

Computer-aided Product Life Management (PLM) : An Indispensable Tool for Fashion and Apparel Industry

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Abstract

PLM is a management strategy adopted by a company to control its collection from the point of conception to the point of sale. In a simpler way product-life-cycle (PLC) concept is linked with variations over time in the volume of sales or profit earned for a specific product category, form or brand. During this period significant cohesive marketing strategies are developed and adopted to increase the profit of company in terms of market and customer share. Companies either make strategic plans or follow the basic rules of the different life cycle phases that can be analyzed later. Further a clear cut understanding and analysis of PLC is very important. Any wrong strategy may lead to a failure of complete process planning of the products. This concept becomes even more important for "Fashion Apparels and Accessories" which have continuous change and aesthetic as the inherent characteristics. Keeping in view many software companies have introduced programme packages for fashion products managements, which are implemented by many garment manufacturers.

Keywords

Product life management (PLM), Strategies, Fashion & Apparel Products, PLM Softwares

1. Introduction to PLC(Product life Cycle)

Product can be defined as "any offering that is capable of satisfying customer needs". This definition includes both physical products e.g soaps, cars, cosmetics as well as services e.g. dry cleaning, life insurance etc. The various stages which individual product develops with the passage of time is generally known as Product life cycle. [1]

Typically, four distinct stages, namely, introduction, growth, maturity and decline are distinguished. Life cycle of products is represented diagrammatically as conforming to a bell-shaped distribution as shown in Fig 1. [2] A brief introduction of various stages of Product life cycle can be explained as:

1.1. Introduction Phase

After the procedure of product development i.e. a clear translation of various sources of information and incorporating them into a new product, final designed products are introduced in market. All requirements of end customers for on design, pricing, servicing and packaging are considered. Initially product requires to

get launched in such a way so that it will have maximum impact at the moment of sale. Large expenditure on promotion and advertising is done while getting only a small proportion of that back in the pocket. Rapid skimming i.e. introducing the new product with high price and a high promotion level, Slow Skimming launching the new product with a high price and low promotion, Rapid Penetration i.e. introducing the product with a low price & heavy promotion, Slow Penetration i.e. introducing the new product at low promotion level and low product price are most commonly followed introduction policies. [3]

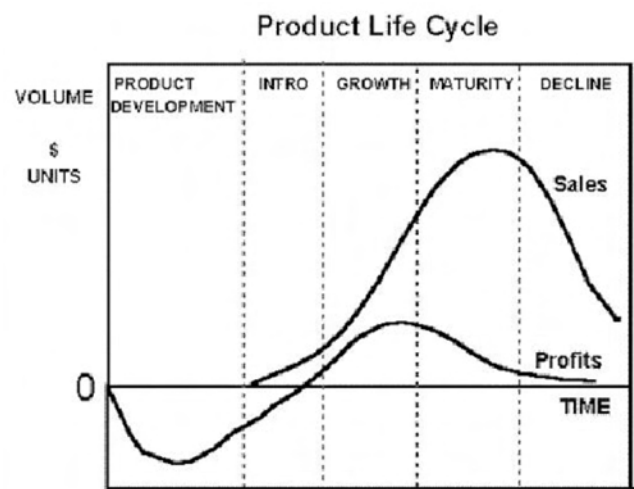


Figure 1.1 : Product life Cycle (2)

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1.2. Growth Phase

The growth phase emphasizes on increasing the market percentage. If the product has been introduced first into the existing market then it is possible to gain market share relatively easily. Companies generally show all possible products offerings and try to differentiate them from the competitors ones. A frequent modification process of the product is an effective policy to discourage competitors from gaining market share by copying or offering similar products. This period basically involves development of efficiencies and improve product availability and service. Promotion and advertising are more oriented to market leadership theme and not in raising product awareness. Various strategies during growth phase include improvising the products and quality, creation of niche market to extend distribution etc.

1.3. Maturity stage

Maturity phase is highest returns phase. It arrives when the market becomes saturated with variations of the basic product, and all competitors are represented in terms of other alternative comparable products. While following right strategies, company that has achieved its market share goal enjoys the most profitable period, while a company that falls behind its market share goal, reconsiders its marketing strategies in new market place. New brands which compete with the company's existing product are introduced to extend the product's life. Fashion pricing & repricing policies are often changed in relation to the competition policies i.e. price moves up and down as per competitor's selling policies to get new customers. Promotion and advertising aims at the product conviction strategy. Generally adopted strategies during maturity stage are market & product modification by adding new features or by converting non users or probable users to product user category.

1.4. Decline stage

After significant time period, sales begin to decline as the market becomes saturated, the product becomes specifically obsolete or customer preferences change. If the product has developed brand loyalty, profitability may be maintained longer. If sales peak and then decline, managers may conclude the product is in the decline phase and therefore cut the advertising budget, thus precipitating a further decline. [4] The product withdrawal is generally a complex decision because of spare part availability, maintenance, service requirement factors. Often companies retain a high price policy for the declining products that increase the profit margin

and gradually discourage the few loyal remaining customers from buying it.

2. Fashion & Apparel industry

Fashion and apparel industry basically consists of Apparel manufacturer e.g. Woven or knitted kid's wear, women's wear etc, Accessories manufacturers e.g. jewellery, handbag, purses, hats etc. and complimenting Fashion Services Industry e.g. fashion modeling, dyeing jobs, dry-cleaning etc.

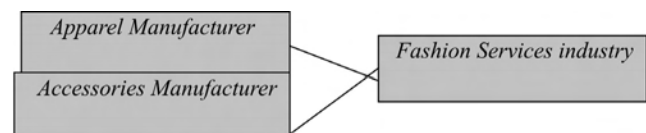


Figure 2.1 : Fashion Apparels & Services Industry

3. Fashion product's uniqueness and need of PLM

Nature of product has a deep impact on selection of product management strategies. All price, promotion and distribution mix change as per the nature of product. Fashion products like clothing and accessories are unique as:

- the length of the selling period depends on the product design, and fashion shows cyclical changes.
- the end of the production period is determined by objective constraints on sales (e.g. alternating seasons in the case of clothing).
- the length of the production cycle is incommensurate with the selling period. [5]

Accordingly apparels are classified as Fad, Fashion and Classic. Fads are generally thought to exhibit a rapid rate of early growth in sales, a low maximum level of sales and an early precipitous demise in sales. For examples Punk dresses, Hippy dresses. Fashions by comparison are generally thought to show a more gradual growth in sales followed by a plateau of popularity, which is lacking in fads, and a slow continuous period of sales decline e.g. Batik with kantha embroidery suits etc. The Classic is generally considered to show a long period of slow initial growth in sales followed by a higher and longer peak of acceptance and an extended period of gradual decline for example Shirts etc [1]. All steps starting from design generation to final distribution of product to customer are different as per the fad or fashion criteria. Moreover to use PLM, systematic empirical differentiation and characterization of market segments should be studied as a necessary prerequisite.

4. PLM Software for fashion & apparel industry

For each type of fashion product, within each industry Designing, Development, Production and Marketing are important sections. For rapid and smart working, PLM software are implemented in almost every well automated and growing fashion industry. A general PLM software has different packages as per the process flow requirements of all these sections. Generally main modules in PLM software are:

- Design management with reference to creative as well as technical design, color management.
- Product data management module for efficient storage & retrieval of designs & details.
- Product manufacture management and work flow engine for efficient followup of production process.
- Marketing management module for marketing, distribution, licensing etc. of product.

Many renowned companies like Lectra Fashion PLM V2R1, Fashionware Solutions Inc, Gerber Web PDM, New generation computing e-PDM, Freeborders, unique Solutions Inc.'s, Lawson Fashion have already captured a huge chunk of fashion & apparel industry. Few renowned apparel manufacturing companies who are efficiently utilizing PLM Software are:



Figure 4.1 : Design preparation via Lectra fashion PLM [8]

- Independent computing platform for both Mac and PC users provided by Yunique plmOn™ product life cycle has motivated children’s licensed sleepwear manufacturer American Marketing Enterprises Inc. (AME) to implement it across its design, technical design, product development, licensing, sales and production teams in its Manhattan headquarter. [6]
- Renowned children’s wear manufacturer Gini and Jony and Colourplus has implemented Lawson’s Fashion Product Life cycle Management solution. [7] More creative and rapid response to all seasonal apparels can be achieved with the software. It is an informative tool for apparel

retailers and manufacturers. Web based suite helps the quick and clear flow of information. Lawson ERP solutions are improved and in depth version of previous PLM solutions.

- International women’s clothing and accessories designer, manufacturer Mango is using the new software, Lectra Fashion PLM’s. It is having feature like design management, creative design, technical design, color management, a new product data management module for the developer of its product life cycle management solution. [8]
- Owner and marketer of the Little Me® line of children’s brand uses Yunique pmOn™ product life cycle management (PLM) and srmOn™ supplier relationship software of Yunique solutions [9] for flexible workflow and sourcing functions. It is helpful for organising a fashion line collection with in specified lead time period.
- Delta Galil Industries Ltd. has implemented FlexPLM solution of Prametrix Technology Corporation to reduce the company’s development time and automate processes to cut the lead time. [10] Proper planning and scheduling of all work in processes gives an added advantage to the production management.
- Renowned wool manufacturer and retailer Pendleton Woolen Mills, implemented the Yunique plmOn™, a product lifecycle management (PLM) software. [11] The software has proved to be helpful for quick response to seasonal demands of apparels.
- California-based Apparel Manufacturer Guess Inc. implemented Dassault Systèmes ENOVIA® Apparel Accelerator™ for sourcing and production control. [12]
- Billabong International Ltd. implemented e-PLM software solution by New generation computing system across all of the company’s regions and brands to improve global sourcing and visibility. [13]

5. Conclusion

PLM technology promises quicker innovation in terms of creativity & technical designs. Intense paperwork can be easily prevented as these softwares provide better visualisation of ideas, for example Lectra software's design module. Effective cost management, improved product portfolio profitability, effective sourcing ability and supply chain flexibility are some other benefits of following PLM concept in traditional company procedures. Moreover Product life-cycle concept should

be used with careful formulation and testing as an explicit model, otherwise it may be misleading in formulation of different strategies.

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