



THE TIMES 100

BUSINESS CASE STUDIES

New product development - ARM

ARM is a Research & Development (R&D) focused business. Its 'products' are intangible and cover a diverse range of applications. They are used in everything from sensors to servers. Mobile phones, tablet computers, washing machines, car braking systems and network routers all use ARM technology. It does not own any factories but instead designs and licenses its technology to a network of partners who carry out the manufacturing. To date, over 20 billion chips containing ARM technology have been manufactured.



ARM is a Research & Development (R&D) focused business. Its 'products' are intangible and cover a diverse range of applications. They are used in everything from sensors to servers. Mobile phones, tablet computers, washing machines, car braking systems and network routers all use ARM technology. It does not own any factories but instead designs and licenses its technology to a network of partners who carry out the manufacturing. To date, over 20 billion chips containing ARM technology have been manufactured.

New products may stem from invention or innovations. Invention is the formulation of new ideas for products or processes. Innovation is the practical application of new inventions into marketable products or services. Product development may follow different routes:

- A product-orientated approach is where a company develops a new product. It then seeks a market and 'pushes' the product out to that market. This might be to solve a problem or to take advantage of an opportunity. An example could be developing new functions for mobile phones. This is a higher risk approach as the company will carry the costs of development without knowing what the returns might be.
- A market-orientated approach develops a product to meet a known current or future customer need. This need would have been identified through market research. Developing a product to specific requirements may reduce costs and increase the probability of product success. Having a market waiting to buy the product gives assurance of return on the investment.
- Responding to competitor products allows a business to catch up or overtake business rivals. This development may lead to a better product.
- Changes in technology may lead to the development of a more effective product or one which sets a new benchmark for the market. For example, the Amazon Kindle is changing the way people read books.

ARM adopts a route of innovation to transfer its technology into products customers want and need. ARM's product development also takes various external factors into account, for example, the need to develop low carbon products, increase energy security and address impacts on global warming. In addition, meeting global economic challenges is also high on ARM's agenda. For example, developing countries such as Brazil and China are becoming more affluent and buying more consumer electronics. Other factors affecting ARM include the customer's desire for greater computing mobility, lower power consumption and increased battery life. Consumers are also looking to 'cloud' technology, for example, in mobile phone apps, to provide remote access to virtual storage and software. This provides convenience and lower cost. ARM's main technical driver is power efficiency, making microchips smaller whilst increasing their performance. The smallest processors are now the size of human hair or crumbs.

ARM's approach to R&D delivers significant competitive advantage. Its unique, world-leading products and technology enhance the business' reputation and ongoing research generates opportunities which keep its product pipeline strong. ARM's business model enables the business to gain the potential to earn future income over many years from licensing its intellectual property.



THE TIMES 100

BUSINESS CASE STUDIES

Questions

1. Give examples of some products that use ARM technology.

2. Describe what is meant by a market-orientated approach to product development.

3. Explain the difference between invention and innovation.

4. Analyse the reasons for carrying out new product development, for firms like ARM.

Task

Market-orientation v product-orientation. Develop arguments for both market and product-orientated approaches to new product development. Try to think of firms that adopt each of these approaches. Why do you think they do prefer their chosen approach? Feedback your thoughts to the group.

What have you learned?

Ready, steady, GO – write as many things about new product development as you can in 60 seconds.