reflects a climate change in the Home Office and the police. They have now realised that this is a matter of major public interest and are trying to strike a better balance between catching criminals and protecting the (5) .... of innocent citizens."

At the moment, companies store data only for as long as necessary for their own purposes, such as billing and marketing. (6) .... are able to access an individual's records only if they can convince the service provider that they should be exempt from data protection laws because there is enough evidence to believe the person is involved in wrongdoing.

The Guardian

29.3 Find words or phrases in the article above that mean:

1 not able to be legally enforced
2 series of actions
3 keep large numbers of
4 formal statement
5 change in attitude
6 take a fairer approach to
7 not included in

Over to you

Consider these ways of communicating confidential information, such as credit card details, to a company:

- speaking on the phone.
- sending a fax.
- completing a form on the Internet.
- posting a written form.
- sending an email.

Which do you feel is most secure, and which least? Why?

30 E-commerce: after boom and bust

A Old economy, new economy

In the late 1990s companies raised vast amounts of money from investors for **e-commerce** Internet sites, both **business-to-consumer (B2C)** and **business-to-business (B2B)**. B2B, where businesses obtain supplies using the Internet, is also referred to as **e-procurement**.

Commentators talked about the **old economy**, with companies doing business in traditional ways, and the **new economy**, with companies doing business over the Internet. This was the **dotcom frenzy**, the period of large numbers of **Internet start-ups**, many promising riches for investors, some of whom believed that the usual laws of economics no longer applied. However, most of the sites from that time have now disappeared.

B B2C

In business-to-consumer e-commerce, sites were set up selling everything from pet food to clothes. Among the survivors, there are companies like Amazon, **pure-play** (exclusively) **online sellers**, with no traditional shops – no **bricks-and-mortar outlets**. This is **pure e-tailing**.

Other retail organizations are **clicks-and-mortar** ones, combining e-commerce with sales through traditional outlets. Some old-economy companies, like the UK supermarket group Tesco, use e-commerce in conjunction with its existing operations – it did not have to invest in a whole new expensive **infrastructure** of new computer systems, warehouses, etc. to take care of its **e-fulfilment**, processing and delivering orders.

> BrE: e-fulfilment;
> AmE: e-fulfillment

C B2B

In business-to-business e-commerce, groups of companies can set up **public exchanges**. For example, the WorldWide Retail Exchange allows companies to bid to supply participating retailers in a **reverse auction** on the Internet – the supplier offering the lowest price gets the contract.

There are also **private exchanges**, where a single company deals with suppliers in this way. Some companies prefer to use this form of e-commerce because they do not want to indicate their requirements to their competitors, thus revealing their current activities.

Both public and private exchanges are also referred to as **e-marketplaces**, **trading hubs** or **trading platforms**.

30.1 Match the two parts of these sentences containing expressions from A opposite.

1 B2B e-commerce can cut firms' costs because

2 The company operates four e-commerce sites,

3 There was a huge temptation for me to follow the dotcom frenzy

4 Management theorists agreed that old-fashioned command-and-control management styles would not work

5 There has been a trend for investors to shift funds out of the technology, media and telecoms sectors

6 As the early web firms were addressing the business-to-consumer market,

a the low prices they promised consumers meant that the scale of their business had to be enormous.

b but I felt more comfortable investing in a fund whose core holdings are large multinationals.

c it reduces procurement costs, both by making it easier to find the cheapest supplier and through efficiency gains.

d selling books, CDs, DVDs and computer games.

e in the new economy, where creativity and innovation are everything.

f back into old economy companies such as oil and car producers.

30.2 Complete the sentences with appropriate forms of expressions from B and C opposite.

1 Retailer A sells clothes in shops and also over the Internet: it has .............................-............................-............................ outlets.

2 Retailer B sells books and CDs on the Internet and has no shops: it has no ....-............................ .... , so it's involved in ....-............................ .

3 Retailer B has built massive warehouses and developed sophisticated computer systems: it has invested in the .... necessary for ....-............................ .

4 Household goods manufacturer C has set up a .... where it asks for bids from suppliers.

5 Defence companies D, E, F and G have got together to form a .... in order to get competitive bids from a range of suppliers.

6 Suppliers to D, E, F and G submit prices for particular projects in a .... , and the supplier offering the lowest price wins the contract.

7 Manufacturer C and Companies D, E, F and G run different kinds of .... (-) .... (three possible expressions)

Over to you

Have you ever bought something over the Internet? If so, what was your experience of the website, delivery of goods, time taken etc.