

## UNIT-IV Areas of Innovation

### Product Innovation: Concept, Packaging and Positioning Innovation

### Process Innovation: Concept, Requirement & Types: Benchmarking, TQM, Business Process Reengineering

The concept of innovation is quite diverse, depending mainly on its application. Briefly, innovation is the successful exploitation of new ideas. And companies' success, for example, means increased revenues, access to new markets, increased profit margins, among other benefits.

Among the different possibilities to innovate, those related to product or process innovations are known as technological innovations. Other types of innovations can relate to new markets, new business models, new processes and organizational methods. Or even new sources of supply.

People often confuse innovation and innovation processes with continuous improvement and processes related to this topic. For an innovation to be characterized as such, it must cause a significant impact on the pricing structure, in the market share, in the company's revenue, etc.

Continuous improvements are not usually able to create competitive advantages of medium to long term, but they are able to maintain the competitiveness of the products in terms of cost.

### Product innovation

A Product / Good is any tangible offering that might satisfy the needs or aspirations of the consumer. Anatomy of a product can be studied along three dimensions:

- Core benefits – these are the basic functions and attributes meant to be provided by the good / product.
- Tangible specifications – these define shape, size, appearance etc of the product.
- Augmented features – these are the additional benefits or utilities associated with the product like after sale service, perceived benefits of a brand etc.

Product design refers to complete specification of a product to be manufactured and contains following details :

- functions / attributes
- weight, size, appearance
- engineering / technical specifications
- constituents / components / parts of final product
- Product design may be for a new product or for modification of existing product.
- Product design is normally the first step immediately after accepting the concept of the product.

- **Product design has direct impact over selection of processing equipments & methods, plant layout and in- process material flows.**

- **A proper product design ensures that**

- the intended functions are discharged by the product**

- it can be manufactured with ease in the factory**

- it can be sold to the customer**

**Product innovation is the creation and subsequent introduction of a good or service that is either new, or an improved version of previous goods or services. This is broader than the normally accepted definition of innovation that includes the invention of new products which, in this context, are still considered innovative.**

**Product innovation is defined as:**

**the development of new products, changes in design of established products, or use of new materials or components in the manufacture of established products.**

**Numerous examples of product innovation include introducing new products, enhanced quality and improving its overall performance. Product innovation, alongside cost-cutting innovation and process innovation, are three different classifications of innovation which aim to develop a company's production methods.**

**Thus product innovation can be divided into two categories of innovation: radical innovation which aims at developing a new product, and incremental innovation which aims at improving existing products.**

**The development and market introduction of a new, redesigned or substantially improved good or service. Examples of product innovation by a business might include a new product's invention; technical specification and quality improvements made to a product; or the inclusion of new components, materials or desirable functions into an existing product.**

**Drivers of change**

**Reasons for Change in Product Design / Product Redesign**

- **Change in customer requirements**
- **Adding more functions / attributes**
- **Increasing saleability (appearance etc.)**
- **Enhancing ease in manufacturing**
- **Tapping new markets or market segments**
- **Increasing product's life cycle**
- **Enhancing convenience to use (ergonomic considerations)**
- **Technological advancements and progress**

• **Standardization and simplification efforts in an organization. --- Simplification aims at reducing product complexity and Standardization seeks manufacture of standardized products and dropping what is unnecessary or superfluous.**

- **Improving quality**
- **Improving product reliability**
- **Maintaining technological leadership**
- **Reducing processing and manufacturing costs**
- **Gaining competitive edge**
- **Sustaining competitiveness**

**Product innovation:**

**It consists of changes in product attributes with a change in how the product is noticed by consumers.**

**Example: car with automatic transmission compared to “conventional” one.**

### **Packaging Innovation**

**Packaging Innovation today is an integral part of making brands stand out in a crowded marketplace, as also in ensuring that products are delivered to consumers in the condition they would like to use them. Recognizing the important role that packaging plays, HUL traditionally has invested and is consistently strengthening its packaging development capability, both through dedicated in-house teams and in partnership with its vendors.**

### **Positioning innovation**

**Position innovation – changes in the context in which the products/services are introduced;**

**Position-based innovations refer to changes in how a specific product or process is perceived symbolically and how they are used. For example, Levi-Strauss jeans are a well-established global product line, originally developed as manual workers’ clothing materials, but then re-branded as a fashion item.**

### **Process innovation**

**A Process is combination of facilities, skills and technologies that are used to produce products or provide services.**

**A process usually consists of :**

- **a set of tasks**
- **a flow of material and information that connect these tasks and**
- **storage of material and information.**

**These tasks transform inputs into output. Thus process results into change. Process changes i.e. converts inputs into outputs. Inputs are - land, labour, capital etc. Output is- goods and / or services.**

**Process innovation**

**Process Design –**

- **It means the complete delineation and description of specific steps in the production process and the linkages among these steps that will enable the production system to produce products / provide services as per the goals / policies of the organization.**
- **Like product design, process design is very crucial to the success of an organization.**
- **Process design directly influences plant layout.**
- **It affects processing wastage and quality of output.**

**The process design decision influences processing time, in-process-inventories and processing costs.**

**It influences capability of an organization to make timely deliveries.**

**A cost effective process design helps in procuring jobwork / contract work**

**A proper process design ensures that**

**Production is completed by delivery date.**

**Goods or services are of desired quality**

**Processing costs are optimal thus leading to cost competitiveness**

**Process innovation – Drivers of change**

**Factors Necessitating Change in Process Design / Process Redesign**

- **For controlling and reducing process wastage**
- **For improving quality of output**
- **For controlling and reducing work in process inventories**
- **For reducing processing time**
- **For reducing processing costs**
- **For improving process efficiency**
- **Drivers of change Contd ...**
- **For improving ease in manufacturing**
- **For ensuring timely deliveries**
- **For reducing health hazards and improving safety of workforce**

- **May be thrust upon / forced by**
  - **Overall technological advancement / progress**
- **Gaining competitive edge**
- **Sustaining competitiveness**

**For improving productivity**

**Process innovation:**

**It consists of changes regarding the product or the service production process. It does not necessarily have an impact on the final product but produces benefits in the production process, generally increasing the productivity and reducing costs.**

**Example: automobile produced by robots compared to that produced by human workers.**

### **Steps in Process Innovation**

**Successful process innovation requires the following:**

- **Proper Planning as to focus area of innovations; deciding about use of technological tools for mechanisation, computerisation & automation; setting targets, goals; deciding timeframe of commercialization etc.**
- **Creating a multifunctional team of Technical, Production and Maintenance Department**
- **Selecting a small group of operators and workers, seeking their participation in process innovation through communication, counselling, training and rewards etc.**
- **Pilot run of the new process**
- **Observations and improvements in the new process based on feedback from pilot testing**
- **Large scale training of entire work force**
- **Commercial use of new Process**

**Process innovations have changed the course of life of individuals and societies. The printing press, for eg., was the start of universal education.**

**The internet created a global village and the mobile phones made connectivity simple. Since the power of innovation is so great, the support to technological innovation is of strategic importance to any society.**

### **Types of process innovations**

**Process innovation can be continuous or discontinuous.**

**The internet itself can be categorised as a discontinuous/ radical innovation and a process innovation in specific since it alters the internal operations of the firm, changes**

their mode of transaction with the various stakeholders-customers and suppliers-and modifies their responses to the market forces-industry and competition.

In marketing in addition to the user role, marketers introduce innovations for the buyers and payer roles as well.

Mobile phones are innovations for user communication process.

debit cards or pre-paid phone cards are innovations for the payer role.

shopping on internet or by computer are innovations for the buyer role.

### **BPR- Business Process Re-engineering**

- Business process re-engineering is also known as business process redesign, business process change management.
- Business process re-engineering (BPR) is a technique by which organizations fundamentally rethink how they do their work in order to dramatically improve customer service, cut operational costs, and become world-class competitors.
- It is more than just business improvising.
- A key stimulus for re-engineering has been the continuing development and deployment of sophisticated information systems and networks.

Reengineering assumes the current process is largely irrelevant - it shall not work on future, its broke, forget it. Start afresh. Such a clean slate perspective enables the designers of business processes to disassociate themselves from today's process, and focus on a new process.

- Reengineering starts with a high-level assessment of the organizations mission, strategic goals, and customer needs
- Re-engineering identifies, analyzes, and re-designs an organizations core business processes with the aim of achieving dramatic improvements in critical performance measures, such as cost, quality, service, and speed

### **TQM-Total Quality Management**

- Total: Make up of the whole. .... Quality: Degree of excellence a product or service provides. .... Management: Act, art, or manner of handling, controlling, directing, etc.
- Therefore, TQM is the art of managing the whole to achieve excellence. TQM is defined as both a philosophy and a set of guiding principles that represent the foundation of a continuously improving organization.
- It is the application of quantitative methods and human resources to improve all the processes within an organization and exceed customer needs now and in the future.
- TQM integrates fundamental management techniques, existing improvement efforts, and technical tools under a disciplined approach.

### **Diff between BPR vs TQM Approaches**

- Davenport (ibid.) points out that the Major difference between BPR and other approaches to organization development (OD), especially the continuous improvement (Kaizen) or TQM movement, is: “Today firms seek not fractional, but multiplicative levels of improvement – (10times) rather than 10%.”

### Diff between BPR vs TQM Approaches

- Johansson provides a description of BPR relative to other process-oriented views, such as TQM and JIT as under:
- "Business Process Reengineering, although a close relative, seeks radical rather than merely continuous improvement. It escalates the efforts of JIT and TQM to make process orientation a strategic tool and a core competence of the organization. BPR concentrates on core business processes, and uses the specific techniques within the JIT and TQM "toolboxes" as enablers, while broadening the process vision."

### Benchmarking

‘Benchmarking’ is the process of comparing one's business processes and performance metrics to industry bests and best practices from other companies. Dimensions typically measured are quality, time and cost. In the process of best practice benchmarking, management identifies the best firms in their industry, or in another industry where similar processes exist, and compares the results and processes of those studied (the "targets") to one's own results and processes. In this way, they learn how well the targets perform and, more importantly, the business processes that explain why these firms are successful.

A measurement of the quality of an organization's policies, products, programs, strategies, etc., and their comparison with standard measurements, or similar measurements of its peers.

The objectives of benchmarking are:

- to determine what and where improvements are called for,
- to analyze how other organizations achieve their high performance levels, and
- to use this information to improve performance.

Benchmarking is the process of identifying best practice in relation to both the product and the processes by which those products are created and delivered. This study note introduces the benchmarking process and types of benchmarking.

The search for best practice can exist inside a particular industry and also in other industries - are there lessons to be learned from other industries?

The objective of benchmarking is to understand and evaluate the current position of a business or organisation in relation to best practice and to identify areas and means of performance improvement.

## **The Benchmarking Process**

**Benchmarking involves looking outward (outside a particular business, organisation, industry, region or country) to examine how others achieve their performance levels, and to understand the processes they use.**

**In this way, benchmarking helps explain the processes behind excellent performance. When lessons learned from a benchmarking exercise are applied appropriately, they facilitate improved performance in critical functions within an organisation or in key areas of the business.**

**The application of benchmarking involves four key steps:**

**Understand in detail existing business processes**

**Analyse the business processes of others**

**Compare own business performance with that of others analysed**

**Implement the steps necessary to close the performance gap**

**Benchmarking should not be considered a one-off exercise. To be effective, it must become an integral part of an ongoing improvement process, the goal being to abreast of ever-improving best practice.**