

Business and New Technology

Technological change refers to the changes in production techniques and production equipment. It could be a change in the machinery used to make a product or the computers to design a product.

More recently it is the use of the computers and information technology (IT) to improve the efficiency and competitiveness of businesses that has led to technological change. Since technological is so rapid, there are important implications for businesses.

A business can be affected by the following technological change:

- ▶ In production
- ▶ In provision of services
- ▶ In the office

Technological change in production

Technological change leads to improved production of goods and services due to:

- ▶ **Computer-aided manufacturing (CAM)** this reduces labour costs, is more accurate and faster and can work at any hour of the day. The computer controls the machinery.
- ▶ **Computer-integrated manufacturing (CIM)** here, computers control the whole production line. Best example is in car production where robots undertake much of the work, reducing the need for labour to perform boring, routine tasks.
- ▶ **Computer-aided design (CAD)** Computers are used to help design products using computer generated models and 3D drawings. Reduces the need to build physical models to test certain conditions, known as prototypes. This can be expensive to produce just for testing purposes (e.g. aircraft or new cars).

Therefore new production technology can increase the speed of production, improve the quality of the product and reduce costs per unit of production.

Technological change can be seen in the shops and the provision of other services such as banking or repairs.

- ▶ Electronic point of sale (EPOS) and Electronic Funds Transfer at Point of Sale (EFTPOS) speed up transactions in shops and give vital information for businesses so can sort out their stock levels. EFTPOS means that shoppers can pay for goods and services using credit and debit cards.
- ▶ Banks can use “hole in the wall” machines to deliver cash or take deposits – therefore remain open all hours.
- ▶ Repair people can use handheld computers to work out what is wrong with the machinery they are examining.

Technological change in the office helps speed up the movement of information and improves the analysis of information:

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- ▶ Communication is improved through the use of the intranet and Internet. The intranet is an internal system of computer communication while the internet can be used to communicate with customers, suppliers amongst others in the outside world (through websites and email).
- ▶ Workers can work away from the office using mobile technology such as phones, laptops and modems.
- ▶ Computers can be used to process, analyse and store vast amounts of data to give the business more quality information.

E-commerce is the ability of businesses to trade with the world via websites. This means that there is a larger market and the business is now open 24 hours a day. This has provided opportunities for businesses that could only trade locally to now expand the size of the market (e.g. Amazon as world wide book and CD sellers). Customers can also shop around for the best deals for new products.

The Internet can also be useful for recruitment purposes. Job vacancies can be advertised and targeted to the right audience, often costing less than print alternatives. E.g. e-teach sends free emails every week detailing teachers posts to subscribers.

Technological change can be very expensive: technology involves the following additional costs:

- ▶ Purchasing the equipment
- ▶ Installation
- ▶ Training staff
- ▶ Maintenance
- ▶ Replacement/upgrading

There is legislation associated with the use of technology – e.g. computer screens, noise levels.

In summary technological change can bring the following benefits to a business:

- Reduced running costs
- Improved productivity
- Improved competitiveness
- Lower costs per unit of product
- Improved quality of service (e.g. speed of service)
- Reduced wastage

If the benefits of the above outweigh the costs, then a business should be investing in new technology.

However it may need to consider the social costs of new technology:

- ▶ Job losses
- ▶ Motivation of workers – worried about machines taking over their jobs (though extra training to work with machines may provide some increased motivation)
- ▶ Loss of traditional skills

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