

# Pharmaceutical Product Life Cycle Management Strategies in the Contemporary scenario

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## Abstract

The Product Lifecycle Management which is essential to enhance the lifespan of the patients which facilitates to face the completion which facilitates for pricing strategies and maximises the revenue of the organization and sustaining in the long-run further the cost leadership advantage facilitates a lot to gain the competitive advantage. Those firms which will take the competitive advantages to sustain in the long-run should study the concept of product life cycle management (PLM). There are various aspects like: workflow, information sharing, market analysis, information management related to product at various stages, new inventions and innovations, sophisticated technology available, patient requirements, cost concepts, market growth rate are the various aspects need to be studied under the product life cycle management (PLM). The aim of the present research is to explore the pharmaceutical products and its life cycle management at various stages in the contemporary context. The present research purely based on secondary data sources. The research can be better understood after all taking the advantage of primary data sources by applying SPSS AMOS and structural equation modelling algorithm.

**Keywords:** Pharmaceutical Products, PLM, Product Life Cycle, Stages of Product Life, Pharmaceutical Product life cycle, etc.

## INTRODUCTION

It is witnessed from the literature that product will have a life cycle from introduction, growth, maturity and decline stage. The long-run sustainability of the firm, depends on, how effectively can manage/protect/face the competition at various stages of the lifecycle. Bringing innovations and inventions in pharmaceutical products depends on the extent companies spend amount on R&D, bringing sophisticated technology, gaining competitive advantages which facilitates to protect the firm products from the decline stage of the product life cycle. The continuous development of new drugs and medicines which facilitates to introduce new products in the market, which facilitates to increase sales, maximize revenue and profit of the organization. The cross function collaborations, the strategic business units in the firm will facilitates to develop new products. In the contemporary scenario the major concentration will be on minimising the cost of production by implementing new manufacturing techniques and processes. The various stages of product life cycle management include: Design:- In the stage of the design phase, the actual design or the development of product will happen followed by the Reliability/Validity assessment:- The reliability and validity assessment will check the reliable performance of the product and the failure mode and structure analysis of the product will facilitate to assess the potential problems and possibility of failure of the product, the model development:- the prototype of the model has to be developed further testing the functionality of the product in various aspects and the sample production to test the pulse of the customer and manufacturing of the product at lot size and releasing the final product in the market are the various stages in the product life cycle management (PLM).

## REVIEW OF LITERATURE:-

Explained that companies will spend huge amount of money for producing goods and services. Especially, companies need to sell huge amount on the expansion and growth stage of business. Therefore, it is necessary to spend amount on advertising and other sales promotion strategies [1]. Generally, the product life cycle management composed of four different stages which include: introduction, growth, maturity and decline stage. The degree of investments on research and development plays a

crucial role to introduce innovative products in any field [2]. Explained about the product classification system with five different parameters like: duration of life cycle, time window for delivery, volume, variety and variability [3]. Explained about product classification, even in the pharmaceutical products there are various categories like: therapeutic classes and individual products and other sorts of pharmaceutical products [4]. In the product life cycle assessment the dynamic perspective need to be incorporated to bring the sophisticated changes in the product development [5]. The pharmaceutical product life cycle management should achieve certain objectives like: survival, growth, and resource utilization, stability in sales, profit and return on investments. In the pharmaceutical product life cycle management, managing the product in all phases of the product life cycle is essential from introduction, growth, maturity and decline stage [6]. There are two main goals of pharmaceutical industry that first, aim to fulfil the needs and wants of the society and providing more benefits to the society people and the second, introducing technological advancements to implement innovations and inventions in the contemporary phenomenon. The clinical trials and regulatory framework are essential to gain the competitive advantages by minimizing the cost of manufacturing and making it available to the customers in the market are major aspects [8]. The healthcare management practices like: managing supply chain management, distribution channel management, patient services and coordinating and synchronizing activities are essential aspects [9].

### **OBJECTIVES:-**

1. To study the literature on pharmaceutical product life cycle management in the contemporary scenario.
2. To analyze the pharmaceutical product production process.

#### **Importance of the Study:-**

The present study explores the procedure included in the manufacturing process of pharmaceutical products and its related processes and cost advantages and production processes which include various phases like: development phase, clinical phase, drug production, drug marketing and post marketing survey of pharmaceutical products in the contemporary phenomenon.

#### **Statement of the Problem:-**

The present research title entitled to “Pharmaceutical Product Life Cycle Management Strategies in the Contemporary scenario”, explains about the various stages which include in the pharmaceutical product life cycle management.

### **RESEARCH METHODOLOGY:-**

The present research purely depends up on the secondary data sources. The data collected from various magazines, journals, books and other sources. The research can be better understood by taking the advantage of primary data sources and applying various types of statistical tools like: descriptive and inferential statistics. The descriptive statistics include: mean, medium, mode and other types of statistical tools can be used to examine the model.

#### **Data Analysis and Interpretation:-**

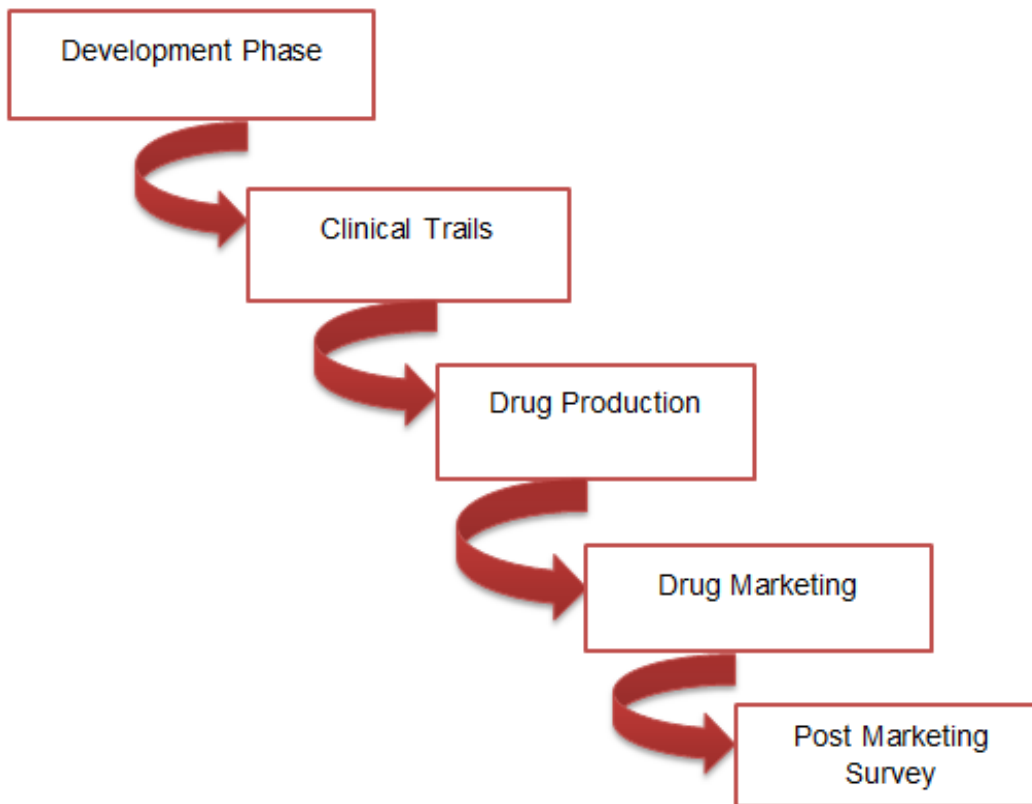


Figure1: Pharmaceutical Product life cycle Management

Reference: Product Lifecycle in Pharmaceutical Industry: Journey of Drug from Ideation to Commercialization

It is evident from the above figure1 that, the pharmaceutical product life cycle management include various phases like: development phase, clinical trials phase, drug production, drug marketing and post marketing survey. The product development phase usually happen by understanding the needs and requirements of the patients and the clinical phase include the clinical trials of the product with various different samples to test the accuracy and functionality of the drug, once after successful drug development, the mass production of the drug will takes place followed by applying various marketing strategies to promote the product in the competitive world. These stages which are essential in the product life cycle management of pharmaceutical products.

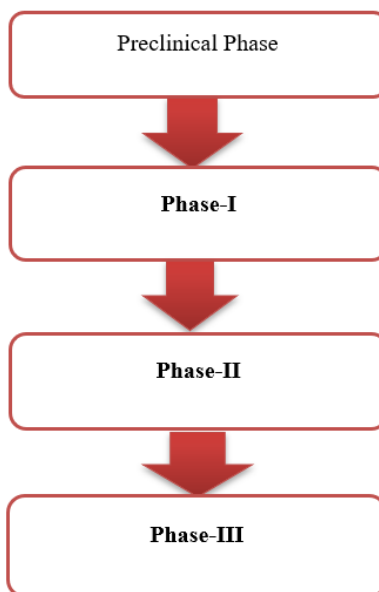


Figure2: Various steps of Preclinical Phases in Pharmaceutical Product Development

Sources: <https://www.worksure.org/process-drug-development/>

The medicine discovery and development of medicine plays a crucial role while introducing any new drug in the competitive market followed by the preclinical phase essential to test the results of the drug. The repeated preclinical tests are essential under various phases will enhance the accuracy/outcome of the drug. Therefore, the pre-clinical test of medicine under various phases like: phase1, phase2, phase3 and phase4 which are essential for developing good pharmaceutical products which brings innovativeness, novelty, and fulfils the needs of individual patients. The various phases in the pharmaceutical product development are essential to gain the competitive advantages and facilitate to gain the concentration of customers. Therefore, the product life cycle management of pharmaceutical products will move in various phases.

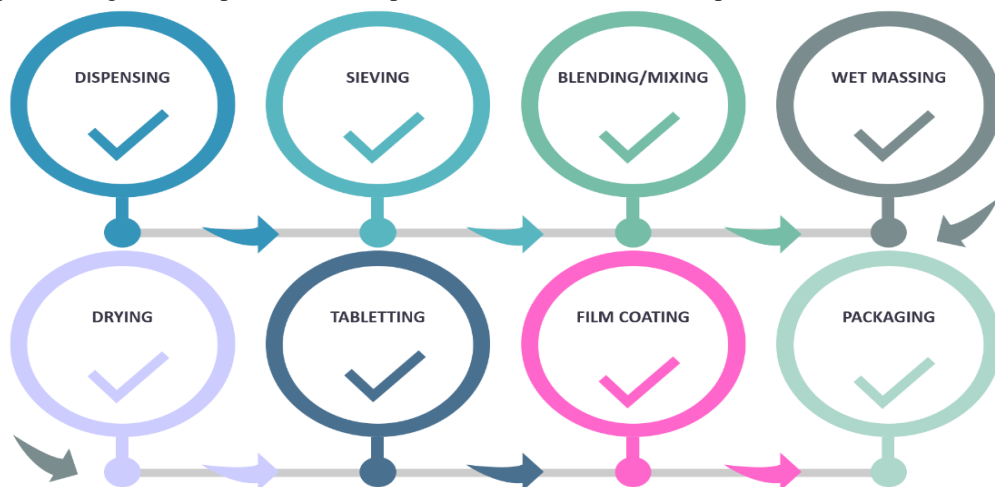


Figure 3: Pharmaceutical Product Production Process

<https://www.ratetechnologygroup.com/pharma-process-overview>

The pharmaceutical production process should take the advantage of total quality management where production will happen without any wastage of raw material with good quality. The TQM and six sigma securities are essential for to produce the goods and service with high quality. Therefore, it may include various stages like: dispensing, sieving, blending/mixing, wet massing; drying, tableting, film coating and packaging are the various processes which facilitates to produce pharmaceutical products in the contemporary scenario. In fact, the pharmaceutical product production mainly will happen on batch production, rather than continuous production.

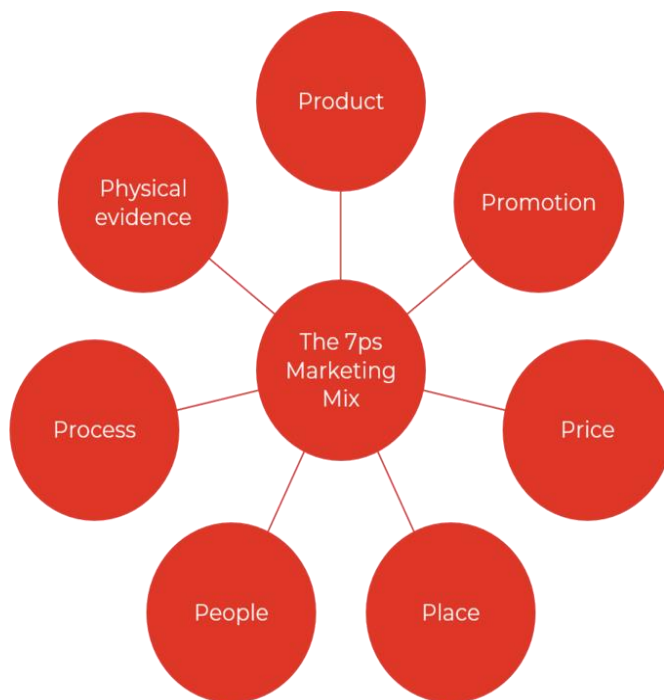


Figure4: Pharmaceutical Product Marketing- Mix elements

The pharmaceutical products and their market depends up on the brand image, customer opinion, prices, referred by the doctors and availability of the products are the various aspects which will fall under the products category in the contemporary phenomenon. Therefore, product and its benefits play an important role. In the contemporary scenario the new promotional strategies like: online marketing, digital marketing, e-commerce are the essential marketing strategies to promote product in

the competitive world. Usually pharmaceutical companies will take the advantage of competitive pricing to compete over competitors which creates benefits to manufacturers in the competitive world followed by they also facilitates to perform online payments, credit/debit card payments, discounts and showing the benefits of product related features etc. Now-a-days pharmaceutical firms will take the advantage of all sorts of marketing channels and the products will be available in the local markets. Therefore, location or place to sell their products is not the major issue to the pharmaceutical companies. The employees of the company should get proper training to produce and sell the products and the customers of the company should be aware about product. The sophisticated production processes which are customer focused and taking the advantage of sophisticated technology, IT- enabled advantages, are the major aspects. The product packaging and other website content availability, physical ambience is the major aspects which will fall under the physical evidence in the contemporary context. Therefore, the 7P's of marketing assessment will create advantage to the company for future growth of the organization.

### **SCOPE FOR FUTURE RESEARCH:-**

The scope of the research can be extended to the digital marketing strategies for pharmaceutical products and the logistics and supply chain management practices for pharmaceutical product marketing in the contemporary scenario. In fact, the scope of the future research can be extended to the branding concepts related to pharmaceutical product marketing.

### **CONCLUSION:-**

Therefore, it can be conclude that the various stages of pharmaceutical product development and production plays a crucial role to produce pharmaceutical products which include various innovative practices which minimizes the cost and maximizes benefits and can gain the competitive advantages.

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