The new product development process

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**Capstone Research Project**

# **Introduction**

New product development (NPD) process is usually addressed by scientific literature. The process of innovation influencing the process of NPD to create market demand, to bring the exceptional value of the product into the market. However, successful product creation is not a very easy project. An organization should properly research the demand and importance of introducing a new product into the market. Development of these products is a long term process and companies face many problems while developing these products. It is not necessary that a company will definitely get a return after completing the whole process. By using present literature, the main purpose of the study is to use a marketing strategy for the formulation of the NDP process. Research shows that the commercialization process and innovation process of research are inter-related and comparison should be made between the relationship of innovation and commercialization process. The NPD process includes the innovation of the product design to the introduction of a product into the market (Zemlickiene & Maditinos 2012). This research will find the relationship between NDP innovation process and commercialization, many sources are linked with innovation and commercialization process.

# **Discussion**

**Survey of the Marketing Environment**

 Successful creation of the latest product in the market is not an easy task. It is a long term problematic process which requires huge capital and a lot of time. It is not necessary that the NPD process always gives profit to the organization, it may also create a heavy loss for the organization. Companies give 46% of their resources on NPD introduction in the market, which may be wasted on the development of an unsuccessful product (Cooper, 2006). Before commercialization, 60% of all NPDs have been stopped and 40% of products excluded from the market. The main problem of the failure of any product in the market is a lack of marketing strategies (Allen, 2003). The research shows that companies should concentrate on the formulation of marketing strategies for the NDP process. In NPD process proactive consideration of the customer is a developed marketing strategy, which may require to choose suitable market segments that have to be targeted, establish cost targets to meet objectives of price, find out partners who may play important role in value creation. Moreover, it conveys the customer's voice to the firm. In the NPD process, marketing solution has proved important in previous scientific research. For new product development, the success key factors research and development (R&D) integration with marketing has identified by Ernst et al. (2010). To meet the marketing environment it is necessary that product design should be one of the best design in the market (Beckman 2008). A better design does not only help an organization to achieve profits but organization image is also connected with it (Hsu 2011). In the NPD process, it is better to analyze the present research in this field and generalize it.

**Transforming Data into Useful Information**

After the evaluation of the work connected to the innovative new process of product development, it became obvious that research commercialization method and innovative process are interlinked and the common feature is problem-solving. Many difficulties have been faced during analyzing this process, So it is essential to analyze the literature to make more clarity to describe limits of the process that will address the problems of research proposals and formulation of marketing strategy. The most essential thing to achieve this goal is to match the NPD, commercialization and innovation processes with scientific concept and processes.

According to the research conducted by Ph. Kotler (2003), NPD is the creation of a new brand, existing product modification and improvement and creation of the new product, with the help of effort of the organization's scientific research department. The company can develop a new product in two ways, First way is to make some other company’s product or the second way is to purchase another company or take the patent license. Profit-seeking companies to develop improved and new products or processes utilizes science and technology by industrial research and development (R&D). An essential part of Research and development (R&D) is NPD, which can be appreciated as an activity to improve company future success and gain competitive advantage, for example, market share and profitability. Based on trust and hope that evident profit will be greater than spending money on R&D (Suomala & Jokioinen 2003).

According to researchers, AMR research (Product development and Management Association), studies of Booz-Allen Hamilton identify that Stage gate system and its modifications are used by up to 75-80% of US product creators. Most of the leading companies use NPD tool and Stage gate process created by R. G Cooper. Stage-Gate system was developed by Cooper &Edgett (2010) in 1980 which is widely used in new product development. For analyzing of developed products for a successful experience and successful project, Stage-Gate System was developed. Stage Gate System of Cooper was an operational and conceptual road map innovative idea for new product development Management decision gate separated the Stage-Gate into different stages separated by a management decision gate. Related cross-functional activities are successfully completed by the cross-functional team. If we move to the next stage of the product development stage it is necessary to take management approval.

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| Discovery Scoping Create a business case  Launch validation and testing development  |

 (Fig 1)Cooper’s five stages of new product development

Cooper (2013) research shows five key stages for new product development including (0) discovery: To create new product ideas and discovered opportunities to design (1) scoping (2) build the business case (3) plan development (4) validation and testing (5) launch the project. Cooper's discovery-stage define technology development process which includes scoping, technical assessment, Complete investigation stage, moreover, following stages are found as NPD stage.

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|  The strategy of new product Search idea Idea selection Conception creation  Product Creation Business analysis Marketing strategy Trial marketing Preparation of product  |

 (Fig 2 ) Ph. Kotler Nine stage product development process

Ph. Kotler (2003) studies describes nine stages of product development which includes (1) new product strategy; (2) search of ideas; (3) selection of ideas; (4) creation of conception and check; (5) marketing strategy; (6) analysis of business; (7) product creation; (8) marketing trial; (9) preparation of product. Many organizations usually applied NPD sequential approach and strictly follow the stages from product development plan to competing with the product on the market. However, product development sequential method application is used, specific product development is performed by every department of the company to transfer accomplished work to organizations another department which executes the next step. Product development method in a sequence has its advantages, it will support to impose order and control high risk in difficult projects of new product development, but it takes a long time of product development by using those methods.

**Integrating Results Across Business Functions**

 The entire process of product development may be slow down or stop when the problem has been solved at some stage of the process. A company should try to make the NPD process shorter and do an effort to bring the product into the market. Many companies are not following the full sequential approach rather they use more flexible and faster ways to get a new product into the market. The parallel methods of product development should choose by the company to or a way of working teams (Kotler 2003). To increase efficiency and save time, departments of the company should closely work together in several stages of the product development process. A team should be created from different department of the company to create a product from start to the end in a short time with good quality. Caurtois (2004) define the Commercialization which means “introducing and presenting the product into the market”. Many sources are used for the marketing of new product into the market which may include Email, SMS, social media advertisement and advertising boards, etc, the organization should use these methods in cost effective manner to introduce a new product into the market.

Process of innovation has many types which include innovation of product, process innovation, the innovation of marketing and organizational innovation. NDP process and innovation process are identical, that is product innovation can be compared with product development. Commercialization theory is sometimes used to explain the invention development process which is finished with the agreement of invention assignment, the establishment of spin-out or licensing of the company. In the NPD process analysis, the research limit should set that the process should be started from the initial design phase and ends up with the introduction of the product into the market. In the new product development, process marketing solution is very essential, which has been proved from previous scientific research. In the new product development process latest, scientific research was generalized and analyzed for new product process marketing decision to contribute to the research in this area.

**Ethics in Decision Making**

 In the long run, it is believed that a business they are running by the organization is granted by the consumer they serve. Moreover, it is ethical if an organization contributes to the society in which it is maximizing its profit potential. A question may arise “How do consumer understand the contribution of an organization in the society? and if customers are not capable to make a clear difference between products with or without any inherent physical, social and moral harm, then why should seller? The consumer always wants to purchase socially acceptable, pleasing and safe products. Moreover, sometime they may not be communicated with the true nature of the product (Jones & Middleton 2007).

**Example**

Any company, if sell its product, it is necessary that they should take care that harmful material which may be excreted after product development which may harm the society.

In purchase decision, it is questionable that as compared to ancestors, today people are more cultured while product purchase decision. Research shows that now people have more knowledge about the offering of the product as compared to the predecessors.

It is very usual that the concern of America with social responsibility will continue to make both opportunities and problems in targeting marketers sensitive groups having controversial products and services (Jones & Middleton 2007).

# **Conclusion**

Research suggests that in the process of new product development, it is essential to make a proper marketing strategy to save any product market failed. It is not important to follow strictly the NPD process, to save money with the better cost-effective quality of a product can be produced by making a flexible strategy of marketing for the latest product development. The integration between marketing and R&D affect efficiency among various types of project. Moreover, The effect of the relationship between R&D and marketing depends on the product innovativeness degree and process stage. Research shows that the integration among manufacturing and R&D show a strong positive effect on efficiency in the time of development phase. For medical NPD projects, the relationship between manufacturing and marketing shows an insignificant relationship. Overall, the positive impact of the relationship among these departments emerges on usefulness in the commercialization phase (Zemlickiene&Maditinos 2012).

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