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THE STUDY OF KEY SUCCESS FACTORS IN NEW PRODUCT DEVELOPMENT PROCESS IN TEXTILE INDUSTRY WITH SPECIAL REFERENCE TO SURAT REGION

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ABSTRACT

The idea of key success factors in new product development is dynamic to many organizations' persistence of business and growth is widely recognized. New products provide many business opportunities for organizations. The importance of key success factors in new product development is key, as corporate purpose and scope sets the guidelines for new product planning. This paper explores the importance of key success factor of new product development process in the textile organization of Surat. The research findings highlighted the importance of key success factors during Idea generation and concept development stage of new product development phase.

KEYWORDS

new product development, textile industry, key success factors.

INTRODUCTION

The importance of the new products remain to be of key to all organizations. Tough global competition, short product and technology lifecycles, spontaneous consumer buying patterns and possible market immobility makes new product development an important activity in most businesses. New products provide organizations with growth prospects that permit them to highlight their market position. Strategic planning identifies opportunities for new product development and sets new product planning guidelines. Creating the right organizational culture that can encourage innovation is one of the primary tasks for management. Developing successful new products requires systematic planning and integration of various organizational cross-functional activities. Without a clear roadmap from management it is challenging to select the right innovation strategy. Management's involvement in the new product development process is directly or indirectly responsible for a new product's success rate in the market.

LITERATURE REVIEW

The literature recommends that the success rate of new products depends on numerous factors, including the technological factors, marketing factors, commercial factors, and managerial factors. The successful new product development requires an involvement from marketing, sales, design, research and development, finance, manufacturing, technical and legal functions. To ensure the continuing interaction among all these functions, it is critical to maintain a continuous flow of communication through one central information point in the organization.

Jifeng Mu et.al. study is to fill the gap by examining the key success factors of NPD in Chinese SMEs. Diverse from the old approach regarding the success factors in each stage of NPD as standardized, the key success factors in each stage of the NPD process are examined from a managerial perspective. This paper finds Chinese SMEs do not regard financial return as the primary criterion in the idea-generation stage. Although the key success factors are relatively quite different in various stages, technological, marketing, commercial, and managerial factors are important across all stages.

Isidre March-Chorda et.al. Rapid product development has been treated as a competitive strategy in a global market environment. It is essential to improve the product development process with the objective of reducing product development cycle time and hence to reach the market as quickly as possible. The main objective of this research is to identify the major determinants that confront the product development. The cost of product development projects that discourages commitment to new product development and the uncertainty of the market acceptance were found to be the major factors. According to the study reported in this paper, the fulfillment of the key success factors as suggested by the literature is, in general, low.

Xueli Huang et.al. This article examines the new product development process (NPDP) in Australian small and medium-sized enterprises (SMEs). Findings from a sample of 276 innovative Australian SMEs suggest that marketing-related activities were undertaken less frequently and were less well executed than technical activities in developing new products.

Holger Ernst continuous development and market introduction of new products can be an important determinant of sustained company performance.

B.C. Ghosh et.al. The research tries to determine the strategy dynamics and key success factors (KSFs) for excellence in performance of the so-called "tiger" SMEs in Singapore. In 1995 and 1996, 50 top privately owned and successful enterprises in Singapore were identified. They have shown that they can excel, even in the current highly competitive and high operation cost environment. Their performance can be attributed to their dynamism and a few KSFs that are apparently universal to these successful companies.

Karl T. Ulrich et.al. This paper is a review of research in product development, which defines as the transformation of a market opportunity into a product available for sale. Review is broad, encompassing work in the academic fields of marketing, operations management, and engineering design. The value of this breadth is in conveying the shape of the entire research landscape. We focus on product development projects within a single firm. Research devotes our attention to the development of physical goods, although much of the work we describe applies to products of all kinds.

Wonseok Choi et.al. Review the nature of new product development and explore diverse NPD processes. Also discussed Introduction of NPD process models and strategies of companies and products in the textile apparel industry.

Jerry Soldatos, Jurate Hardy studied the new product development process in Australian Grocery organizations and their research highlighted the importance of top managements support during new product development phases

RESEARCH METHODOLOGY

The research study involved complete survey of 600 Textiles units who are engaged in dyeing, processing and printing. The list of these organizations was obtained from the South Gujarat Processors Association, Surat and the Federation of Surat Textile Traders Association Surat. The questionnaire was distributed to these

organizations and 565 responses were received. The questionnaire consisted of four 4 success factors and 8 criteria in each that covered a wide range of issues in the new product development field.

OBJECTIVES OF THE STUDY

1. To examine new product development process in Textile Manufacturing Unit in Surat Region.
2. To examines importance of key success factors in each stage of new product development process from managerial perspective.

DATA ANALYSIS AND DISCUSSION

Research findings were based on the responses from the textile manufacturing units representing the following: Dyeing Units (183), Printing Units (191), and Processing Units (191).

TABLE 1: NO. OF TEXTILE UNITS

Textile Units	Frequency	Percent
Dyeing Units	183	32.4
Printing Units	191	33.8
Processing Units	191	33.8
Total	565	100.0

The organizations were then classified by the investment in plant and machinery.

TABLE 2: CLASSIFICATION OF INDUSTRY

Investment in Plant and Machinery	Type of Industry	Frequency	Percent
Over Rs 25 lakhs but not exceeding Rs 5 Crores	Small	281	49.7%
Over Rs 5 Crores but less than Rs 10 Crores	Medium	284	50.3%
Total		565	100.0

The key instigators of new product development ideas and concepts. The key instigators according to the survey result.

TABLE 3: POSITION OF RESPONDENTS

Position of Respondents	Frequency	Percent
Dying Master	55	9.7
Manager	288	51.0
Owner	191	33.8
CEO/Director	31	5.5
Total	565	100.0

TABLE 4: THE IMPORTANCE OF THE KEY FACTORS THAT IMPACTED IN EACH STAGE OF NEW PRODUCT DEVELOPMENT PROCESS.

Rank of Criteria	Stage 1		Stage 2		Stage 3		Rank of Criteria	Stage 1		Stage 2		Stage 3	
	Factors	Mean	Factors	Mean	Factors	Mean		Factors	Mean	Factors	Mean	Factors	Mean
1	T2	3.53	Mg8	3.59	Mg5	3.52	17	C8	3.29	M4	3.35	Mg4	3.33
2	T8	3.52	T2	3.56	T2	3.48	18	M6	3.28	Mg1	3.34	T3	3.32
3	Mg8	3.51	T3	3.55	M4	3.47	19	C4	3.28	M5	3.34	C2	3.32
4	Mg7	3.50	Mg7	3.51	M2	3.45	20	C2	3.28	Mg5	3.34	T6	3.31
5	Mg5	3.50	C2	3.46	C5	3.44	21	T1	3.27	C5	3.33	Mg7	3.30
6	M4	3.48	Mg5	3.45	Mg8	3.41	22	T5	3.27	T5	3.33	M5	3.29
7	Mg1	3.41	T7	3.45	T8	3.41	23	M5	3.26	Mg4	3.33	M1	3.28
8	T4	3.39	T8	3.44	M7	3.41	24	M2	3.25	M8	3.31	Mg1	3.28
9	T7	3.37	C4	3.41	M6	3.40	25	C3	3.24	C6	3.30	C1	3.26
10	M7	3.35	C3	3.41	C4	3.40	26	C6	3.24	M7	3.28	T5	3.25
11	T3	3.33	T1	3.40	C8	3.40	27	C5	3.15	C1	3.26	T4	3.19
12	Mg4	3.32	C8	3.40	T7	3.36	28	C7	3.15	M3	3.24	C3	3.18
13	M3	3.31	M6	3.39	M8	3.36	29	C1	3.14	M1	3.21	T1	3.17
14	M8	3.30	T6	3.37	M3	3.36	30	Mg2	3.12	Mg2	3.15	C7	3.10
15	T6	3.30	M2	3.37	Mg5	3.35	31	M1	3.12	C7	3.07	Mg3	3.09
16	Mg5	3.30	T4	3.36	C6	3.34	32	Mg3	2.98	Mg3	2.91	Mg2	3.00

It was found that in stage 1, stage 2 and stage 3 the mean value of top 10 criteria is above two and among them in stage 1; 4 technological factors, 2 Marketing factors, no Commercial factors and 4 Managerial Factors. Though marketing and managerial factors are a primary consideration in this stage, technological factors are among the top priority. In stage 2; 4 Technological factors, no marketing factors, 3 Commercial Factors and 3 Managerial Factors. The results show that, in this stage, firm put emphasis on technological factors, and in stage3; 2 technological factors, 4 marketing factors, 2 commercial factors, 2 managerial factors.

It indicates that the results show that, in stage 1, firms put a lot of emphasis on Technological factors and not at all on commercial factors so that firms can concentrate more on Idea generation without financial constraints. As opposed to stage 1 firms are more concentrate on marketing factors than any other so that they can successfully launch the product in market to achieve competitive advantage.

FINDINGS

From finding firms are inviting new ideas in initial stage of NPD process. The table of mean rank that the relative importance of the KSF differs across different stages. Firms pay more attention on technological factors and attentions turns to marketing factors during the commercialization stage.

CONCLUSION

From the analysis it is concluded that the textile firms of Surat are actively involved in NPD. The majority of the SMEs concentrates on technological factors and marketing factors and then other two. As firm giving more importance to technological and marketing factors firms inviting new ideas and competitive advantage for new product and come to know about potential market and cost of new products.

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ANNEXURE**LIST OF KEY SUCCESS FACTORS AND RESPECTIVE CRITERIA**

Factors	Criteria	Code
Technological Factors	<ol style="list-style-type: none"> 1. The technology is new 2. The technology is core or platform 3. The technology is reliable 4. The technology is complex 5. The technology is hard to be substitute 6. The technology is not easy to imitate 	<ol style="list-style-type: none"> T1 T2 T3 T4 T5 T6
Marketing Factors	<ol style="list-style-type: none"> 1. The Product has first-mover advantage 2. The time to reach market is short 3. The market has no entry barrier 4. The target market is clearly defined 5. The market is growing 6. The market is big enough 7. The market demand is stable 8. There exists identifiable market 9. There are no dominant competitors 10. There are few or no competitors 11. There are few or no substitute products 12. The product has unique competitive advantage 13. The production cost is low 14. The product is clearly defined 	<ol style="list-style-type: none"> M1 M2 M3 M4 M5 M6 M7 M8 M9 M10 M11 M12 M13 M14
Commercial Factors	<ol style="list-style-type: none"> 1. There is reasonable pricing strategy 2. There is reasonable market channel plan 3. The product has strong functional attributes 4. The quality of product is reliable 5. There is manufacturing flexibility 6. The firm have relevant manufacturing experience 7. The company has sufficient resources 8. The inventor has experiences in the industry 9. The inventor can support the product development 10. The inventor has good reputation 11. The product can be manufactured at low cost 12. The product can be easily financed 13. The product has recognizable quantitative revenue 14. The product has expected positive return on investment 15. The product has positive return on investment 16. The product has positive present cash value 17. The product can make up the cost of the patenting 18. The company has strong financing capability 	<ol style="list-style-type: none"> C1 C2 C3 C4 C5 C6 C7 C8 C9 C10 C11 C12 C13 C14 C15 C16 C17 C18
Managerial Factors	<ol style="list-style-type: none"> 1. The inventor owns the patent 2. There is good product development team 3. There are managerial expertise in the company 4. There is a good management team 5. The firm has effective incentive mechanism 6. The firm has highly qualified marketing staff 7. The firm has highly qualified production staff 8. The firm has highly qualified technical staff 	<ol style="list-style-type: none"> Mg1 Mg2 Mg3 Mg4 Mg5 Mg6 Mg7 Mg8

(Adopted from Jifeng Mu et.al study in 2007)

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