

Product Design and Process Selection

Generating Ideas

Ideas for new products and services should be sought from a variety of sources including market research, customer viewpoints, the organisation's research and development (R&D) department if one exists, competitors or relevant developments in new technology.

Product Screening

The screening process consists of market analysis, economic analysis and technical analysis

Market analysis

Market analysis consists of evaluating the product concept with potential customers through interviews, focus groups and other data collection methods. The physical product may be tested by supplying a sample for customer evaluation. The market analysis should identify whether sufficient demand for the proposed product exists and its fit with the existing marketing strategy.

Economic Analysis

Economic Analysis consists of developing estimates of production and demand costs and comparing them with estimates of demand. In order to perform the analysis requires an accurate estimate of demand as possible derived from statistical forecasts of industry sales and estimates of market share in the sector the product is competing in.

Technical Analysis

Technical analysis consists of determining whether technical capability to manufacture the product. This covers such issues as ensuring materials are available to make the product to the specification required, and ensuring the appropriate machinery and skills are available to work with these materials.

Preliminary Design

Product concepts that pass the feasibility stage enter preliminary design. The specification of the components of the package requires a product /service structure which describes the relationship between the components and a bill of materials or list of component quantities derived from the product structure.

Final Design

The final design stage involves the use of a prototype to test the preliminary design until a final design can be chosen. Computer Aided Design (CAD) and Simulation Modelling can be used to construct a computer-based prototype of the product design.

Methods for Improving Product Design

- Design for Manufacture (DFM)
- Concurrent Engineering
- Process Selection
 - Project
 - Jobbing
 - Batch
 - Line
 - Continuous

Detailed information on this topic: Operations
Management – Albert Porter, BookBoon.com,
2011