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**MARKETING TECHNIQUES TO PROMOTE REACTOR SAFETY HEALTHCARE  
MANAGEMENT APPROACHES USING PRODUCT LIFE CYCLE AND BUSINESS  
MODEL TECHNIQUES**

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**ABSTRACT**

The branding and uniqueness strategy of the firm must vary as product, market, and competition change during the Product Life Cycle (PLC). Every business wishes to enjoy its successful and rewarding lives in this rapidly changing stage by improving its product and system processes. Recognizing the life cycle of marketing and product tactics may assist an organization in comprehending and understanding the time it is right to take an item off the market. This article aims to examine the PLC and its market techniques. Many aspects were taken into account and the relevance of product life cycle and marketing strategies was underlined. The study examines several researchers' views of advertising management practices. Finally, a study demonstrates that various promotional management approaches are created and used as suitable when items go through their lifecycle based on security healthcare.

**Keywords: Marketing; Product life cycle; management; Reactor safety healthcare**

## INTRODUCTION

As a foreshadowing tool and a guideline against the company marketing plan, the notion of a product life cycle has been high in commercial research. It is a significant indication of stages of the adoption of a product on the market in its simplest form. There are numerous elements, like the clients' requirements, competitiveness, technological advances, and others, which may impact the life cycle of the product in the marketplace. The viability of a company is enhanced by an effective product and marketing strategy that involves the manufacturing and selling of a range of products. Deep knowledge of marketing management is most essential to improve products life cycle. In this paper, I will try to present issues relating to the product life cycle as well as Marketing Management Strategies as applied in each stage of the product life cycle. Such discussion will help the organizations to develop effective strategies and successfully manage a product's life cycle.

### **Related works**

In principle, the product is an item of the exchange process, in return for something which a manufacturer or a provider feels is comparable or more valuable to a potential client. The product is a key part of the marketing mix. A product is anything that a

market may supply to meet a need or requirement. The program comprises commodities, services, events, people, locations, properties, organizations, information, and ideas.

The conventional extended way of identifying a product was identified by Shewe and Smitch. Conventionally, a product is viewed as the whole range of services supplied on the market by a marketer. This package has a satisfying potential, in part due to the concrete, objective characteristics of the product. Satisfaction also stems from the product's intangible qualitative characteristics. Researchers consider a product as a bunch that a purchaser obtains from a purchase of bodily and emotional delight [1]. This not only covers the actual thing but also such components as purchasing convenience, after purchasing, and other items of value for the buyer. Selling or stability may result in new goods, increasing profit control, reducing risk via diversity, providing differentiated benefits, improving distribution, and responding to consumer requirements.

Commodities would be those acquired for personal use, while manufactured goods would be those purchased for resale or the creation of other products destined for sale. Product Life—

The idea of life cycle would be both situational and consumer; for instance, a user's life cycle is the time taken to complete a task. The product life for the producing compound is usually longer, instead: It begins with the concepts of a product and ends with the termination of manufacturing after the product's service time [2].

### Product Life Cycle (PLC)

The product life cycle is the duration over which a product is produced, marketed, and finally taken off of the market. It is a key instrument for analyzing the marketing blend activity and planning it. Researchers indicate that the product life cycle is built on a metaphor that considers goods like persons and presumes that they are born [3]. The

product life cycle for Researchers [4] recognizes that only a finite market life is available for most items, be it brief as it is for fashionable goods or as long as some types of industrial equipment have been used to achieve this.

Inventor concept [5]:

1. Limited life of products.
2. Product sales progress through several stages, each of which presents the seller with different difficulties, possibilities, and issues.
3. Profits in various product life cycle phases grow and decline.
4. Diverse promotional, finance, manufacturing, procurement, and project management approaches are necessary for products at every step of the life cycle.

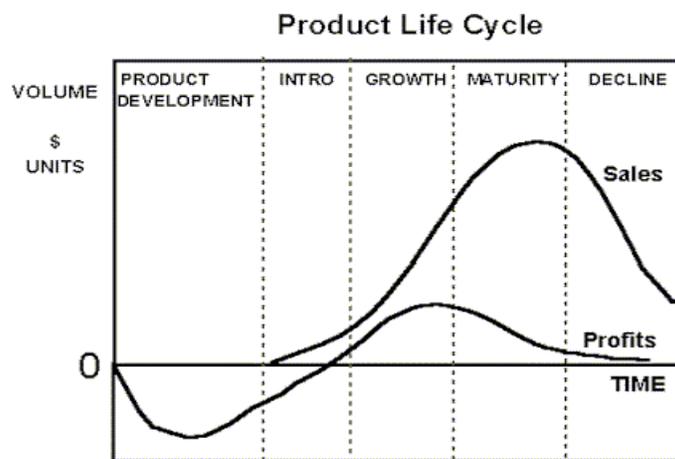


Figure 1: Life cycle

The cycle depends on the company, item, innovation, and marketplace. The life cycle of the product is split into 5 phases:

**Development phase:** The product life cycle is developed when an enterprise identifies a product concept and develops it.

A product is usually changed numerous times during its creation, using a lot of money and effort, before being disclosed to buyers via the market. Sales are nil and income is positive at this level. The cycle depends on the company, item, innovation, and

marketplace. The life cycle of the product is split into 5 phases:

**Introduction phase:** The product life cycle is developed when an enterprise identifies a product concept and develops it. A product is usually changed numerous times during its creation, using a lot of money and effort, before being sent to buyers via the market. Sales are nil income is positive at this level.

**Growth Stage:** This is the perfect moment to concentrate on growing the market profit as management people go to the analysis to procure if those incharges feel pleased with observations they have. The competitiveness is seen by a new and increasing clientele. Sales are increasing at this level, revenues are rising and profits are rising.

**Maturity stage:** Once expectations are at their anticipated or unexplored high, the maturity stage occurs and the proportion

that the items will never be bought has been achieved. For most goods, this life cycle stage is the longest. During this stage, competition is most severe. Sales reach a peak during this period and market share might be substantial.

**Declining stage:** The product falls as sales continue to fall and earnings quickly decline to the nullification. The cause of the item drop is because of the introduction of newly introduced goods and a reduction in customer interest in some items.

**Mix of Marketing**

The marketing mix is a group selling technique used by the company to achieve its target market market market market market objectives. The four major groupings that McCarthy termed the four Ps of marketing have categorized these tools:

**Table 1: Marketing mix**

Marketing Mix			
Product	Price	Promotion	Place
Product Variety Quality	List Price	Sales	Cannels
Design		Advertising	
Features	Discounts		
Brand Name		Sales Force	
Packaging	Allowances		
Size		Public	
Service	Payment	relations	Inventory
Warranties	Period		
Returns		Publicity	Transport

1. Product- The consumer's product (or service)
2. Price – How much will the item pay the consumer?
3. Place- How the client receives the goods.
4. Promotion- How to find and convince the consumer to purchase the goods.

To influence the channels of business as well as the end customers, traditional marketing decisions must be taken.

### **Cycle of product life and strategy for marketing**

The initial stage is distinguished by the strong promotion of primary demand; pricing is relatively unimportant. More competition and increased pricing pressure occur during the growth period. Promotional spending in sales declines; brands and specialized characteristics change to completion. As the product matures, there is increased competition in the brand, promotional expenses and prices tend to stabilize, efforts to extend life cycles begin to be made and new brands may be developed. Finally, additional price and promotional decreases might be anticipated during the downward phase. Some typical guidelines are:

- Advertising - Accommodating clients on the presence and advantages of new items during the introduction stage, according to the author [6]. Advertising. The advertising industry emphasizes the

value of the items about rival products throughout the expansion stage. Advertising is trying to generate a feeling of product distinctiveness during the maturation period. In the declining phase, the proportion of sales decreased.

- Changes to the product- The items changes were discussed at all levels in the new product analysis, in the characteristics, productivity, layout and thus about the product; changes to the growth-product modification and differentiation; saturation-modifications and the market diversification; and
- Distribution – When retail outlets are looking for the goods, they are expected to choose and learn, and attain their total coverage in the growth phase. During maturity, retail outlets will notice the modify in buying manners, which can lead to a loss of outlets for the producer. Manufacturers are also working to develop new distribution techniques and new outlets at the same time.
- Pricing- In the introduction era we typically thought that the price of a product was high and decreasing with the product cycle stages since the price became a comprehensive weapon of growing and maturing stages and decreasing in particular. In selecting the

pricing strategy of the product, not only the launch price but also alternative competitive measures should be applied.

- Extension of life- When a company creates new products and services, author [7] states that a series of actions should be planned at the very beginning to be taken at several successive stages of the product's existence so that it maintains its sales and profit-related curve more than following its usual downward path.

### **Analysis of the product portfolio**

Boston Consulting Group created this concept and is generally known as the product portfolio strategy. The portfolio refers to the product portfolio of items developed or accessible at any moment for consumers. Author [8] recommended that items be classified into six categories to show whether future sales growth is possible. These include breadwinners of the future, breadwinners of today, products that are unable to contribute when something dramatic happens, breadwinners yesterday, the winner, and failures [9-18].

### **Products located in their live cycles**

Examining a company's quality, competition background, and current position and matching this data to its distinct life cycle stage is the fastest way to identify it in its lifespan. The phase of the product life

cycle that correlates to the market perspective identifies the product's position in its life cycle. The overall process is of the best quality, and also the ultimate position of an item inside its lifespan is a significant focus of management judgment and instinct.

### **Portfolio development**

Following the aforementioned technique, the current PLC position of various goods may be identified and the net outcomes may be calculated. For a future period, similar analyses may be done. The disparity between the present position and future position shows what the management of outcomes may expect if there are no strategic adjustments. These findings may be compared against company expectations to establish the gap. By following the procedures mentioned below the aforesaid method may be implemented.

### **Matrix portfolio**

The notion of the portfolio tackles the potential value for the company in a given company. Firstly, this value can generate appealing income and, secondly, the growing potential. The portfolio idea provides for the quantification of the two variables. A comparison of the company's market position with that of its rivals measures current income potential. You may divide companies into four groups using the two dimensions.

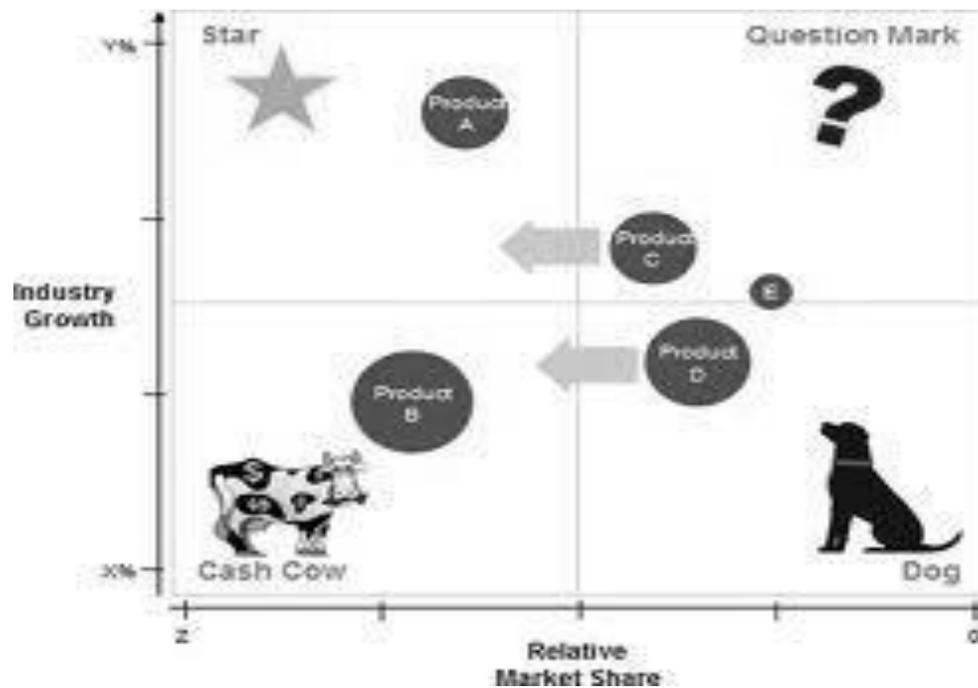


Figure 2: Matrix Quadrants. Source

Stars: market heads of strong growth are known as stars. They create enormous quantities of cash, but their cash out of income and depreciation is more than compensated by the cash that these companies have to put in in the form of investment and higher working capital.

Cash Cows: They're not cash suppliers. Their huge profits and their depreciation are high cash streams while reinvesting requires relatively little. Such goods, therefore, create substantial cash overheads which contribute to the payment of dividends and interest, the creation of debt capacity, the provision of research and development funds, and the generation of overheads

Questioning markings: Goods having a low proportion of a rising market are classed as questioning markings. As they only have a limited portion of the industry, many devices contain more capital to expand because they can create.

Dogs are goods having a tiny share of the market and low development potential. They are economically poor due to their adverse competitive position. Because growth is restricted, the chances of gaining enough market share to build a long-term cost position are slim. They are generally cash-only shoppers. Its earnings are insignificant, and reinvestment is required necessary to keep the firm afloat and consume capital.

Table 2: Overall investments

Quadrant	Investment Characteristics	Earning Characteristics	Cash-Flow Characteristics
Stars	-Continual expenditure for capacity expansion	Low High to	Negative flow cash
Cash Cows	-Capacity maintenance expenditures	High	Positive cash flow
Question Marks	-Heavy initial capacity expenditure -High costs P&D	Negative to Low	Negative flow cash
Dogs	-Gradually deplete capacity	High Low to	Positive cash flow

The primary objective of a firm should be in a position with cash cows to protect themselves from the frequently tried reinvestment in them. First of all, the wealth created by cash cows should be utilized to help the stars that do not support themselves. The excess funds can be utilized to finance the domination of chosen questions. If this is not possible, the company should manage its hounds for cash and, if a chance arises, cuts off all investment in the company.

**CONCLUSION**

All goods are developed, introduced, growing, maturing, and declining throughout the distinct life cycle stages. A life cycle of a product may endure for only a few days. If an organization acknowledges that a product has fallen or has failed to do as it could, it must refuse what to do. To define

performance standards like profit and loss, targets growth, and allocation of capital, strategy, and human resources management, companies need to define the life of the product. A business should know the Market strategy to keep working for customers, markets, and rivals to increase its reactor safety performance at each of its life-cycle phases.

**REFERENCES**

[1] Kotler Philip, Armsstrong Gary; Principales of Marketing Pearson Education; Twelfth Edition. Kotler Philip; Marketing Management; Pearson Education; Eleventh Edition.  
 [2] Dr. A.K. Chitale and Prof. Ravi Gupta (2005); Product Policy Management and Brand Management.  
 [3] Alabart, T. Timothy (2012); Product

- Life Cycle and Brand Management Strategies.
- [4] Sonatakki C.N.; Marketing Management; Kalyani Publishers; Fourth Edition
- [5] Dr. Neetu Sharma (2013); Marketing Strategy on Different Stages PLC and Its Marketing Implications on FMCG Products.
- [6] Aaker D.; Strategic Market Management, Willey, 1995.
- [7] Valentina Gecevska, Paolo Chiabert, Zoran Anisic, Franco Lombardi, Franc Cus (2010); Product lifecycle management through innovative and competitive business environment.
- [8] Jensch J. (1999); Strategic Marketing and the Product Life Cycle.
- [9] Sneha P, Balamurugan K, Kalusuraman G. Effects of Fused Deposition Model parameters on PLA-Bz composite filament. In IOP Conference Series: Materials Science and Engineering 2020 Dec 1 (Vol. 988, No. 1, p. 012028). IOP Publishing.
- [10] Devaraj S, Malkapuram R, Singaravel B. Performance analysis of micro textured cutting insert design parameters on machining of Al-MMC in turning process. International Journal of Lightweight Materials and Manufacture. 2021 Jun 1;4(2):210-7
- [11] Garigipati RK, Malkapuram R. Characterization of novel composites from polybenzoxazine and granite powder. SN Applied Sciences. 2020 Sep;2(9):1-9.
- [12] Yarlagadda J, Malkapuram R. Influence of carbon nanotubes/graphene nanoparticles on the mechanical and morphological properties of glass woven fabric epoxy composites. INCAS Bulletin. 2020 Oct 1;12(4):209-18.
- [13] Rama Krishna M, Tej Kumar KR, DurgaSukumar G. Antireflection nanocomposite coating on PV panel to improve power at maximum power point. Energy Sources, Part A: Recovery, Utilization, and Environmental Effects. 2018 Oct 18;40(20):2407-14.
- [14] Yarlagadda J, Malkapuram R, Balamurugan K. Machining Studies on Various Ply Orientations of Glass Fiber Composite. In Advances in Industrial Automation and Smart Manufacturing 2021 (pp. 753-769). Springer, Singapore.
- [15] Sekaran, K., Rajakumar, R., Dinesh, K., Rajkumar, Y., Latchoumi, T. P.,

- Kadry, S., & Lim, S. (2020). An energy-efficient cluster head selection in wireless sensor network using grey wolf optimization algorithm. *TELKOMNIKA*, 18(6), 2822-2833.
- [16] Ranjeeth, S., & Latchoumi, T. P. (2020). Predicting Kids Malnutrition Using Multilayer Perceptron with Stochastic Gradient Descent. *Rev. d'Intelligence Artif.*, 34(5), 631-636.
- [17] Sridharan, K., & Sivakumar, P. (2018). A systematic review on techniques of feature selection and classification for text mining. *International Journal of Business Information Systems*, 28(4), 504-518.
- [18] Vemuri, R. K., Reddy, P. C. S., Kumar, B. P., Ravi, J., Sharma, S., & Ponnusamy, S. (2021). Deep learning based remote sensing technique for environmental parameter retrieval and data fusion from physical models. *Arabian Journal of Geosciences*, 14(13), 1-10.