

A2 LEVEL Section C

FACT FILES

Technology & Design

For first teaching from September 2011

For first award in Summer 2013

The Market and
Products Part 1



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design

3.14 The Market and Products Part 1



Learning Outcomes

Students demonstrate knowledge and understanding of the role of markets in product design;

- innovation in the market;
- marketing strategy, market research;
- needs and demands;
- how and why new products arise;
- key aspects of Market pull and Technology push;
- key aspects of Radical and Incremental products; and
- market strategy – Key concepts of market penetration, market development, product development and diversification.



Course Content

Innovation in the Market

A key to long term competitive success within a market is the use of INNOVATION within a products design

There are two elements to innovation

- Getting the product right; and
- Getting the product introduced to the market first.

When a technological advancement has been developed it must work to the best of its best ability while also being the first of its kind to enter the market. Innovation is about creating new, exciting and radical products which consumers have not yet seen. Good examples of innovative products are the Smart phone and Smart car.



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The Smart phone is a device which works as a mobile phone allowing people to;

- receive and send emails;
- take photographs;
- store and listen to music;
- access the internet and so on.

In a society where everything is fast moving this product is a perfect example of innovation, saving people time while allowing them to own an affordable and portable product. The Smart car is another inovative product, a two-seater car designed for:

- city driving and;
- fuel efficiency;

and with the environmental impact central to its design.

The design of the smart car has catered all of these central features and they are clearly evident in the overall shape and design of the car from the:

- Thermoplastic body panels of the car which makes the car more lightweight and as a result reduces the overall fuel consumption of the car;
- Upholstery filling made from recycled fabrics;
- Coverings and carpets made from natural materials; and
- 95% of materials used in its design recyclable.



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Marketing Strategy

A strategy is a long term plan to achieve a range of objectives. A marketing strategy is a long term plan to achieve a set of marketing objectives set by marketing departments in businesses and organisations.

Marketing Strategies are carefully evaluated and put together plans which allow businesses to concentrate on their future marketing activity allowing businesses to successfully manage their resources to ensure maximum results for the company in terms of increased sales and competitive advantage.

Marketing strategies are critical for a business to operate successfully. The basic structure of a marketing strategy is as follows:

- Step 1: Establish the company's **Mission**
What is the company's main goal?
- Step 2: Set the company's **Objectives**
What does the company want to achieve. These objectives must be measurable.
- Step 3: Set the **Marketing Strategy**
What resources does the company need to ensure the strategy can be met.
- Step 4: Establish an **Action Plan**
What is the detailed plan, e.g.: timeframe, targets, resources and so on.

Businesses must have an understanding of the potential and possibilities within the market they are working in and must ensure that there is a common theme between their company objectives, and customer requirements.

Market Research

When information is gathered by a company about their consumers, competitors and distributors it allows a company to identify their consumers buying habits and also their attitudes towards current and future products.

There are 2 main types of market research an organisation can use, these are known as field and desk or primary and secondary research.

Market Research can either be;

- Numerical – for example; how many 14 – 20 year olds own a smart phone
- Psychological – for example; why do 14 – 20 year olds buy smart phones



Needs, Wants and Demands

Market Needs are the basic requirements of a human being for example food, water and shelter. We need these things to be able to survive. Marketers play no role in creating needs.



Market Wants happen when market needs turn into market wants this change occurs when influences such as culture, society, personal identity and personal preference come in to play. Marketers will market products in such a way that customers believe they need those products for every day survival for example the internet, mobile phones, luxury foods and so on.



Humans have endless wants or demands for example a Mercedes car, a round the world trip and so on. These wants turn into demands when customers have the ability to buy them. Market demands are wants backed with buying power.

Market Pull and Technology Push

A market pull model is when a new product comes from a need identified within a market. Detailed analysis of market research identifies what needs exist, how existing products meet these needs and how a new product may be better. An example of a product that was developed as a result of the market pull model is:

- Allergy free plasters;
- Gluten free products;
- Vegetarian products; and
- Accessories for the iPad.

Technology Push Model



Market Pull Model



A technology push model is where a new technological advancement is used to design and develop a product using new technology. The consumer or end market have not requested this product or identified it as a need. The product is targeted at the consumer who a business believes will want it and understand it the most. This strategy is viewed as a high risk strategy, as the consumer demand for the product is not identified prior to design, development and production. Examples of products that were developed as a result of the technology push model are:

Technology Push' Success – The First Sony Walkman



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The walkman was a portable audio cassette device that changed the way people listened to music. The walkman was developed because the chairman of Sony hated carrying around the company's existing portable stereo

when he was travelling due to its weight. As a result, how the technology was used was changed leading to the removal of the existing recording circuit and replacement with a stereo amplifier and lightweight headset. This created a lighter and more portable music listening device than was ever available before and required Sony to develop a number of technological innovations and advancements in the development of the headphones to ensure success.

To sell the walkman to the public Sony embarked on an aggressive marketing plan, targeting teenagers with the hope that the product would become associated with youthful and leisure activities. The marketing strategy and product were a huge success, Sony had managed to introduce a product onto the market and create a demand for it convincing consumers to buy a product they never realised they wanted before.



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'Technology Push' Failure – Sinclair C5

The Sinclair C5 was designed and manufactured by Sir Clive Sinclair in 1985. A battery powered tricycle with a top speed of 15 mph it was hailed by the manufacturers as an alternative way of travelling. When the product was launched it didn't sell well, the problems with the vehicle far outweighed the benefits and the public chose not to purchase it. The main problems with the design were as follows:

- To low to the ground and travelling in traffic meant that the drivers were inhaling fumes from cars;
- The cold weather shortened the life of the battery;
- The battery was not powerful enough to climb hills and would overheat;
- Safety;
- Exposure to the weather; and
- Lack of gears and adjustment for seat to pedal.

Radical and Incremental Products

Radical Products

- Are produced from new technologies;
- There is a high level of uncertainty of the products success especially during the early stages of the products life-cycle;
- Are costly;
- Require a high level of marketing;
- Can create new markets;
- Can lead to rapid growth and profits;
- Products normally replace existing products making them obsolete; and
- Are products and or processes which have never been seen before .

Examples of radical products are:

- The internet;
- The telephone;
- The light bulb;
- The walkman; and
- The radio.



Incremental Products

- Are produced using existing technologies;
- Are less costly;
- Require low level of marketing;
- Most products are incremental innovations;
- Products are sold alongside existing products;
- Products success rate are normally high; and
- Are products that are developed by looking at existing products features and costs and looking for improvements.

Examples of incremental products are:

- Gillette Razors;
- Cars; and
- Mobile phones.



Market Strategies

Market penetration is about increasing the market share of an existing product through increasing product sales. It occurs when a product and market already exist.

Market penetration involves;

- Finding new customers;
- Taking customers from competitors; and
- Persuading existing customers to reinvest or increase usage.



Market Development is about finding new markets for existing products and concentrates on dealing with new customers and markets. This is considered to be risky as there is no prior knowledge of the markets.

Market development involves;

- Repositioning the product into different market segments; and
- Moving into completely new markets e.g. abroad



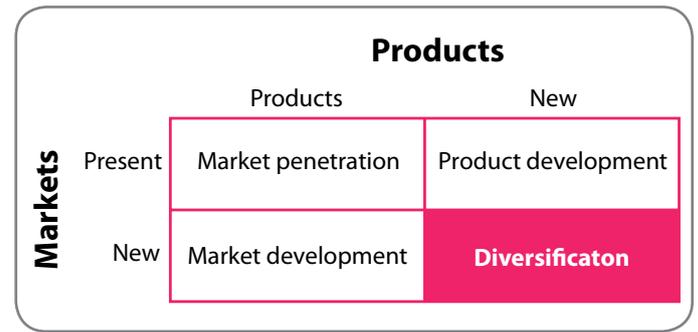
Product Development is about developing existing products further and concentrates on the innovation of existing products. Product development is used to differentiate products from competitor products in competitive markets and involves;

- Changing and developing existing products; and
- Developing new products from the basis of the old classic model

Diversification is about adding more markets and products to an existing business and concentrates on product and market growth in order to enhance company sales and market share.



The diagram below illustrates these 4 methods and how they relate to existing and new products and markets.



Revision questions

1. Describe the importance of technology push and market pull when developing new products?
2. Innovation within a product is key to its success. Give an example of an innovative product and analyse its features in relation to its success within the market.
3. Identify the **four** types of market strategy and give an explanation of each.
4. Name a radical product and incremental product.
5. Explain why each of these products meet the criteria for being radical and incremental products.



