

SYNTHESIS OF NEW PRODUCT DEVELOPMENT SUCCESS

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ABSTRACT

These days to remain relevant in a vulnerable business environment, that competition is gaining grounds, is to be innovative in new product development (NPD), to enhance the success and acceptance of company's product. And the need to take quick decisions that will see the product come to life in a tangible form. The strategy used in this study is "Benchcasing" – identifying key salient factors to "NPD". The final word for users is, putting conceived product ideas or concept into real life, there by making the difference between new product success and failure. Thus the better the fit between new product development and company's technical and marketing expertise, the more likely the product will succeed.

KEY WORDS: New Product Development (NPD), Innovation, Competitive Advantage, Benchcasing, Success.

1. INTRODUCTION

Product is one of the element of the marketing mix or '4Ps' of marketing and represents both tangible and intangible goods; which could be offered to a market for attention, acquisition, use or consumption that might satisfy a want or need. While product development is the transformation of a market opportunity, and a set of assumption about product technology into a new product available for sale. But developing a new product in a tangible form to meet the needs or desires of possible end – users or target market isn't an easy task. Companies that fail to develop new products are putting themselves at great risk, because some of them and their existing products are vulnerable to changing customer needs and tastes, new technologies shortened product life cycles, increased domestic and foreign competition (Kotler, 2001).

New product development is a potentially vital source of competitive advantage and company renewal, especially if the product is successful in the eyes of potential customers. But the case of some new entrants (some products) has been an eye sore. They hardly pass through the commercialization stage before they disappear from the market. Thus success has remained elusive for such companies and their products. Madell (1979) found that only four percent of new product launchers in the British food market were truly successful. Dupont lost an estimated \$100million on its synthetic leather called corfam. Hence the negative attitude of some consumers towards new products in our domestic markets; instead they prefer sophisticated brands that they are familiar with. This reason has made it virtually difficult for the growth and development of some new products in Nigeria. New product development projects spark conflicts between external demands and internal competencies if the product does not succeed into full commercialization or growth stage.

Thus this study will be beneficial to producers because it is a guide and a step by step process towards creating and rejuvenating products that are capable of facing competition and still have reasonable sales in the midst of such competition. Moreover it will give a firm's product the opportunity to remain in the growth stage for as long as possible, while taking into consideration the wheel of business. Knowing fully well that business is not static; the wheel must revolve for innovative principles in the development of successful new products that will create a market for a firm's product. On the part of consumers, they are supposed to gain satisfaction from the goods they consume or intend to buy. If such new products meet, their needs and wants, it means they are satisfied consumers and it will in turn result to more sales and revenue for the producing firm. If that is the case, then the economy at large will grow and more opportunities will be created for the utilization of both human and materials resources.

Based on the problem of this study, it is important to note that change is inevitable in the business world and nothing is static. In the new economy, these changes occur at an over-quickening pace. Companies flying high one quarter can be scraping the bottom of the barrel the next, if such companies and their product clung to obsolete production method. A company's product that does not adjust to rapidly shifting consumers demand and global market conditions may be left out or be extinct. Unfortunately this is the situation with some products in domestic market; they hardly survive the competition, because their development process is not on a good footing. Moreover, vital decisions relating to new product development are not taken as at when due or hazardously taken either in trying to minimize cost, but the long-run effects double the cost saving factor. Some clear examples include; Fanta Chapman, a soft drink produced by the Nigeria Bottling company (NBC) was

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not successful in the market. The same thing happened to Daily Need which was a tooth paste introduced several years ago in the Nigerian market, and Satzenbrau in the beer market never capture a reasonable market share, hence its disappearance. There are instances where some companies copy the product of other companies and take the decision of faking and producing similar product without passing through the stages of new product development. Such products sometimes end up not doing well in the market, because the producing firm did not take important decision.

Hence this study tries to develop strategy for developing a successful new product and decision variables, and the likely reward associated with such creativity.

2. REVIEW OF RELATED LITERATURE

New products are the life blood of companies; large or small, proficiency in new product development can contribute to the success of many companies (Crawford 1980). If companies can improve their efficiency at launching new products, they could double their bottom line. It is necessary that companies developed new products to replace those that have become out-dated or introduce completely new products that will be captivating before target market. According to Dunne (1974) there are three categories of new products namely; products that are truly unique or innovative, products that can be considered replacement for existing ones but which are significantly different from those existing products, and products that are new to a particular company but not new to the industry or market. On the other-hand, Booz, Allen, and Hamilton (1980) referred to new products as those that create an entirely new market, new products that allow the company to enter and establish market for the first time, new product that supplement a company's established product line, new products that provide improve performance or greater perceived value and replace existing products that are targeted to new market or market segments, and new products that provide similar

performance at lower cost. Based on the above characteristic of a new product, we define it as an innovation or modification, or invention of an existing product to an extent that consumers perceive the modified version as a different or existing product just entering the market.

2.1 Model of new Product Development Success.

This model was developed by Lynn Gary and others in 1996, using a new technique called Benchcashing which implies sending knowledgeable informant a series of cases and asking them to identify key factors. He and his colleagues uncovered ten critical determinants for successful new product technology and innovation. The factors include;

- having a structure new product development process.
- having a clear and share vision on the team.
- developing and launching a product within the proper time frame.
- refining a product after launch and having a long-term view
- processing the optimal team skills.
- understanding the market and its dynamics
- securing top management support for the team and the team's vision.
- applying lessons learned from past projects.
- securing good team chemistry.
- retaining team members with relevant experience.

Moreover, they found that two factors- "NPD". Process and a clear and shared vision, were considered the most critical factors. Cooper and Kleinschmidt (1986) found that having a structure "NPD" process including idea generation, screening and evaluation, testing development, and launch has a positive impact on new product success. Argyris and Schon (1978) assert that having a shared vision of the project is important to new product success.

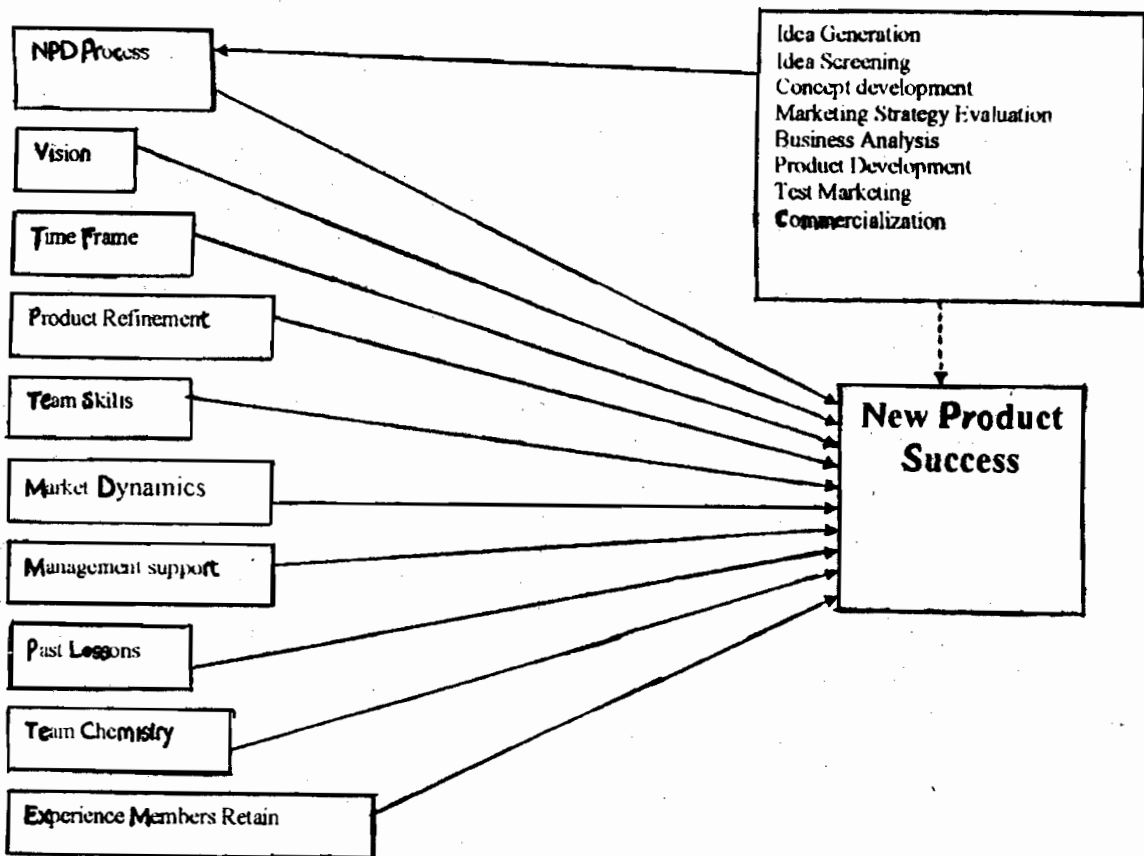


Figure 2.1: Variable Effects on new Product Success.

Vision signals to the new product developers or team members what the goal is and having a structured "NPD" process gives them or the company a framework and partial environment for accomplishing the vision. Other salient steps in NPD includes;

- Idea generation – systematic search for new product creating idea.
- Idea screening – Most important ideas are selected
- Concept development and testing – attractive ideas are refined into testable product concept.
- marketing strategy development – involve designing an initial entry strategy.
- business analysis – review costs, sales, and profit projections to find out whether it meet company predetermined goal.
- test marketing – pilot survey or testing of the product before target market to ascertain their acceptance or rejection for the new product;
- commercialization – if accepted, then large quantities of the product will be produced (Ewah, 2005)

2.2 Product Development Decision Variable (PDDV)

The decision perspective helps to get a glimpse in the "black box" of product development success without being concerned about how these decisions are made, and thereby offers an opportunity to generalize and develop a grounded theory. These decision

variables are integrated and inter-dependent on each other, in order for the firm to achieve its' desire goal. They include the following; concept development, supply-chain design, product design, performance testing and validation, and product launch and production ramp-up (Krishnan and Ulrich, 2001).

1. Concept Development decisions (CDD):

These decisions are basically on product specifications, physical configuration, and extended product offering such as life-circle services and after-sale suppliers. Other decisions include;

- What are the target values of the product attributes?
- What will the product concept be?
- What is the product architecture?
- What will be the overall physical form and industrial decision of the product?

Thus a useful presentation of a product is a vector of attributes (e.g. speed, price, reliability, capacity). Here attributes represent an abstraction of a product and concept development involves the embodiment of these attributes into some kind of technological approach, which is called the core product concept. The decision of which technological approach to pursue is often supported by two more focused activities; concept generation and concept selection. The traditional approach to concept selection stipulates that it should be frozen before detailed production design commences. Bacon, et al (1994) find from their study of high-technology industries that unchanging

product specification in dynamic environments is at best an elusive goal. Product specification in this study means, the engineering characteristics or technical performance metrics.

2. Supply- Chain Design: This relates to inbound and out bound flows of materials, as well as the supply of intellectual property and services to the firm. It also involves supplier selection as well as production and distribution system design issues. Other important decisions include;

- Who will design and produce the product?
- Which component will be use for designing the product?
- What is the configuration of the physical supply chain?
- What type of process will be used to assemble the product?
- Who will develop and supply the process equipment?

Fisher (1997) argues that the optimal supply chain for innovative products is different from that of non-innovative products, because of differences in the relative magnitude of direct production costs and the cost of a mismatch between supply and demand.

3. Product Design: These decisions constitute the specification of design parameters, the determination of precedence relations in the assembly, and the detail design of the components. It addresses the following area;

- what are the values of the key design parameters?
- what is the configuration of the components and assembly precedence relations?
- what is the detailed design of the components, including material and process selection?

These decisions generally result in geometric models of assemblies and components, a bill of materials, and control documentation for production.

4. Performance Testing and Validation: In as much as detailed design decision are being made and refined, it is necessary to have a design that is prototyped to validate for fit, function, and fabrication (i.e. 3Fs). Typically, the firm has a choice of developing prototypes sequentially or in parallel with different cost, benefits and time implications. One or two of these questions will be answered;

- What is the prototyping plan?
- What technologies should be used for prototyping?

Dahan and Mendelson (1998) derive optimal hybrid sequential-parallel prototyping policies by modeling prototyping as a probabilistic search process. Thomke and Bell (1999) show that the optimal prototyping and testing strategy should balance, among other things, the cost of prototyping and cost of redesign.

5. Product Launch and Production Ramp-up: In launching a product, the firm decides the timing and sequence of product introduction. A number of decisions must be made in association with product launch and ramp-up. The company has to decide the magnitude to

which test marketing should be done. The firm has to answer these vital questions;

- what is the plan for market testing and launch?
- what is the plan for production ramp-up?

Launch timing is a decision that trades off multiple factors, including threat of competitor entry and the completeness of development (Kalish and Lilien 1986). Hendricks and Singhal (1997) advice firms to be careful in communicating their launching timing to the market, as not meeting pre announced launch dates can have significant impact on the market, value of the firm. It is a fact that poor product design decisions can show the rate of production ramp-up.

2.3 Empirical Evidence of New Product Success

A study of 200 new business products successes and failure introduced by some 100 companies as enunciated by (Hass 1992: 394-395) revealed, three major factors that differentiate winners from losers. These factors were; superiority of the new product, strong market orientation and marketing proficiency, and superior technological and production capabilities.

Superiority of the product refers to other competing products in terms of better meeting customer needs, unique features not found in competitive offerings, high quality, innovativeness and lower cost to the customers.

Strong market orientation and marketing proficiency was characterized by the good research prior to product development, good understanding of the market, strong market and distribution efforts, and guidance by knowledgeable marketing people.

Superior technological and production capabilities implied that the company had a strong and capable engineering and production base for the new product.

Another study of new product development carried out in Australia revealed the major determinants of success to include;

1. New product synergy with existing company's marketing, technical and manufacturing skills.
2. High product quality that offered significant new benefits
3. Appropriate target marketing, pricing, and good distribution channel.

Further studies that were engaged found three dimensions of new product success to include; financial performance, market impact and opportunity window (Hass, 1992) Financial performance dimension comprises, relative profit level, payback period and the meeting of sales and profit objectives. Market impact was based on the impact of the product in both foreign and domestic market in terms of market shares. Opportunity window involves the degree to which the new product opened up opportunities in terms of other products or market areas.

Based on these studies it can be adduced that certain factors positively affect new product success. For instance, high quality offerings are more likely to succeed than low quality product. The product that better meets customers' needs and offer benefits not found in competitive products stand a better chance of succeeding. In addition, the better the between new

product will succeed. And thus new product success is enhanced when competent and faithful marketing personnel direct the product launch.

2.4 Benefits of Successful New Product Development.

New project teams strive to develop technical knowledge and achieve commercial objective by building innovative capacity, that would make the company and its product remain competitive in an ever dynamic business environment. Other benefits include;

- creates a market for the firm or company's product and improve on its productivity level.
- sustain the profit of the company as a going concern
- increases consumer's selectivity or choice making.
- acceptance for a company's product and create a good image for the company.
- all resources of a company are put into useful purpose, especially idle resources.
- reduces the threat of obsolescence which hangs over some products.
- result to full employment level for the firm and growth of the economy.
- result to company diversification objective.
- translate to positive diffusion process in the minds of market segment.

2.5 Reasons why some New Products Fail

Competition is fierce today and businesses are under extreme pressure to innovate in a very speedy pace or be prepared to leak the bottom, that is pushed out of business by fast moving developers, both at the local scene or at global market. According to Agbonifoh et al (1998) as adduced by Forster (1978), which encapsulates the views of other scholars, new products fail because of the following reasons;

- the basic concept, specification or proposition was at a fault or out of step with the true nature and needs of the markets, technology, or manufacturing capabilities of the company.
- price, size, performance, durability or specification may be wrong.
- technological skills of the company may have been stretched beyond reasonable bounds.
- assessment of market potentials and its location were wrong, or the estimate of the timing (of either acceptance by the market or launching of the product) was wrong.
- competitive strength, especially the power to launch a counter move, was underestimated.
- there was no systematic programming or control of the work
- technical and production design and planning were rushed.
- the whole product planning operation was badly organized or staffed or rushed.
- all other research and evaluation were skipped or rushed.
- too much time was taken in the initial launch, other companies managed to leap frog into the national market and establish their market position first.

- the products were "Ivory Tower" the pet projects of some one or some department out of tune with market needs and therefore the products were unassailable.
- the global or international aspects were overlooked.

But in the case of our society the main reason for new product failure could also include, poor quality, artificial features, lack of information about the product, resistance to change by some consumers, false content, indecent packaging, stringent government policy and laws among others.

CONCLUSION

Ultimately, to create successful new products, a company must understand its consumers markets and competitors and develop products that deliver superior value to customers. Therefore preparing the psychologically safe or conducive environment and temperament for businesses will give producer the impetus for innovation and creativity that can translate into successful new product development. Because for technological innovation, firms may not know that they have a marketable product until they develop and launch it. According to Drucker (1985), when all is said and done, what innovation requires is hard, focused, purposeful work and if diligence, persistence, and commitment are lacking, talent, ingenuity, and knowledge are of no avail. Therefore successful new product development takes discipline and home-work in an inherently, undisciplined environment, that require fast decisions to be taken in the development process.

RECOMMENDATIONS.

1. Have clear vision coupled with the plan to achieve such that is in the new product development.
2. Remember that time is not static and the business environment is highly competitive, hence developers have to transform new product concept into real product or else competitors will steal the conceived plan. For speed to market in today's fast pace competitive environment is significantly related with new product success.
3. There must be long-term view of the project which involves learning and improving on the new product development process.
4. There should be advance planning and researching for new product idea.
5. A wide variety of concepts from a wide variety of sources should be considered.
6. The choice of product variants must balance heterogeneity in preferences among consumers and economies of standardization in design and production.

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