

## STUDY OF MARKETING STRATEGIES OF ANTI-DIABETIC DRUGS FOR PROGRESSING FROM INTRODUCTION TO GROWTH PHASE IN THE BRAND LIFECYCLE – A LITERATURE REVIEW

**J. Pradhan and S.A. Warpade**

Savitribai Phule Pune University, Pune, MS, India

Lotus Business School, Pune, Maharashtra, India

jyotsna.sawant@gmail.com

### ABSTRACT

*Pharmaceutical product lifecycles are slightly heavy towards the development and introduction phase given the impetus on R & D that is required. The approval of a generic drug takes on normal somewhere in the range of 1 and 3 years, contrasted with 10 to 15 years required for the approval of an original drug, the costs of generic companies likewise being extensively lower than the costs of the pharmaceutical companies that built up the original product (Ciot, 2015). A research was undertaken to understand marketing strategies of anti-diabetic drugs for progressing from introduction to growth phase in the brand lifecycle. As an initial step a literature review was carried. This paper presents the summary of the literature review.*

**Keywords:** *Anti-diabetic drugs, Brand lifecycle, marketing strategy, Literature review, Pharmaceutical product*

### Introduction

Literature on brand life cycle is abundantly available. Brand has been a popular marketing concept and it has been widely researched. Pharmaceutical products have some special features like impetus on research and development, patenting, exclusivity rights, clinical trials etc. Yet they are also a part of a wider marketing framework. Core marketing concepts very well apply to pharmaceutical markets. An important point that came up while doing the research was about the scope of the search of the articles. A chaotic sort of situation arose initially when literature pertaining to brand life cycle was accessed as it was too voluminous. However, in consultation with the guide and experts, clear objectives and guidelines were set for conducting the literature review. Due balancing was done between general marketing, branding, brand life cycle and its specialized application in pharmaceutical products. With reasonable balancing and a middle of the road approach the reviews selected were broad enough to cater to the general requirement of the concept and specific as well to meet the specialized contextual application.

### Objectives of Literature Review

The literature review was carried with the following objectives:

- a) To review research on factors that affect the lifecycle of brands (in general) and pharmaceutical brands
- b) To review literature on role of marketing strategies in progression on brand life cycle
- c) To review literature on role of marketing strategies in progression on brand life cycle of pharmaceutical products
- d) To review literature on impact of marketing strategies on the brand personality and consumer perception in case of general products and also with special reference to pharmaceutical products

### Guidance used for survey of literature

- a. References would be made across nations, periods etc. to gain a broader understanding of the developments,
- b. Terms brand life cycle and product life cycle have been used synonymously

### The Literature Review

#### I. Factors that affect the lifecycle of brands (in general) and pharmaceutical brands

##### *Brands (in general)*

Sabadka et al., (2019) in the article focus on vehicles life cycle and specific phenomena going with it. Authors aimed to review and define factors taken into account in the process

of a vehicle development. Accordingly they have summarized methodically acquired knowledge of life cycle and complexity of vehicles, analyzed the factors that are subject to world automobile production growth and also the number of vehicle models selected by well-referred to manufacturers just as vehicle generation at that particular point.

Schmid et al., (2019) speaking about brand states that brand love is the most emotionally intense connection between the consumers and their brands. Referring to their interpersonal connect, it is assumed that consumer–brand relationships alter their nature over time. However, most of the studies in this field don't take into consideration this dynamic characteristic. As a major aspect of a novel perspective of emotionality inside consumer–brand relationships, this research is the first to integrate customer relationship lifecycle concepts and also interpersonal love theories. Addressing the developmental way of brand love dimensions over the course of the relationship, the analysis shows that the emotional bond with a brand as represented by brand love and its sub-dimensions don't really follow a prototypical trajectory as is assumed by customary lifecycle concepts. Instead of shaping into an inverse U-shape, the respective dimensions show divergent ways rather than reflecting the development of their interpersonal correspondent. Looking at diverse and utilitarian brand concepts, it is indicated that brand love can arise for non-utilitarian brands and, similarly too, for brands perceived as predominantly utilitarian. Moreover, the results suggest the peculiarity of brand love among relational constructs. A framework emerges for a reasonably accurate theoretical methodology focusing on the lifecycle of love.

### ***Pharmaceutical brands***

Javed et al., (2019) state that quality can't be tested in definite product rather it must be maintained inside the process so that reasonably planned approaches will improve the performance of process just as conclusive products in terms of least number of value deficit in developed products. Furthermore, quality control of pharmaceutical nanoformulation has been given prime

importance because deviation from quality norm inside the product would draw legal issues just as damage the business prospects of the organization in terms of loss of both reputation and revenue. Hence, in lieu of that the current work features different aspects of value by design (QbD, for example, regulatory issues with nanopharmaceuticals; approaches adopted so as to assure product quality; principles and objective of different elements for designing QbD products; guidelines; practise and significance of value in the pharmaceutical industry just as the importance of different statistical apparatuses being applied in QbD approach.

Narayana et al., (2019) have opined that the pharmaceutical industry is increasingly employing reverse coordination practices in their supply chain activities to be more sustainable. However, the absence of intentional take-back for relocation to needy markets restricts the benefits of reverse coordination for maintainability practices in India. Production planning and relocation (RL) design that does not take product category and feedback into account are ineffective. Resulting in a dire need to devise policies by fusing environmental costs, economic costs, and effective product returns in the model targeted at sustainability through RL. This article demonstrates how the principles from the Taguchi's Orthogonal Arrays can be used in a system elements model that has the presence of two brand categories (un-preferred and preferred) and their respective RL processes that generously impacts product shelf life, maximum allowable sales loss, and the delays in reverse coordination process. The findings of this research are: (i) increasing safety stocks helps sales in a unique market however does not alleviate market dumping. (ii) market dumping of expired stock can be increased for longer shelf life and preferred brands by increasing the marketing efforts. (iii) As a result of absence of feedback between forward and reverse processes of coordination, improvements in reverse coordination attributes like product return and delays in claims processing don't impact sales rather it alleviates market dumping. The medicine return policies in India need to be sensitive enough to the category of the product. There is

similarly a potential for putting checks on the supply side to ease market dumping, and also a need to provide feedback between reverse and forward coordination mechanism through risk-sharing agreements so as to facilitate product return for both removal and relocation to the needy markets. The possible research extensions include the structural changes in the proposed model to test RL, for manageability policies and the study of brand/product level competition.

## **II. Role of marketing strategies in progression of brand life cycle**

### ***Role of marketing strategies in progression of brand life cycle – general***

Mitchell et al., (2019) in their paper basically re-examines product life-cycle (PLC) theory, developed over 50 years prior. Despite prevalence in marketing pedagogy and continued notoriety inside empirical research, PLC is seldom challenged. The paper identifies the organization-centric build underpinning the theory and features a disconnection between the PLC theory and the recent understanding of the academia of the concept of customer engagement. It reconceptualises the life-cycle concept basing it on an engagement between stakeholder and the non-profit organization (NPO), designed through constructs of both the social exchange and market orientation. The revised framework maps the stakeholder engagement with the NPO through the five stages of introduction, growth, development, maturity, and decline. The paper concludes with identifying a practical guide for future empirical research to validate and develop the re-envisioned conceptual model. The methodology used is narrative literature review supported by secondary research from specialist practitioner reports.

Ponnusamy et al., (2019) state that the composition of the present pharmaceutical industry requires more effective medication improvement and development. A product lifecycle (PLC) is the movement in the stages from the product's production to the market until its finally withdrawal from the market. Product lifecycle comprises different stages that a product must possess in its lifespan, for example, introduction, growth, maturity, and

decline stage. While each stage brings huge changes, a steady progression of procedures for the organization of product lifecycle is needed. Product lifecycle management (PLM) is a precise, and controlled idea for managing and creating products and product-related information. Extended clinical advantages, enhanced patient consistency, faster market dispatch and income development are among the essential benefits of product lifecycle management. To create a viable and productive product lifecycle management program various qualities are viewed like a promising launch, vital masterminding clear position, supporting abilities and information, willingness for changing tenets of associations and government.

### ***Role of marketing strategies in progression of brand life cycle – Intro to Growth phase***

Deac et al., (2017) claim that product analysis speaks to a significant issue both for economic theory concerning business strategy, addresses for questions like "for what reason do products appear?", "what underpins its survival available?", "for what reason do products disappear?", must be looked inside the innovational organization's strategy, yet additionally the product life cycle study brings reaction elements for these inquiries. At first, the notion of "product life cycle" was created by promoting theoreticians and experts, in a key viewpoint, product life cycle being one of the portfolio's examinations elements. From that point onward, the idea has been created, depicting the cycle product, which incorporates additionally the specialized perspective, all the more unequivocally, the mechanical stage (the product's research and development phase). With the shoppers' diversity, current advancements and competition, the new products' innovation or creation has gotten fundamental for each organization, however the organization needs to realize how to deal with its product portfolio, particularly when there are new products which better fulfil clients' needs.

Samran et al., (2019) have expressed that the fast development of ITC (Information Communication Technologies), digital marketing is applicable to be applied in imparting its products successfully to the

objective networks. GoOntravel is an incorporated tourism retail market that enables individuals as the principle entertainers in giving tourism benefits that will address all the issues of clients or vacationers. This study utilized qualitative research techniques. Data assortment is finished by observation, documentation, and interviews. The outcomes show digital promoting techniques that GoOntravel can substantially increase the brand awareness needed during the initial phase of the product life cycle.

### III. Role of marketing strategies in progression of brand life cycle of pharmaceutical products

Rahayu et al., (2018) claim that these days, pharmaceutical industry improve different procedures in confronting worldwide market by improving the quality and ability of the business to satisfy the customer needs. Another strategy of marketing ways to deal with arrive at customer brand experience is marketing 4.0. Marketing 4.0 is another age that changed the economic exercises by digital change. Terms of marketing 4.0 is a marketing development of marketing 3.0 zeroed in on web and web-based media, yet additionally can be utilized to configuration marketing methodologies that upgrade the brand-shopper connections. It varies as far as timing, talent the executives, data and analytics, degree of centralization and marketing organization models. The system must comprise of brand character, brand picture, brand respectability and brand communication so as to satisfy the market required and meet the client needs. The developing mechanical trend is compelling pharmaceutical industry to enhance in marketing and deals. With this advanced technique, pharmaceutical industry will upgrade the brand new picture for wellbeing product in pharmaceutical store.

Hering et al., (2018) finds that the pharmaceutical industry invests tremendous measures of resources in the development of new products. Outer factors, for example, strengthening unfamiliar competition and more prominent regulatory demands can contrarily influence the overall revenue, while the R&D productivity reduces. To remain competitive and to keep up high R&D abilities for growing

new medicinal products, organizations must settle on brilliant speculation choices to augment their quantifiable profit. Thus, the whole lifecycle of a medicinal product must be viably figured out how to guarantee a sustained development through commercialization. This review critically surveys the current circumstance and the related administration systems all through the lifecycle of a medicinal product.

### IV. Role of clinical trials in brand life cycle of pharmaceutical products

Cancer is a multistage process leading to an uncontrolled and sudden division of cells and is one of the major causes of mortality (Seca et al., 2018). The actual cases reported and the forecasts for the near future are unthinkable. The Food and Drug Administration data shows that 40 per cent of the approved molecules are regular mixes or inspired by them, from which, 74 per cent are used in anticancer therapy. Indeed, characteristic products are viewed as more naturally friendly, that is less harmful to typical cells. In this review, the latest and successful cases of secondary metabolites, including polyphenolic, alkaloid, triterpene and diterpene, type mixes, with great anticancer potential are discussed. Focusing on the ones that are in clinical preliminary development or already used in anticancer therapy, therefore successful cases, for example, paclitaxel and homoharringtonine (in the clinical use), curcumin and ingenolmebutate (in the clinical preliminaries) are addressed. Each compound's regular source, the most significant steps in their discovery, their therapeutic targets, just as the fundamental structural alterations that can improve anticancer properties will be discussed to show important role of plants as a source of safe and highly effective anticancer drugs.

With the increasing research and development (R&D) trouble of new molecular entities (NMEs), novel medication delivery systems (DDSs) are pulling in widespread attention (Zhong et al., 2018). This review investigated the current appropriation of Food and Drug Administration (FDA)- the approved pharmaceutical products and also evaluated the technical barrier for the entry of generic drugs additionally highlighting the failure and

success of advanced medication delivery systems. As indicated by the proportion of generic to new drugs and the four-quadrant order scheme for evaluating the commercialization potential of DDSs, the results showed that the customary dosage structures (e.g., conventional tablets, capsules and injections) with a lower technology barrier were easier to reproduce, while advanced medication delivery systems (e.g., inhaled breathers and nanomedicines) with profound technical barriers had less intense competition and larger market potential. The study provides a broad understanding into FDA-approved products and a deep analysis of the technical obstructions for advanced medication delivery systems. For the future, the R&D related to new molecular entities may merge advanced delivery technologies to turn potential drug candidates into more therapeutically effective propositions.

#### **V. Impact of marketing strategies on the brand personality and consumer perception in case of general products and also with special reference to pharmaceutical products**

##### ***Brands (in general)***

Sultan et al., (2019) in their study found that the consumer perception for brand awareness and brand steadfastness for two celebrated brands of soft beverages Coca Cola and Pepsi, has been evaluated. For this purpose, the impact of consumer perception of Pepsi and Coke were analyzed for consumer relationship to these brands. The objectives of the study are multi overlap (I) Studying on the consumers preferences (II) to illustrate which brand's advertisement generally people have seen, (iii) demonstrate the reason to purchase cola beverages or Pepsi drinks (iv) assessment of the creation of a head of psyche awareness about COCA COLA in, Erbil KRI by passing on the information to consumers. The sample selected 50 consumers of beverages (PePsi and Coca Cola). Data collected and analyzed by utilizing Microsoft office 2010 version. Results showed that consumers of Pepsi and Coca cola a higher portion of the sample found favour toward coca cola and they like coca cola as compared to Pepsi reason being its solid taste.

For instance, 60 per cent people answered that they remember more advertisements as compare to Pepsi and others. What's more, 90 per cent said coca cola is easily available and furthermore 70 per cent people answer that they like coca cola due to its solid taste. Thus the overall research survey for Coke and Pepsi has showed that Coke is more popular brand then that of Pepsi and recommendations are given. For instance, perception leads to the brand unwaveringness, consequently brands in general and Pepsi and Coke need to focus on the idea that its consumers are likely to perceive more value from the brand that can come through guaranteeing them about nature of product and other factors i.e. best value, best price, accessibility, trend etc.

Shah (2017) believes that Indian economy has considerably changed in most recent 3 decades. The economic upliftment has given considerable buying power to Indian consumers. Presently, Indian consumers are more inclined towards branded products. Specifically, youth is considerably influenced by the branding of the multinational companies in different product categories. This paper focuses on the correlation between marketing strategies of sports shoe brand i.e. Nike and Adidas specifically. Segmentation, Positioning and marketing mixes will be stated. Consumers perception while offering preferences to a specific brand will be told. Innovative market practices implemented by global brands just as its influence on consumers will be stated. Consumers viewpoints will likewise be told. Ultimately, end and perspective from my side on comparative marketing strategy will be stated.

##### ***Pharmaceutical brands***

Pharmaceutical companies rely on their marketing activities to influence doctors (Khazzaka, 2019). Previous studies revealed that the pharmaceutical companies succeed to manage doctors prescribing behavior in developed countries. However, very little studies investigated the effect of the pharmaceutical marketing strategies on prescribing the pattern in developing and the middle-eastern countries. The aim of this study was to assess the influence of pharmaceutical companies' strategies on behavior of doctors'

prescription in the Lebanese market factoring doctors' demographic variables quantitatively. Moreover, this study tested whether Lebanese doctors considered blessings and samples acceptance as an ethical practice. Inspecting was done by utilizing a non-likelihood method. An online cross-sectional study was carried via WhatsApp. A self-administered questionnaire survey was conducted during the long stretches of February and March 2018. For assessing reliability the Cronbach's Alpha coefficient was computed. Data was statistically processed by utilizing IBM SPSS insights version 24 software. Chi-square and Cramer's v tests were applied to finding a sign correlation, and the Spearman test was applied to measure the direction and strength of the relationship between variables. Results revealed that the pharmaceutical marketing strategies are associated with the doctors' prescribing behavior. We demonstrated that most of the limited time devices tested were generally or sometimes spurring doctors to prescribe promoted drugs. The significant devices that doctors agreed to be generally motivated by are visits of medical representatives and samples of medication while the sales calls made by the pharmaceutical companies are less influential mechanism. Results showed that most doctors use free samples to treat their patients. It was demonstrated that there is a relationship between doctors' prescribing pattern and their age, gender and the area of practice. Findings of this study provided a quick work, serving as one of the primary humble steps in the imminent direction of merging this paper with the previous literature. From a managerial perspective, pharmaceutical marketing managers of medication companies can use the research findings to design better their strategies directed to the Lebanese doctors who can likewise benefit from the results obtained. The pharmaceutical industry has started to capitalize the potential of brand management relatively late as compared to other industry (Basile, 2019). From the years 2013 to 2017, the pharmaceutical companies have put more efforts on the brand rather than on the patents, imitating the example of companies from the consumer merchandise industry. This drives companies to formulate branding strategies that tend to look to utilize the potential of the

brand, which up to that point had remained unexpressed in the pharmaceutical sector. The analysis is focused on the over-the-counter (OTC) drugs, a category of pharmaceutical products where companies have been able to better express the brand's potential, additionally because they are not subject to prescription or severe regulations. The objective of this article was to analyze: a) from the outset, the levers of creating brand equity for OTC drugs and b) to evaluate subsequently, the effect of the non-conventional correspondence of this type of drugs on the consumer in the Italian market. The research methodology deployed was a mix of the qualitative and quantitative, based on a two-pronged approach. In the initial phase by way of a comparative case studies of companies from the pharmaceutical industry. In the next phase based on a field research through a consumer questionnaire and breaking down the data with a statistical-descriptive method. The research results show that the customary medication selection criteria despite everything prevail, for example, the experience and the advice of the specialist and drug specialist, yet a non-negligible percentage of consumers considers the brand and the manner by which it is communicated likewise significant. In the pharmaceutical sector for their choices. Therefore, managers should exploit this significant brand awareness with respect to consumers, deploying appropriate strategies of brand or line extension. Finally, managers ought to develop unconventional marketing devices for OTC products, which construct consumer experiences that go beyond the mere therapeutic usefulness of the product.

### **Key observations**

Huge amount of research is available both in general products and also in pharmaceutical products as far as brand life cycle is concerned. In the general products, the review showed a wide-range of products including services in relation to which the concept of brand life cycle has been studied. Researchers have highlighted typical features of brand life cycle applicable to pharmaceutical products. Legal aspects including patenting have been discussed. Risks associated with

pharmaceutical products in terms of the side-effects have been highlighted.

### Research Gaps

Most of the studies have been carried in foreign countries. Studies in India are relatively much less in numbers. Further no super-specialization studies for diabetic medicines are on record. Given the fact that diabetes is spreading at a mammoth speed all over the world and in India in particular there is a need for a special contextual study. At the same time there is also a scope for a comprehensive marketing-oriented study taking into account factors like consumer perception and brand personality to gain a broader perspective of the issue.

Following set of research questions was set accordingly:

RQ1 - What are the factors that affect the lifecycle of pharmaceutical brands in diabetes therapy?

RQ2 - What marketing strategies are deployed by pharmaceutical companies to progress on the brand lifecycle from introduction to growth phase?

RQ3 - What is the impact of marketing strategies on the brand personality and perception in the mind of customers?

RQ4 - Can there be a framework for strategy formulation and implementation to take the brand to the growth stage?

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