Edexcel (B) Economics A-level

Theme 2: The Wider Economic Environment

2.1 Business Growth and Competitive Advantage

2.1.3 Research and development (R&D) and innovation

Notes

- R&D is investment in research with the intention of improving goods and services, introducing new ones, or improving methods of production.

Competitive advantage through innovation

- A firm has competitive advantage over another when its products are deemed to be better than its competitors by customers.
- A firm can gain competitive advantage using price, quality, cost or through a niche market. Essentially, the firm has a unique feature which allows it to stand out and be superior to its competition.
- A firm gains a cost competitive advantage when it can lower its average costs and create maximum value to consumers. For example, it might have a skilled workforce, cheap raw materials or effective technology. However, it is hard to maintain a cost competitive advantage, so firms have to offer consumers other benefits, in addition to a low price. This could be a strong brand reputation and loyalty, or exceptional customer service.

Incentive to increase market power

- R&D can help increase market power. It can help give products a unique selling point by differentiating them from rival products. This could help increase brand loyalty and the revenue of firms. For example, technology changes rapidly in the smartphone industry, which results in the development of products.

Product and process innovation

- Technological change can result in improvements in efficiency and productivity, which could lower costs of production for firms. The quality and quantity of goods and services produced might improve.
- For example, mobile phones have become cheaper to produce, which is why their price has fallen. More importantly, their quality has improved significantly. This is due to improvements in technology.
- Technological change can lead to the development of new products, the development of new markets and may destroy existing markets. For example, the

development of DVDs, then blu-rays, and now the rise of downloadable films, has essentially destroyed the market for VHS video tapes.

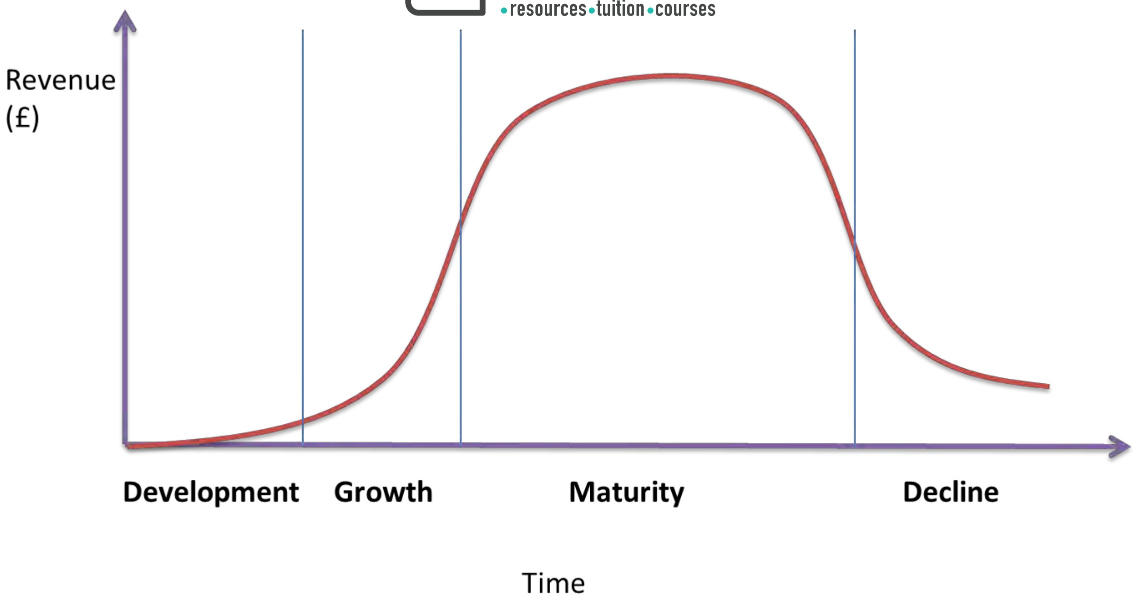
- Small and Medium Sized Enterprises (SMEs) are important for creating a competitive market. They create jobs, stimulate innovation and investment and promote a competitive environment.
- Schumpeter, an economist, proposed the idea of 'creative destruction'. This is the idea that new entrepreneurs are innovative, which challenges existing firms. The more productive firms then grow, whilst the least productive are forced to leave the market. This results in an expansion of the economy's productive potential.
- Product innovation refers to small changes in the performance and features of a product. Process innovation improves the production method of a good, so it becomes more efficient.

Role of state funding

- Increases in research and development can contribute towards higher levels of economic growth. Some of the benefits include increases in GDP, higher incomes and lower unemployment rates.
- However, the benefits of R&D are limited, since not enough is done. This is related to market failure, since the positive externalities of R&D are not always fully understood. Moreover, it is expensive for firms to undertake R&D.
- In order to overcome this, the state provides funding for R&D.
- For example, a government might provide a subsidy in order to lower the costs of production for a producer, and to encourage them to produce more of a certain good. This is particularly the case for merit goods.
- A possible disadvantage of this is the opportunity cost to the government and the potential for higher taxes in order to fund the extra government spending. Moreover, firms could become inefficient if they rely on subsidies, since they have little incentive to lower their costs. There could also be government failure if inefficient industries are subsidised.

Product life cycle and extension strategies

- The product life cycle shows the stages that exist in the life of products.



- During the development and growth stages, the sales of growth are increasing, so the firm is making increasing revenues.
- When the product is introduced, the firm is still researching and developing the product before launching it.
- During the decline stage, the sales of the product flatten out. Getting to this stage requires promotion and marketing strategies, which are often expensive.
- When the product reaches the decline stage, the firm has to decide whether to use an extension strategy to increase the sales of the product, or remove the product from the market.
- Extension strategies aim to lengthen the useful life of a product before it goes into decline.
- Firms could use marketing techniques in order to improve sales. For example, firms might spend more on advertising in order to make the product more widely known and more appealing. Other marketing techniques include changing the packaging and branding, changing the price or adding value to a good.
- The brand of Microsoft is an example of a brand which makes products that are continuously improved, so it maintains a strong brand loyalty.