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#### **DRIVERS OF NEW PRODUCT SUCCESS**

K. VIJAYAN
PROFESSOR AND HEAD
DEPARTMENT OF MANAGEMENT STUDIES
SRM ARTS & SCIENCE COLLEGE
KATTANKULATHUR – 603 203

DR. JAYSHREE SURESH
PROFESSOR AND DEAN
SCHOOL OF MANAGEMENT
SRM UNIVERSITY
KATTANKULATHUR – 603 203

#### **ABSTRACT**

Launching new products is an exciting and daunting task. As new product success rate is only 60% to 70% across industries, to avoid possible losses and trauma of failure, one needs to take care to do thorough homework on operations and alternative contingency plans. More importantly the antecedents and predictors of new product success need to be identified and incorporated in the new product ideation-concept development-testing-screening-business analysis –physical product development and test – launch process. Twenty four factors that are drivers of new product success have been identified from past studies. These drivers of new product success are classified under product characteristics, process characteristics, strategy characteristics and market place characteristics. This paper will evaluate in the Indian context, and compare with other studies, of each of the 24 drivers or antecedents of new product success, and identify the dominant drivers. It also compares the results of FMCG and a consumer durable company.

#### **KEYWORDS**

New Product - New Product Success, Drivers, Predictors, Antecedents.

#### **INTRODUCTION**

aunching new products is an exciting and daunting task. As new product success rate is only 60% to 70% across industries, to avoid possible losses and trauma of failure, one needs to take care to do thorough homework on operations and alternative contingency plans. More importantly the antecedents and predictors of new product success need to be identified and incorporated in the new product ideation concept development testing-screening-business analysis-physical product development and test – launch process.

This paper will evaluate the correlation of each of the 24 drivers or antecedents of new product success and identify the dominant drivers in the Indian context.

#### **OBJECTIVES**

The following are the objectives of the study.

- 1) To identify factors those are antecedents and drivers of new product success.
- 2) To examine the differences between the Indian and American contexts.
- 3) To examine the success of products with reference to a FMCG and a consumer durable company.

#### WHAT IS A NEW PRODUCT?

A new product has a new FORM attained through TECHNOLOGY which is the power to do work, that delivers BENEFITS that the customer has a need or desire for. Further a new product essentially is of the right quality at the right cost. Crawford. C.M., (1987).

#### WHAT IS A PRODUCT?

By product we mean anything offered for sale.

A) THE NEWNESS OF THE PRODUCT CAN BE IN TERMS OF:

- 1. NEWNESS TO THE FIRM:
- a. Improved versions
- b. Line extensions or companion products
- c. Brand extensions
- d. Diversification
- 2. NEWNESS OF THE PRODUCT TO THE MARKET PLACE:
- A. Similar to the products in the market
- b. An improvement
- c. New to the market/new to the world
- 3. NEWNESS OF PRODUCT AS PERCEIVED BY BUYERS / USERS:

Repackaging, price-change and new brand. Crawford. C.M., (1987).

#### B) NEW PRODUCT BY PRODUCT CHARACTERISTICS

- 1. Performing an entirely new function.
- 2. Offers improved performance of an existing function
- 3. A new application of an existing one
- 4. Offers additional functions
- 5. An existing product offered to a new market
- 6. A product which reaches more buyers through lower cost
- 7. An existing product integrated into another existing product
- 8. Marketing components/sub assemblies of a product offered separately
- 9. A restyled product, Marvin P., (1972).

#### **SUCCESS / FAILURE RATE OF NEW PRODUCTS**

Different studies have indicated a success rate between 60-70% and a failure rate of 30-40% which involves hundreds and thousands of crores of rupees of loss and trauma to the executives and firms that launched the products (that failed).

The new product success rate is 69% according to Dwyer and Mellor (1991), 65-70% according to Crawford (1977) and 80% according to Hopkins and Bailey (1971) The variation in new product success / failure rates depends on several factors such as the product characteristics, degree of product innovation and on how well the product met its goals (Crawford 1977). Further, the perception of success or failure depends on the performance criterion employed and the time horizon for judging performance (Urban and Hauser 1993). The new product success can be explained by the success or performance measures used by Cooper, (1993), Dwyer and Mellor (1991). According to them the following seven measures are used to measure the success or performance of new products:

#### THE MEASURES OF SUCCESS OF NEW PRODUCTS

- 1. Percentage of firms' sales made up by new products introduced over the past five years.
- 2. Percentage of new products that succeeded failed or was terminated prior to market launch.
- 3. The extent to which the new product program met its financial performance objectives over the past five years.
- 4. The importance of the program in generating sales and profits for the firm.
- 5. The extent to which the profits from the new products exceeded the program costs.
- 6. The successfulness of the program relative to the competitors
- 7. An overall success rating.

#### **DRIVERS OF NEW PRODUCT SUCCESS**

Out of the various possible predictors of new product success studied in over 60 studies, the following 24 variables classified into different categories or factors are found to be drivers more often than others. Therefore they have been selected as the drivers whose effect on product success has been examined in this study.

#### PRODUCT CHARACTERISTICS

- 1) Product advantage, superiority or differentiation over competitor's offerings.
- 2) The extent to which product is perceived to satisfy desires/needs of the customer
- 3) Perceived price performance congruency or value
- 4) Perceived technological sophistication of the product
- 5) Product innovativeness is perceived newness/originality/uniqueness of the product.

#### FIRM STRATEGY CHARACTERISTICS

- 1) Marketing synergy is the match between the existing marketing skills of the firm and the marketing skills needed to make and market a new product successfully.
- 2) Technological synergy or the match between the existing technological skills of the firm and the technological skills needed to execute a new product initiative successfully.
- 3) Order of entry which is the timing of marketplace entry of a product.
- 4) Dedicated human resources in terms of focused commitment of personnel resources to the new product project.
- 5) Dedicated R & D resources.

#### FIRM PROCESS CHARACTERISTICS

- 1) Structured approach in terms of employment of formalized product development procedures.
- 2) Predevelopment task proficiency with which a firm executes the pre-launch activities of idea generation screening, market research and financial analysis.
- 3) Marketing task proficiency
- 4) Technological proficiency
- 5) Launch proficiency
- 6) Reduced cycle time or reduction in concept-to-introduction time (time to market)
- 7) Market orientation or the degree of firm's orientation to its internal, competitor, and customer environments.
- 8) Customer input: Incorporation of customer specifications into the new product initiative.
- 9) Cross functional integration or the degree of interdepartmental participation in the new product effort.
- 10) Cross functional communication: Level of communication among department in a new product effort.
- 11) Senior Management support to the new product initiative.

#### **MARKET CHARACTERISTICS**

- 1) Likelihood and degree of competitive response to a new product introduction.
- 2) Degree, intensity or level of competitive response to a new product introduction.
- 3) Market potential: Anticipated growth in customers/customer demand in the market place.

#### **EMPIRICAL STUDIES ON CAUSES OF NEW PRODUCT PERFORMANCE**

In the 60 empirical studies that document the statistical relationship between new product performance and the causal factors identified by. Henard, D.H., and Szymanski D.M., (2001), correlation was the main metric. These researchers emphasized models – level correlations (an averaging of reported correlations across all models and all studies to arrive at an estimate of the central tendency of the predictor – criterion relationship) rather than the study – level correlations (an initial averaging of the correlations reported within the study followed by a further averaging of the mean correlations across studies). A model-level analysis has been followed and advocated by Glass, McGraw and Smith (1981) as well as meta – analyses by Assmus, Farley and Lehman (1984) Churchill et al (1979), Sultan, Farley and Lehman (1990), Tellis (1988) as well as Henard, D.H., and Szymanski D.M., (2001) due to reasons including excessive heterogeneity in the values of the individual correlations.

#### DOMINANT DRIVERS OF NEW PRODUCT SUCCESS

In the research mentioned above it was found on the basis of 'r' value, the corrected mean correlation that 10 factors are dominant drivers of new product success (mean r>40), The dominant factors that emerged are; market potential (r = 0.54), dedicated human resources (r=0.52), marketing task proficiency (r=0.50), product meeting customer needs (r=0.50), product advantage (r=0.48), predevelopment task proficiency (r=0.46), dedicated research and development resources (r=0.45), technological proficiency (r=0.43), order of entry (r=0.41) and the technological sophistication of the product (r=0.41). The new product success phenomenon is complex, yet more and more clear in terms of the causal factors.

The intricate and multifaceted nature of the new product performance phenomenon is seen from the fact that three predictors that are of product characteristics which are: products meeting customer needs, product advantage and product technological sophistication; two of strategy characteristics, (R & D and human resources); four of process characteristics, (marketing, predevelopment, technological and launch proficiencies) and one market place characteristic; (market potential). This study aims to assess in the Indian context, as well as to evaluate the most frequently modeled predictors; (n>40 modeled effects), marketing synergy (n=61), market orientation (n=60), cross functional communication (n=58), structured approach (n=53), product advantage (n=44), and marketing task proficiency (n=40).

Note: r = corrected mean correlations

n = number of times a predictor has been modeled.

The earlier studies were mode with reference to companies whereas in this study customers are included.

#### **METHODOLOGY**

#### DATA COLLECTION

In FMCG category Company A was selected as it is a company with successful new products; and company B was selected for examination as it was a consumer durables company with successful new products. The three products of each of the two companies were selected using the seven measures of new product success Cooper (1979), (Dwyer and Mellor (1991), mentioned earlier and with the type of product in mind.

A census survey of all managers in company A, and B, was made. In the consumers' survey 124 respondent consumers of company A, and 135 respondent consumers of company B were covered. Both internal data from managers and external data from consumers of both companies were collected. The managers' survey contained 24 variables. The consumers' survey contained 17 variables relevant to the consumers. A respondent had to be an user of all three products of the company examined.

Structured, tested questionnaires were employed in both the managers' and consumers' surveys.

#### **DATA ANALYSIS**

The data collected was codified, tabulated and analyzed. The t-test on Managers' survey data with the Independent Samples Test was carried out. The high and low classification of differences in the means of company A and B are presented in table No.1. The analysis of t-test of consumer survey data is presented in Table No.2.

#### MANAGERS SURVEY DATA - T-TEST

Company A is a Fast Moving Consumer Goods (FMCG) company and company B is a consumer durable product company.

Ho.: There is no difference between the means of an item (k) with respect to company A and B.

Level of significance is 5%

In the independent sample test using Levene's Test for equality of variances, there is difference in the means of 21 drivers relating to company A and B. In the case of the following variables, there is no significant difference in the means between Company A and B:

- Technological Sophistication
- Separate Team working
- Cross functional Integration

On the basis of analysis, the null hypothesis is accepted for 3 drivers mentioned and rejected for the other 21 drivers.

The t-test results (mean differences) were classified into very low (below 0.5), low (above 0.5 but below 0.65), High (above 0.65) and very high (above 1.0) In the analysis of t-test on manager's survey data (Table-1) low differences including very low are found between the means of the following 7 factors (29%) relating to company A and B.

- Technological Sophistication
- (Product) More Advantageous
- (Product) Meets Needs
- Cross Functional Integration
- Cross functional communication
- Senior Management Support
- Market Potential

It is found that there is high difference (including very high) between the means of the following factors:

- Marketing Synergy
- Suitable price
- Product Innovativeness
- Time of Introduction
- Separate Team working
- Market Proficiency
- Launch Proficiency
- Customer Oriented Product Development
- Structured Approach
- Technological Synergy
- Dedicated R&D
- Success of precious products
- Technological proficiency
- Market/Consumer Orientation
- Reduced Cycle time
- Likelihood of competitive response
- Competitive response intensity

Out of the 24 variables, in 17 variables the mean differences are above 0.63 (high and very high)

Thus it is found that in the case of the above 17 variables (71%) their influence on product success is different in the company A's products and B's products.

#### CONSUMERS SURVEY DATA – T.TEST

The significance of difference of means of each item with respect to Company A and Company B is given below:

Ho: There is no difference between the means of an Item (k) with respect to Company A and B.

Level of significance is 5%

It is found that there is no significant difference between the means of A and B with respect to the following items:

- Suitable Price
- Technological Sophistication
- Separate Team Working
- Dedicated R & D
- Success of Previous Products

- Market Potential
- Product Success

The null hypothesis is accepted for the above 7 drivers (24%) and rejected for the other 10 drivers (76%).

The difference in the means of the 18 variables were classified as Low and High.

It is found that in the case of 9 variables the differences in the means between Company A and Company B are low, while in the case of 9 other variables the difference in the means between the two companies is high, as in Table-2.

#### CONCLUSION

In Technological Sophistication and Separate Team working, belonging to firm strategy characteristics, no significant difference is found in the managers' responses as well as the consumers' responses.

In the consumer's responses, Suitable Price, a Product Characteristic and Separate Team Working, Dedicated R & D and Success of Previous Products (Firm Strategy Characteristics) are identified as factors where there is no significant difference between the means of companies A and B.

All other factors with significant difference between the means of company A and B can be classified as follows.

Product Characteristic: Product Innovativeness.

Firm Strategy Characteristics: Marketing Synergy, Technological Synergy, Time of Introduction.

Firm Process characteristics: Market Proficiency, Launch Proficiency, Customer oriented Product Development, Structured Approach, Technological Proficiency, Reduced Cycle Time.

Market Characteristics: Competitive Response Intensity, Likelihood of Competitive Response.

They exhibit high differences between the means of company A and B.

This could be attributed in some measure to the type of products (FMCG and Consumer Goods) and in some measure due to factors such as, differences in the products and markets.

The dominant drivers of new product success identified in this study were the following 10 variables: technological sophistication, dedicated R and D, launch proficiency, structured approach, cross functional communication, cross functional integration senior management support, likelihood of competitive response, competitive response intensity and market potential. While the variables of technological sophistication of the product, dedicated R and D, launch proficiency and market potential are found in The American studies, as well the other 6 variables identified in this study have a predominance of market variables namely likelihood of competitive response, competitive response intensity, and firm process characteristics such as structured approach, cross functional communication and senior management support. It is therefore recommended that companies in India ensure that these 10 variables are present to a high degree in their new product ventures so that success is achieved.

In the American studies, the other variables are firm strategy characteristic of order of entry, dedicated human resources and firm product characteristics of product meeting customer needs and product advantage. While firm driven characteristics or inputs were found to be more of the dominant drivers, in this study it is found that more of the dominant drivers of new product success are market driven characteristics.

#### **TABLES**

TABLE - 1: ANALYSIS OF MEANS (T-TEST MANAGERS' SURVEY DATA. DIFFERENCES IN THE MEANS OF COMPANY A AND B.)

S No.	Item	Very Low	Low	High	Very High
1	More Advantageous		0.5634		
2	Meet Needs		0.4308		
3	Suitable Price			0.9269	
4	Technological Sophistication	0.1755			
5	Product Innovativeness			0.7641	
6	Marketing Synergy				1.0858
7	Technological Synergy				1.3664
8	Time of Introduction			0.8733	
9	Separate Team Working			0.6335	
10	Dedicated R & D				1.2368
11	Success of Previous Products				1.5117
12	Market Proficiency			0.7953	
13	Technological Proficiency				1.4464
14	Launch Proficiency			0.6335	
15	Market/Customer Orientation				1.0331
16	Customer Oriented Product Development			0.8460	
17	Reduced Cycle Time				1.778
18	Structured Approach			0.7953	
19	Cross Functional Integration		0.4767		
20	Cross Functional Communication		0.5653		
21	Senior Management Support		0.4064		
22	Likelihood of Competitive Response				1.2125
23	Competitive Response Intensity				1.4542
24	Market Potential		0.4737		
25	Product Success			0.7589	

S No. Very Low Low High Very High 1 More Advantageous 1.0327 2 Meet Needs 1.3265 3 Suitable Price 0.5269 4 **Technological Sophistication** 0.3323 5 Product Innovativeness 1.7697 1.3710 6 Marketing Synergy 7 **Technological Synergy** --1.1429 8 Time of Introduction 1.9429 9 Separate Team Working 0.0791 10 Dedicated R & D 0.3345 ----11 **Success of Previous Products** 0.3941 **Market Proficiency Product** 0.5237 12 13 **Technological Proficiency** 0.7319 14 Launch Proficiency 0.9765 15 Market/Customer Orientation 0.6394 16 0.9527

TABLE - 2: ANALYSIS OF MEANS (T-TEST CONSUMER'S SURVEY DATA. DIFFERENCES IN THE MEANS OF COMPANY A AND B.)

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