Introduction of New Product Development
CHAPTER 1 INTRODUCTION OF NEW PRODUCT DEVELOPMENT

1.1 CHAPTER OVERVIEW

In the first chapter of the thesis at the outset, the background and introduction of New Product Development are explained. This chapter provides an overview of the New Product Development (NPD). This chapter endeavors to elucidate the fundamental introduction of new product development. The chapter concludes with a succinct summary.

1.2 INTRODUCTION

In today’s competitive environment, firms are required to meet their customers’ needs, develop new products that satisfy the demand of their target customers, find new markets for their products, diversify their markets, and produce more quality products with low costs and short distribution on a timely basis. According to Aydin, Cetin and Ozer (2007) in their study, the relationship between marketing and product development process and their effects on firm performance, new product development seems to be the most critical factor in achieving and sustaining competitive advantage. They stated that product development makes decisions on process and organization investments based on the technologies required, and its perception of what it needs to do well in order to fulfill its role. In the same way, as with marketing decisions, the Small and Medium Size Enterprise (SMEs) now makes its most critical decisions by committing itself to major investments in product development that are considered by high value and sustainable survival in competitive market. Market segmentation and positioning decisions by marketing regularly include slight importance in searching the customer desires that must be supported by the new product development, and fail to investigate the ability of product development to support these requirements.
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New product development process allows firms to deal with increasingly intense competition when facing challenges from a quickly changing market condition. Companies try to gain sustainable competitive advantages with continues improvement. These efforts are key for the companies because introducing a new product to the market is expensive and challenging due to implementing new and innovative approaches of new product development like Technological Factors, Marketing Factors, Commercial Factors and Managerial Factors (Key Success Factors) (Jefeng Mu 2007). The firms have tried hard to boost their customer-relating capability with innovative approach in New Product Development (NPD). But successful implementations of such initiatives are still incomparable. Innovative Approach in NPD has long been known to managers and researchers and its importance in the innovation has been familiar.

Small and Medium Enterprises (SMEs) play a vital role for the growth of Indian economy by contributing 45% of the industrial output, 40% of exports, 42 million in employment, create 1 million jobs every year and produces more than 8000 quality products for the Indian and international markets. As a result, Micro Small and Medium Size Enterprises (MSMEs) are today exposed to greater opportunities for expansion and diversification across the sectors. The Indian market is growing rapidly and Indian industry is making notable progress in countless Industries like Manufacturing, Precision Engineering, Food Processing, Pharmaceuticals, Textile & Garments, Retail, IT, Agro and Service and Diamond sectors. SMEs are ruling increasing opportunities to enhance their business activities in principal sectors.

Associated with this high growth rates, SMEs in India are also facing a number of complications like economies of scale of operation, technological factors, marketing of the new product, increasing three dimension competition, lack of knowledge of fund offered by Government, and managerial involvement. To survive with such issues and compete with large and global enterprises, SMEs need to adopt innovative approaches efficiently in their working.

With globalization, there is a vital need of an active and self-sustaining culture of innovative approach for the new product development in SMEs. Today’s world economy has been characterized as a “Knowledge-Based Economy” with knowledge
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being the most important resource and learning being the most important process. Competitive advantage is less derived from access to physical resources and more from the ability of organizations and societies to generate ideas and to convert them into economic and social value. In the fast moving global order, knowledge and intellectual skills are critical to create and improve products and services, develop more efficient distribution and marketing methods and ensure customer satisfaction. New ways of information management and application are used to improve competitiveness. A knowledge economy is not about accumulating information, but using knowledge to improve performance and use innovative approaches for NPD in SMEs. Innovation is thus regarded as one of the most important factor in the Developing Economy. This has become the driving force behind expanding global commerce and the rise in living standards.

Economic growth and future jobs are therefore dependent on how present and future industry is able to transform new ideas into successful products and improved processes. The ability to use and develop new product using knowledge is considered to be one of the major strategic factors for future competitiveness. Significantly, knowledge is not an additional production factor alongside the traditional ones: it is the most meaningful and important resource today together with innovation.

In a competitive environment, where the products have the same performance, quality and functionality, the process of developing innovative products within shorter period of time compared to the competitors becomes increasingly important (Tidd et al. 2004). Many main suppliers are streamlining their operations, concentrating their efforts on core technologies and competencies, moving towards more external contracting of their key success factors as innovative approach. The product itself is a smaller part of the complete offering to the customer, with branding, design, financing, services, smart products and other aspects becoming increasingly important. Fragmented markets stress the need for abilities to continuously adapt to new demands and to integrate new technologies with appropriate price. It is thus important that companies develop innovative product development skills. There is a need to help industry to develop and implement new innovative methods of NPD that will support and strengthen industry to generate new ideas and realize these into successful products and improved processes.
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It is, therefore essential for country like India to foster innovation, especially at the firm level, since firms, not countries, are the ones that have to compete internationally. Innovation is driven by the ability to see connections, to spot opportunities and to take advantage to the creation and application of a new idea to create value in context of NPD in SMEs. Some of these ideas and applications may translate into incremental changes such as the introduction of additional features in a product, while others may lead to radical or even revolutionary changes. As global competition intensifies and information-based innovation becomes more important, the business sector has been internationalizing knowledge-intensive business functions, including R&D. At the same time, companies are increasingly opening their innovation processes and collaborating with external partners including suppliers, customers and researcher from universities. Creating effective collaborative innovation ecosystems is vital for enhancing access to knowledge from around the globe and speeding up the conversion of that knowledge into value adding products and services. The rise of India as a growing power not only in Asia but also at the global stage would require not only a macroeconomic uplift but also a thorough realization of innovation by the SMEs.

Nationwide entrepreneurship development with appropriate scale scope and innovation will make all the difference for Indian SMEs segment to boost adopt innovative approaches in New Product Development. Considering the growing innovation in the competing countries including China, Japan, South Korea, Singapore and other developing countries, which are found high on Global Innovation index, understanding the “Innovation readiness of Indian SMEs” through evaluation of organization’s ability to innovate successfully.

The environment for new product development (NPD) in most technologically advanced industries suggests that the difficulties and uncertainties associated with NPD are increasing along with the pressure to develop more new products. Continuing new, technically challenging products at the right time and at the right place has been a key success factor for Indian SMEs. Improving the speed and efficiency of product development can be a powerful competitive advantage (McDonough and Barczak, 1991). Business Environment is rapidly changing, therefore to survive and stay competitive; a company would definitely benefit from knowing that product innovation is one of the key success factor for long term survival and staying competitive (Gagne
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and Discenza 1995). More than 50% of the sales in successful companies were coming from new products and that the percentage was even over 60% in the most successful overall company.

This professional information is what enables cooperation to develop competitive advantage in their market because of the increased importance of professional information, the demands on product development performance, in terms of speed, accuracy, and cost, have become higher. The effective NPD has become the central point of competitiveness in many industries, particularly those where product life has shortened, competition increased on a global basis, and customer demand for greater product variety has grown. This is key to a company’s long-term success, a company must respond quickly to dynamic customer needs, increased complexity of product design and rapidly changing technologies. The product development undergoes new trends such as distributed product development, cross-functional team, and real-time product development because of fragmented and demanding markets, increasing technical strength, and short product lifecycles. These new trends have increased the complexity and ambiguity of product development. New product introductions are of course common in most markets. However because of the complex NPD process, many of these new products fail, and the high failure rate of new product development projects suggested that NPD is a challenging pursuit (Shahrul-Yazid and Nooh, 2007).

The most common obstacle to innovation in small medium size enterprises (SMEs) is the excessive cost of product development. The uncertainty of market acceptance is the second major difficulty. The innovative process in SMEs is also more informal and less structured, the base of managerial competencies is limited, the availability of commercial resources is lower, and the attraction towards skilled labour weaker. They also listed other problems SMEs have; they may for example have difficulties to recruit, train, and retain highly qualified competent personnel. Since they are often unable to match the wage opportunities, career development opportunities or job security given by large firms. SMEs also have a limited access to finance and supposed equity gaps are very often cited as barriers to innovations in small firms. Therefore, SMEs are disadvantaged in financial support and the market for skilled labour, resources which is essential for successful innovation particularly during the early stages of product development. Developing successful new products requires
systematic planning to coordinate the many decisions, activities, and functions necessary to move the new-product idea to commercial success.

Cravens and Piercy (2005) developed the new product development planning process. The process includes such stages as, need analysis, idea generation, screening and evaluation, business analysis, product and marketing strategy development, and finally testing and commercialization. The business analysis stage components are sales forecasts, cost estimation, profit projections, risks assessments and finally the possible cannibalization of sales. The business analysis components should be used to estimate the commercial performance of the new-product concept. Before going any further this assessment is crucial for moving on in the product development process. The business analysis stage have many important components, therefore we see it as a crucial part of the whole process. To stress the importance of the business analysis stage that “business analysis is the final assessment before deciding whether to develop the concept into a new product or not.”

All scientific research in business administration is concerned with understanding what makes some businesses more successful than others. In marketing, organization, finance, and accounting - all the academic counterparts of the classical functional areas of business administration are concerned with understanding how that particular part of business functions, and how this functioning is related to business success. A concept like success factors could be launched as something new and original, something which merits special research attention.

The business research has departmentalized into the various functional areas may be one reason. Business practitioners have always emphasized the need for general management as a topic for both research and education, a topic which could integrate the various functional areas in such a way that a basis for the broader policy decisions is formed. This stream of research now forms the background for concepts like key success factors, which is not supposed to replace a more detailed evaluation of function-specific contributions to success, but rather to direct attention to some of the broader issues around the determinants of business success. The idea that there are a few factors which are decisive for the success of the company, and that these factors can be ascertained, was first introduced by Daniel (1961).
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Critical success factors are, "the limited number of areas in which satisfactory results will ensure successful competitive performance for the individual, department or organization. Critical success factors are the few key areas where 'things must go right' for the business to flourish and for the manager's goals to be attained." (Bullen & Rockart, 1981, p. 7).

Klaus G. Grunert Char, lotte Ellegaard (1992) a key success factor is a statement about a causal relationship, namely between success and some cause of success, the way the key success factor concept is used varies between the various schools of thought as well. Key success factors as a business characteristic. The design school maintains that every business is unique in all aspects, and every business therefore also has to find its own unique match with its environment. It is therefore not possible to generate general statements about the causes of success, and the term key success factor, if it is used at all, can have meaning only with regard to a single business.Key success factors as a planning tool. The planning school aims at developing planning instruments which help businesses in finding the right strategy. A main assumption is that, by providing input which helps decision-makers in structuring their thoughts, the quality of decision-making can be improved.

Encouraging decision-makers to reflect their own assumptions about the causes of success - key success factors as a planning tool - is one possible example. It is hence assumed that decision-makers have theories of their own, subjective theories linking success to its causes (Ferguson & Dickinson, 1982; Hofer & Schendel, 1978; Ohmae, 1982). With regard to method, a heterogeneous approach is preferred (Leidecker & Bruno, 1984), with more emphasis on variety than validity. It is the process of building a consideration of key success factors into planning, which improves strategy formation. It is emphasized that key success factors are small in number. The decision-maker to identify and concentrate on a small number of factors, a process of reasoning is started which, by virtue of its systematic nature, actually may lead to improved strategy.

Key success factors as a market description. The shared experiences school maintains that the area of business strategies is amenable to research aimed at finding homogeneous statements. It is believed to be possible to find out how different strategy
types are linked to business success under various conditions. This school can be called the shared experience school, because it builds on the expectation that, if experience on business strategies is shared, it becomes possible to build up general, empirically based theoretical knowledge, which then can guide the selection of business strategy. For this school, business success is governed by causal relationships, which exist as an objective truth, and which gradually can be uncovered by research. NPD studies are noticeably wide. A number of researchers (Cooper, 1979b; Cooper and Kleinschmidt, 1987, 1993a; Maidique and Zirger, 1984) explored many facets of innovation. That emerged from work was that one of the key themes in innovation research was to identified the factors that are associated with NPD success. In facing dynamic global competition, many manufacturing and engineering companies adopted various techniques or advanced methods in order to be innovative and competitive. Although NPD brought many new opportunities to companies, however, the potential risks strengthen the NPD process causes a number of cases of failure due to the inadequate management process in NPD. Thus studies point to high failure rates of new products, especially in consumer markets (Brockhoff, 1999; Crawford, 1987; Urban and Hauser, 1993). It is therefore development of an effective and efficient management approach in NPD process is highly expected to companies, particularly those small and vulnerable businesses.

SMEs are being increasingly recognized as “the back born of modern economies” (Ghobadian and Gallear, 1996). Many SMEs are under high pressure to survive under these economic environments. They are struggling with modernizations and many of them have not successful. The aims that triggered these failures are because SMEs lack the necessary skills and rarely produce successful new products. An analysis by Zhang and Doll (2001) showed that most products do not fail at the end but at the beginning of their manufacturing process. In other words, the product is poorly conceived and the processes are not well managed, focused and with purpose. Khurana and Rosenthal (1998) suggested that the real key to product development success lies in the successful performance of the frontend activities. Furthermore, Cooper (1997) posited that unclear product strategy is one of the most common problems in NPD. Statistics show that 75% of NPD projects fail and 50 per cent of resources devoted to innovation are spent on products that are commercial failures (Cooper, 1990).
The strategic solution is to effectively manage the NPD process. NPD can be a costly, lengthy and complex process with many drawbacks and difficulties. There are limited resources and choices for SMEs to be innovative regarding NPD. Hence, it is required that SMEs have the necessary knowledge, skills, good understanding of new products and ability to manage NPD process. Currently, there are limited studies focused on the minimum level of knowledge and skills for SMEs to manage their NPD process. In this regard, therefore understanding of the key elements and identifying minimum requirements for successful NPD is crucial to SMEs.

Thus, if companies wish to maintain competitiveness and grow steadily, they need to follow a basic NPD model which covers key components for effective NPD management. NPD is one of the key drivers of sustainability and competitiveness for many companies especially SMEs.

1.3 CHAPTER SUMMARY

This chapter provided an initial background against which the growing importance of New Product Development in SMEs and associated Key Success Factors as an Innovative Approach in stage of New Product Development and attention for the phenomenon as a subject of research can be understood. The introduction chapter of this discussed about the new product development, new product development in SMEs with their key success factors as innovative approach and need of SMEs to survive in domestic and globally competitive environment.