

Survey Analysis of Critical Success factors for NPD in Indian Manufacturing Industries

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Abstract

There has been a lack of specificity in which market research tools and techniques can be used to integrate the customer needs and requirement into a new product development process in order to increase the likelihood for success. This present paper will investigate how best to integrate customer market research techniques in a new product development process. In this Paper, factors have been addressed how to increase the likelihood of creating successful new products by integrating the customer into the innovative process using market research tools and answer the research objectives. 54 survey responses is being analysed using SPSS software. The salient finding indicates that, only few of success factors play key role for the success of new product in the market.

Key Words: Product development, NPD, CSF, Stage Gate

Introduction

In the short span of one morning, the average person probably uses a large variety of products before even leaving their home and, for the most part, never even gives a second thought to how those products were created. In

just the last 20 years alone, the world has seen innovation reshape societies to the point that we can no longer imagine ourselves without certain products. This increase in innovation has had an enormous effect on how we perceive products as both manufacturers and consumers. Consumers use mobile phones, mail, Google, instant messaging and Internet shopping and is grappling with even more technologies for entertainment, such as MP3, DVD and high-definition TV (Smethers, 2007). Indian customers also have seen a tremendous change in technologies in last 20 years. Consumers are bombarded with new products at a higher rate of frequency than ever before but there are varying types of new products. There are six categories of new products outlined as follows:

1. New-to-World products – these products herein will be referred to as novel products and are products that are the first of their kind which create an entirely new market.
2. New product lines – products that are not new to the market place but are nonetheless new to a particular firm.
3. Additions to existing product lines – products that are new to the firm but that fit in a previously created product line produced by

the firm.

4. Improvements and revisions to existing products – includes products that are essentially replacements of existing products in a firm's product line.

5. Repositioning – new applications for existing products and often involve retargeting old products to new market segments for a different application.

6. Cost reduction – the least new of all product categories is products that are essentially being phased out as firms introduce new products designed to replace this existing product in the line.

Each of these product categories provide consumers with different challenges including learning new technology, maintenance and/or replacement of parts and application consistency.

This present paper will investigate how best to integrate customer market research techniques in a new product development process. In this Paper, factors have been addressed how to increase the likelihood of creating successful new products by integrating the customer into the innovative process using market research tools and answer the research objectives. (1) what are best-practice studies indicating as causes of failure for new products, (2) what are the factors influencing the success of new products, (3) what market research tools are available that might contribute to a new product's success, (4) what information can be

attained from employing each of these tools and how can that be applied in an innovative process.

Success Factors in Product Development

The idea of having a limited set of factors that affect the performance of the development of new products is appealing for both practitioners and researchers. As a result, a considerable amount of empirical research on the determinants of new product-development performance is reported in the literature (Ernst, 2002; Montoya-Weiss and Calantone, 1994). No prescribed common criterion can, however, explain how successful new products are created (Poolton and Barclay, 1998). The SAPPHO project (Rothwell et al., 1974), was the first effort to analytically compare commercially successful and unsuccessful products in the same market (Abdel-Kader and Lin, 2009). The conclusions from this project are that successful companies have a much better understanding of customer needs, attend more to marketing and advertising, perform product development more effectively, encourage more use of outside expertise, and authorize and promote responsible and experienced professional employees to senior management levels. Abdel-Kader and Lin (2009) summarize the conclusions of the SAPPHO projects as: Professional employees and good management skills are the key to success.

Tang et al. (2005) identified a distinct set of success factors for product development: *Leadership, Organizational culture, Human resources, Information, Product strategy, Project execution, Product delivery, and Results*. Leadership involves key characteristics of the project manager, the power delegated, and whether there is a clear strategic direction for the development project. The Organizational culture involves the extent to which management takes advantage of the established values of the personnel to improve project output. Human resources involve management's actions to improve the skills and the work environment.

Information is concerned with the treatment of information as a valuable asset, its quality, and whether it is systematically collected, shared, and analyzed. Product strategy includes the product planning processes and the extent to which they promote readiness for implementation and product delivery. Product delivery considers to what extent manufacturing, sales, service and support are considered; or whether the product is just "tossed over the wall" when developed. Results evaluate the project from multiple dimensions such as financial and market, customer satisfaction and loyalty, organizational effectiveness, product results, and benchmarking.

Further, Bessant and Tidd (2007) argue for the following success factors in product

innovation: *Market knowledge, Clear product definition, Product advantage, Project organization, Top management support, Risk assessment, Proficiency in execution, and Project resources*. Product advantage involves product superiority in the eyes of the customer e.g. delivering unique benefits to the user and a high performance-to-cost ratio. Market knowledge, i.e. assessment and understanding of customer and user needs, is critical. A clear product definition, defining target markets, clear concept definition and benefits to be delivered must be determined before the development activities begin. Holistic risk assessment including market-based, technological, manufacturing and design sources must be built into the business and feasibility studies. The use of cross- functional multidisciplinary teams carrying responsibilities is important within the *Project organization* from beginning to end. *Project resources* include financing, human skills, and material resources; the firm must possess the right skills to manage and develop the new product. *Proficiency in execution* includes all the activities of the product innovation process. *Top management support* is important through the complete product innovation process from concept to launch.

Performance Measurements In Product Development

Performance measurements have inspired

numerous researchers with functional backgrounds as varied as accounting, operations management, marketing, finance, economics, psychology, and sociology, all actively working in the field (Neely, 2007). This may explain why the common body of knowledge within performance measurements in product development is small, despite the results of a vast amount of research being available. In a recent review of the performance-measurement literature by Taticchi et al. (2010), conclude that four authors within performance measurements are the leading scholars within the field: Kaplan (management accounting), Neely (operations management), Banker (accounting/operations research and information systems), and Charnes (mathematics/operations research). All of the four leading authors have somewhat different disciplinary backgrounds. Neely (2005) concludes, based on a review of the publications within the performance-measurements literature, that performance measurement is not and can never be a field of academic study because of its diversity. In a response to this the same author set out to create a common body of knowledge by editing *Business Performance Measurement* (Neely, 2007). The focus in this common body of knowledge is on the marketing, operations management, management accounting, and supply-chain management functions. Unfortunately, an explicit focus on product

development is missing. Jiménez-Zarco et al. (2006) argue that there are few studies that have analyzed the product-development process from a performance-measurement system perspective.

Research Strategy and Methodology

I will substantiate the claim in this problem statement by exploring current new product performers that have been considered successes and failures. This will uncover factors that can be considered indicative of an ongoing deficiency in the understanding or awareness of which market research tools are appropriate for utilization during a new product development process. I will then consider what market research tools are available for user/customer integration, examine the most relevant theories for new product development processes available and conclude with an fully integrated, evolved Stage-Gate process for new product development that will provide specific, substantiated direction for integrating user/customer market research tools. Thus, this will provide the necessary insight for developing a unique, superior product according to users'/customers' perceptions and thereby ensuring the prosperity of the company.

Identifications Of CSFs

The process of new product development has

been the focal point of studies and debate for some time now and never has it been more relevant than in the past few years. The advancements in technology and the refinement of development processes have brought about a great number of significant innovations that have changed the way we live our lives from this point forward. As many scholars have suggested and proven, a crucial component to developing successful innovative products and services in integrating the user

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