



Factors influencing success of new product launch: a case of SME stationery industry in India

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Abstract

Launching a new product in market always holds a lot of challenges; which are even magnified when it is an SME that is launching the new product. The objective of this paper is to identify how the different factors that influencing success of new product launch interact and im-pact each other in SME's of stationery industry in Tamil Nadu, India. Interpretive structural modelling(ISM) approach is used to analyse interrelationship between the factors. MICMAC analysis is performed to categorise and rank the factors according to their importance and function. Finally, the paper concludes with most influential factors are core competence and manufacturing flexibility for the new product launch of stationery industry.

Keywords: New Product Launch; Stationery; Success Factors; Interpretive Structural Modelling.

1. Introduction

New products are created and produced to satisfy the changing needs of the customer is always developed and launched in the market. It is estimated that only 60% of these new products and launches are successful (Castellion and Markham, 2013). Decision makers in organisations generally face a lot of pressure to deliver better products in the market and this makes it important that we have a good understanding of the market and create a launching strategy to suit the needs of the market. Despite the risks involved, proper preparation and implementation of product launch is crucial for the growth of the product and the company, if practices followed during new product launches are improved then the chances of the product to be successful during the launch also increase. This is the primary reason on why we have to understand the factors that affect new product launches.

Stationery market includes wide range of products that includes paper, office supplies, writing instruments, pencil cases, glue and other similar products. The industry is estimated to have an annual revenue value of around INR. 20000 crores with a projected cumulative growth of 15% (Business standard, 2016). The contribution of small and medium scale industries in the stationery market is high since the industry is fragmented in India. It is because of all the mentioned reasons, it is extremely important for us to understand about how the factors which influence new product launches interact in the case of SME's belonging to the stationery industry in India.

2. Literature review

The literature is comprised of two parts, namely new product launching factors and it is followed by ISM approach.

2.1. Literature review on new product launching factors

Chen et al. (2010) studied different factors to understand antecedents that affect the speed of new product development. The study integrated data from 70 articles and identified 17 factors that affect the speed of product development. Correlation method was used to analyse the data and it was found that 12 factors played significant role in impacting the speed of development of new products. Atuahene-Gima (1996) analysed the association between market orientation along with innovation and product performance of new products. An empirical study was conducted in 158 manufacturing and 117 service firms in Australia for that study. Analysis was done using regression to develop the results. It was found that market orientation did not play significant role in impact of market success, when measured in terms of financial performance. Hultink et al. (1998) analysed the various factors to help decision makers of new product launch to create effective strategies. A total of 622 samples from manufacturing companies in the field of consumer durables, packaged goods, transportation, construction and chemical in three countries namely, UK, Netherlands and USA were studied for this purpose. Canonical correlation analysis was employed to analyse the data and suggest the various possible strategies for new product launch.

Ingenbleek et al. (2003) studied the various ways of setting pricing for new products and aimed to identify the conditions upon which the pricing strategies worked. The study used responses from 77 firms in the field of electronics and engineering and correlation method was used to analyse the data. It was found that value informed pricing had a significant impact on new product performance. Chiu et al. (2006) conducted an empirical study to create a framework that could be used by decision makers to create launch strategies for new products. Fuzzy multi-criteria decision making approach was used to develop a framework and it was compared the case of IC industries in Taiwan. The suggested model did not conflict with the practical development history thus verifying the model. He et al. (2014) studied the effect of supplier integration and its impact on customer integration and performance of new product development. The study collected 320 usable samples from 20 countries across Europe, Asia and America by the form of

a questionnaire. Structural equation modelling was used to analyse the data, and it was found that supplier integration and customer integration had a strong relationship on performance of new products.

Wu et al. (2011) analysed the relationship between supplier capability, competitive advantage and partnership. Samples were collected from 104 firms in the field of semiconductor manufacturing in Taiwan. Factor analysis, correlation analysis and regression were performed to analyse the data and it was found that partnership and supplier capability had a positive relationship. Benedetto (1999) analysed different factors to identify the factors that are key to successful product launch. 183 responses were collected from practitioner members of product development and management association. T-test was selected to analyse the data and the results showed that new product launches were successful when selling effort, advertising and technical support was of high quality and management of support systems were good. Jo Black et al. (2002) created a model for customer distribution channel with the case of financial services. Six exploratory focus group with ten to twelve participants were segmented into three categories and a questionnaire response was collected from all the participants. The study found that the type of product and its complexity was key to determine the channel and the confidence on the distribution channel played a major role in determination of decision. Pettersson and Segerstedt (2013) studied methods to calculate the supply chain costs in industries. Interviews were conducted with thirty representatives from 10 sectors to study how their supply chain cost is calculated in their industries and compared against the model used in the study. The results found that many companies did not measure all aspects of supply chain cost but measured only a few parts of it and the level of aggregation was also found to be very high during the calculation.

2.2. Literature review on ISM

Singhet et al. (2003) analysed the factors affecting knowledge management in engineering industries using ISM. Leadership and strategic planning was found to be the driver factors of the study. Thakkar et al. (2008) analysed the factors that affect IT enablers in SME's of manufacturing industry in India. Internal culture of the organisation and expectation raised from OEM or customers were identified as driving factors by the study. Chidambaranathan et al. (2009) studied the interaction between critical factors affecting supplier development using ISM methodology. The study found no autonomous or linkage factors, six factors were determined as dependant factors and five factors were determined as independent factors. Pfohl et al. (2011) used ISM methodology to obtain the relationship between twenty-one factors and its impact on supply chain risks. Talib et al. (2011) studied the various factors to identify the relationship between barriers that prevent implementation of total quality management using ISM methodology. Top management commitment or the lack of it was found to be the primary significant factor by the study. Saleeshya et al. (2012) developed framework for agility assessment in supply chain network using ISM with analytic hierarchy process. Govindan et al. (2012) analysed seven factors that impact the functioning of third party reverse logistics using interpretive structural modelling to determine the factors and their corresponding relationships. MICMAC analysis showed that an organizational performance criterion was a significant factor and no factor was dependent factor. Ambika Devi Amma et al. (2015) used ISM for analysing major threads of cloud computing. Govindan et al. (2015) used ISM methodology to study the impact of lean, resilient and green practices of organisations and the performance of its supply chain. The study found no driver or autonomous factor, nine factors were found to be linkage factor and one was found to be dependent factor.

3. Methodology

3.1. Data collection

Using the factors identified from the literature, data was collected from 10 respondents from partners and senior employees of small and medium scale companies involved in stationery manufacturing in Tamil Nadu. Data was collected by conducting interviews with the respondents and noting down the responses provided.

3.2. ISM approach

- 1) Factors were identified from literature review and expert interview and Table 1 contains the factors identified for successful new product launch in SME's of stationery industry.
- 2) Self structured Interaction matrix is created to depict the contextual relationship among two factors and it is represented as following,

V: i alters j

A: j alters i

X: J and I are mutually influences

O: J and I do not influence each other

The SSIM matrix derived from the interaction among the variables according to the data collected are represented in Table 2.

- 3) The initial reachability matrix is developed using the SSIM. The step carried for conversion is as follows,

From SSIM (i,j)	V	A	X	O
Initial reachability matrix (i,j) entry	1	0	1	0
Initial reachability matrix (j,i) entry	0	1	1	0

It is represented in Table 3.

- 4) Final reachability matrix is derived using table 3 and using transitivity analysis. That is, if A=B and B=C then A=C It is represented in Table 4.
- 5) Partitions of final reachability matrix is created based on three sets namely, reachability set, antecedent set and intersection set. The various iterations are depicted in Table 5, 6, 7,8,9,10,11.
- 6) Digraph is created using the level partitions and final reachability matrix. The factors are divided into levels and the interaction between the factors in the same level and the adjacent levels are represented and the digraph is noted as Figure 1.

Table 1: Identified Factors for New Product Launch

S. No.	Factor	Definition	References
1	Product Newness	The product is very new to the market and target customers	Chen et al.(2010)
2	Innovation	An innovative product is one that is differentiated from that of the competitors and overcomes the pain points of target customer	Atuahene-Gima (1996)
3	Mainstream advertisements	Mainstream advertisements include, TV, Radio, Print and trade shows	Hultink et al. (1998)
4	Product pricing	Launching pricing of new product in the market.	Ingenbleek et al.(2003)
5	Sales force intensity	Having an appointed sales team to sell the specific new product.	Chiu et al.(2006)
6	Core competence	The unique capability or specialization of the firm that differentiates themselves from the competitors.	Chiu et al. (2006)
7	Manufacturing flexibility	Ability of the company to modify products, manufacture more or less of the product as per the market's need.	He et al.(2014)

8	Supplier capability	The ability of the suppliers to provide raw materials at required quality and on time at right cost	Wu et al. (2011)
9	Product testing	Testing the product in test market	Benedetto (1999)
10	Promotion expenditure	The total expenditure done on promotions	Chiu et al.(2006)
11	Distribution channel	The support and ability of distribution channel to make the product available	Jo Black et al. (2002)
12	Distribution cost	The cost incurred for distribution of product	Pettersson and Segerstedt(2013)

Table 2: SSIM Matrix for Factors Influencing New Product Launch

	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12
F1	1	X	O	V	O	A	A	X	O	V	O	O
F2		1	O	O	O	A	A	O	O	O	O	O
F3			1	O	V	O	O	O	O	X	O	O
F4				1	O	O	O	O	O	A	O	A
F5					1	O	O	O	V	A	O	O
F6						1	X	O	O	O	O	O
F7							1	O	O	O	O	O
F8								1	O	O	O	O
F9									1	O	V	V
F10										1	O	O
F11											1	X
F12												1

Table 3: Initial Reachability Matrix

	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12
F1	1	1	0	1	0	0	0	1	0	1	0	0
F2	1	1	0	0	0	0	0	0	0	0	0	0
F3	0	0	1	0	1	0	0	0	0	1	0	0
F4	0	0	0	1	0	0	0	0	0	0	0	0
F5	0	0	0	0	1	0	0	0	1	0	0	0
F6	1	1	0	0	0	1	1	0	0	0	0	0
F7	1	1	0	0	0	1	1	0	0	0	0	0
F8	1	0	0	0	0	0	0	1	0	0	0	0
F9	0	0	0	0	0	0	0	0	1	0	1	1
F10	0	0	1	1	1	0	0	0	0	1	0	0
F11	0	0	0	0	0	0	0	0	0	0	1	1
F12	0	0	0	1	0	0	0	0	0	0	1	1

Table 4: Final Reachability Matrix

	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12
F1	1	1	1*	1	1*	0	0	1	1**	1	1***	1***
F2	1	1	1**	1*	1**	0	0	1*	1***	1*	1****	1****
F3	0	0	1	1*	1	0	0	0	1*	1	1**	1**
F4	0	0	0	1	0	0	0	0	0	0	0	0
F5	0	0	0	1**	1	0	0	0	1	0	1*	1*
F6	1	1	1**	1*	1**	1	1	1*	1***	1*	1****	1****
F7	1	1	1**	1*	1**	1	1	1*	1***	1*	1****	1****
F8	1	1*	1**	1*	1**	0	0	1	1***	1*	1****	1****
F9	0	0	0	1*	0	0	0	0	1	0	1	1
F10	0	0	1	1	1	0	0	0	1*	1	1**	1**
F11	0	0	0	1*	0	0	0	0	0	0	1	1
F12	0	0	0	1	0	0	0	0	0	0	1	1

Table 5: Iteration-1

Factors	Reachability Set	Antecedent Set	Intersection Set	Level
1	1, 2,3,4,5,8,9,10,11,12	1, 2,6,7,8	1,2,8	
2	1, 2,3,4,5,8,9,10,11,12	1, 2,6,7,8	1,2,8	
3	3,4,5,9,10,11,12	1, 2,3,6,7,8,10	3,10	
4	4	1,2,3,4,5,6,7,8,9,10,11, 12	4	I
5	4,5,9,11,12	1, 2,3,5,6,7,8,10	5	
6	2,3,4,5,6,7,8,9,10,11, 12	6,7	6,7	
7	2,3,4,5,6,7,8,9,10,11, 12	6,7	6,7	
8	1, 2,3,4,5,8,9,10,11,12	1, 2,6,7,8	1,2,8	
9	4,9,11,12	1, 2,3,5,6,7,8,9,10	9	
10	3,4,5,9,10,11,12	1, 2,3,6,7,8,10	3,10	
11	4,11,12	1, 2,3,5,6,7,8,9,10,11, 12	11,12	

12	4,11,12	1, 2,3,5,6,7,8,9,10,11, 12	11,12
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Table 6: Iteration-2

Factors	Reachability Set	Antecedent Set	Intersection Set	Level
1	1, 2,3,5,8,9,10,11,12	1, 2,6,7,8	1,2,8	
2	1, 2,3,5,8,9,10,11,12	1, 2,6,7,8	1,2,8	
3	3,5,9,10,11,12	1, 2,3,6,7,8,10	3,10	
5	5,9,11,12	1, 2,3,5,6,7,8,10	5	
6	1, 2,3,5,6,7,8,9, 10,11,12	6,7	6,7	
7	1, 2,3,5,6,7,8,9, 10,11,12	6,7	6,7	
8	1, 2,3,5,8,9,10,11,12	1, 2,6,7,8	1,2,8	
9	9,11,12	1, 2,3,5,6,7,8,9,10	9	
10	3,5,9,10,11,12	1, 2,3,6,7,8,10	3,10	
11	11,12	1, 2,3,5,6,7,8,9,10, 11,12	11,12	II
12	11,12	1, 2,3,5,6,7,8,9,10, 11,12	11,12	II

Table 7: Iteration-3

Factors	Reachability Set	Antecedent Set	Intersection Set	Level
1	1, 2,3,5,8,9,10	1, 2,6,7,8	1,2,8	
2	1, 2,3,5,8,9,10	1, 2,6,7,8	1,2,8	
3	3,5,9,10	1,2,3,6,7,8, 10	3,10	
5	5,9	1, 2,3,5,6,7,8,10	5	
6	1, 2,3,5,6,7, 8,9,10	6,7	6,7	
7	1, 2,3,5,6,7, 8,9,10	6,7	6,7	
8	1, 2,3,5,8,9,10	1, 2,6,7,8	1,2,8	
9	9	1, 2,3,5,6,7,8 ,9,10	9	III
10	3,5,9,10	1, 2,3,6,7,8,10	3,10	

Table 8: Iteration-4

Factors	Reachability Set	Antecedent Set	Intersection Set	Level
1	1, 2,3,5,8,10	1, 2,6,7,8	1,2,8	
2	1, 2,3,5,8,10	1, 2,6,7,8	1,2,8	
3	3,5,10	1, 2,3,6,7,8,10	3,10	
5	5	1, 2,3,5,6,7,8,10	5	IV
6	1, 2,3,5,6,7,8,10	6,7	6,7	
7	1, 2,3,5,6,7,8,10	6,7	6,7	
8	1, 2,3,5,8,10	1, 2,6,7,8	1,2,8	
10	3,5,10	1, 2,3,6,7,8,10	3,10	

Table 9: Iteration-5

Factors	Reachability Set	Antecedent Set	Intersection Set	Level
1	1, 2,3,8,10	1, 2,6,7,8	1,2,8	
2	1, 2,3,8,10	1, 2,6,7,8	1,2,8	
3	3,10	1, 2,3,6,7,8,10	3,10	V
6	1, 2,3,6,7,8,10	6,7	6,7	
7	1, 2,3,6,7,8,10	6,7	6,7	
8	1, 2,3,8,10	1, 2,6,7,8	1,2,8	
10	3,10	1, 2,3,6,7,8,10	3,10	V

Table 10: Iteration-6

Factors	Reachability Set	Antecedent Set	Intersection Set	Level
1	1, 2,8	1, 2,6,7,8	1,2,8	VI
2	1, 2,8	1, 2,6,7,8	1,2,8	VI
6	1, 2,6,7,8	6,7	6,7	
7	1, 2,6,7,8	6,7	6,7	
8	1, 2,8	1, 2,6,7,8	1,2,8	VI

Table 11: Iteration-7

Factors	Reachability Set	Antecedent Set	Intersection Set	Level
6	6,7	6,7	6,7	VII
7	6,7	6,7	6,7	VII

4. Results and analysis

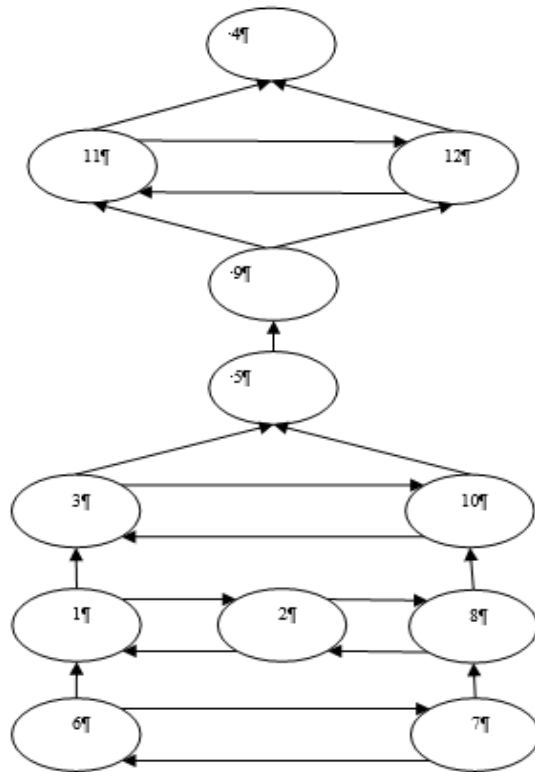


Fig. 1: Digraph of ISM Model.

Level VII: Factors F6 and F7 belong to this level. F6 and F7 are two factors that are mutually related to each other. This is because, the SME's in this industry needed to have a defined specialisation. While deciding the core competency, the firm decides upon its manufacturing flexibility. Firms select the type of machines they purchase according to their core competency i.e general purpose machines if it is an agile organisation and product specific machine and process if it does not have manufacturing flexibility as core competency. We also see that F6 influence F1, firms try to produce new products continuously if the core competency is to stay ahead of market by having products first in the market. F7 impacts F8 since the supplier is expected to provide raw materials of wide range and varying quantity if the firm expects high manufacturing flexibilities. It is observed that most of the firms which were studied produce products after consulting with their suppliers.

Level VI: Factors F1, F2 and F8 are at this level. F1 and F2 impact each other mutually. If a product is new to market, it is generally innovated and converted to suit the needs of the local market. If the organisation is innovative, it tends to produce and launch products that are new to the market. F2 and F8 affect each other, a supplier needs to provide varying raw materials in terms of variety for a firm to successfully innovate. The vice-versa also is applicable for the same reason. F1 affects F3 since a new product in the market needs to reach a wider segment of market and educate the customer about the product. The firms primarily use local newspapers to achieve this purpose.

Level V: Factors F3 and F10 are at this level. Factors F3 and F10 are two factors that impact each other. If the money spends on mainstream advertisement is high then promotion cost is also high. If the promotion budget is small, then the spending on mainstream advertisement is low. Factor F3 and F10, both impact F5. If spending on mainstream advertisement is high, it makes the work of sales force easier and get more stores or distributors when compared to low spending on advertisements. Promotion cost also reduces the sales force intensity required.

Level IV: Factor F5 is in this level. Sales force intensity directly affect F9, which is product testing. Sales force plays the important role of taking the product to the

test market and collect feedback from both customers and consumers about the product before the actual launch.

Level III: Factor F9 is in this level. F9 affect both F11 and F12. From the results of the test launch in the test market, the most suitable distribution channel is selected. If the test launch results show that the product is well sold in low income segments, then small stores such as kirana shops, stationery shops are selected as distribution channel and if the test launch results suggest a possible success among high income households, then high-end retail stores are selected as a distribution channel. Product testing results also determines the distribution cost, i.e if the product sells faster than the distribution cost is low and contrary if it is the other way.

Level II: Factor F11 and F12 are in this level. F11 and F12 impact each other mutually. Distribution channel determines the distribution cost, the distribution cost is comparatively high if the channel selected is high end retail store instead of small scale stores.

Level I: Factor F4 is at this level. Factor F11 and F12 directly impact F4. This makes product pricing the most significant factor among the factors. Distribution cost and distribution channel plays most important role in determining the product price since the cost of goods and other factors are mostly of similar range across stationery industry thus making the distribution cost and channel the most influencing factors on product pricing.

5. MICMAC analysis

MICMAC analysis is the development of a MICMAC graph and rank factors on the basis of driving power and dependence power. The factors are categorised into four zones as given in the Table12.

Table 12: MICMAC Table

Zones	Measures	Meaning	Factors
Zone-1	Autonomous Factors	Weak driving power and Weak dependence power	F3, F10
Zone-2	Dependent/ Dominated Factors	Weak driving power and Strong dependence power	F4, F5, F9, F11, F12
Zone-3	Linkage Factors	Strong Driving power and Strong Dependence power	-
Zone-4	Independent Factors	Strong Driving power and Weak Dependence power	F1, F2, F6, F7, F8

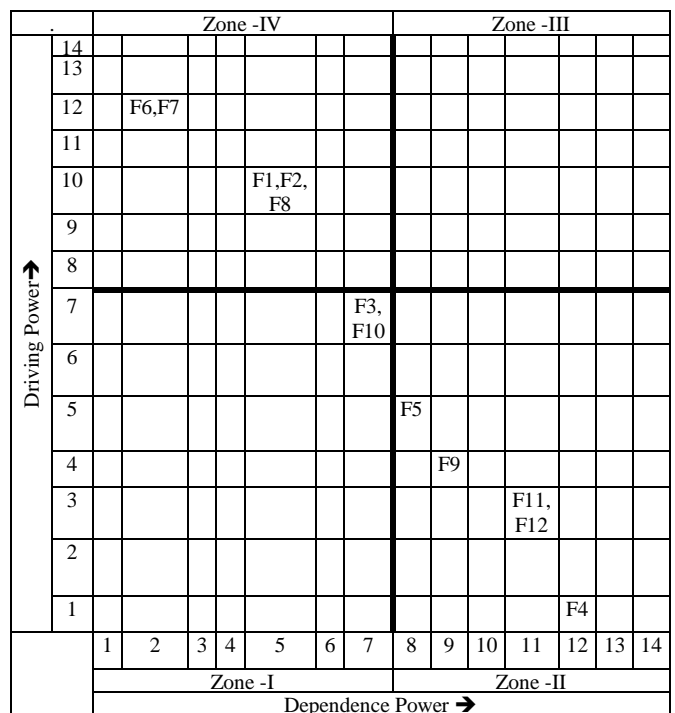


Fig. 2: MICMAC Graph.

Table 13: MICMAC Analysis and Rank Determination

Factor	Driving power	Dependence power	Driving power / Dependence power	MICMAC rank
F1	10	5	2	2
F2	10	5	2	2
F3	7	7	1	3
F4	1	12	0.083	7
F5	5	8	0.625	4
F6	12	2	6	1
F7	12	2	6	1
F8	10	5	2	2
F9	4	9	0.444	5
F10	7	7	1	3
F11	3	11	0.272	6
F12	3	11	0.272	6

From Figure 2, we can understand that the factors F3 and F10 belong to zone-1 and are autonomous factors having driving power of 7 and dependence power of 7, which implies that they play low role in determining the success of the new product launch. Factors F4, F5, F9, F11, F12 belong to zone-2 and have strong dependence power and feeble driving power thus special care has to be given to these factors. These factors are the once that are affected by other factor, product pricing gaining the highest dependence power tells us that all other factors play a significant factor in determining this factor and a decision on this factor cannot be taken without the consideration of all other factors. There are no factors in zone-3 that shows us the absence of linkage factors. Factors F1, F2, F6, F7, F8 are in zone-4 and have solid driving power and low-slung dependence power thus behave as very important factors to be considered for successful new product launch.

6. Conclusion

This paper aims to provide insight about the affiliation between the various factors that influencing new product launches and its performance or success in the market. This insight is collected based on the study conducted in the studied companies and the insight will help to light the views of other companies in the stationery industry. The priority and the significance of these factors in decisions making regarding new product launch in stationery industry may vary. Finally, the paper concludes with most influential factors are core competence and manufacturing flexibility for the new product launch of stationery industry. ISM methodology has been beneficial in finding the relationship between the factors and helps us identify the most significant factors to be concentrated upon while making decisions regarding product launch.

References

- [1] Ambika Devi Amma, T., Radhika, N., & Pramod, V. R. (2015). Major Cloud Computing Threats-An ISM Approach. *International Journal of Applied Engineering Research*, 10(16), 37804-37808.
- [2] Atuahene-Gima, K. (1996). Market orientation and innovation. *Journal of business research*, 35(2), 93-103.
- [3] Benedetto, C. A. (1999). Identifying the key success factors in new product launch. *Journal of product innovation management*, 16(6), 530-544.
- [4] Castellion, G., & Markham, S. K. (2013). Perspective: new product failure rates: influence of argumentum ad populum and self-interest. *Journal of Product Innovation Management*, 30(5), 976-979.
- [5] Chen, J., Damanpour, F., & Reilly, R. R. (2010). Understanding antecedents of new product development speed: A meta-analysis. *Journal of Operations Management*, 28(1), 17-33.
- [6] Chidambaranathan, S., Muralidharan, C., & Deshmukh, S. G. (2009). Analyzing the interaction of critical factors of supplier development using Interpretive Structural Modeling—an empirical study. *The International Journal of Advanced Manufacturing Technology*, 43(11-12), 1081-1093.
- [7] Chiu, Y. C., Chen, B., Shyu, J. Z., & Tzeng, G. H. (2006). An evaluation model of new product launch strategy. *Technovation*, 26(11), 1244-1252.

- [8] Govindan, K., Azevedo, S. G., Carvalho, H., & Cruz-Machado, V. (2015). Lean, green and resilient practices influence on supply chain performance: interpretive structural modeling approach. *International Journal of Environmental Science and Technology*, 12(1), 15-34.
- [9] Govindan, K., Palaniappan, M., Zhu, Q., & Kannan, D. (2012). Analysis of third party reverse logistics provider using interpretive structural modeling. *International Journal of Production Economics*, 140(1), 204-211.
- [10] He, Y., Lai, K. K., Sun, H., & Chen, Y. (2014). The impact of supplier integration on customer integration and new product performance: the mediating role of manufacturing flexibility under trust theory. *International Journal of Production Economics*, 147, 260-270.
- [11] Hultink, E. J., Griffin, A., Robben, H. S., & Hart, S. (1998). In search of generic, launch strategies for new products. *International Journal of Research in Marketing*, 15(3), 269-285.
- [12] Ingenbleek, P., Debruyne, M., Frambach, R. T., & Verhallen, T. M. (2003). Successful new product pricing practices: a contingency approach. *Marketing letters*, 14(4), 289-305.
- [13] Jo Black, N., Lockett, A., Ennew, C., Winklhofer, H., & McKechnie, S. (2002). Modelling consumer choice of distribution channels: an illustration from financial services. *International Journal of Bank Marketing*, 20(4), 161-173.
- [14] Pettersson, A. I., & Segerstedt, A. (2013). Measuring supply chain cost. *International Journal of Production Economics*, 143(2), 357-363.
- [15] Pfohl, H. C., Gallus, P., & Thomas, D. (2011). Interpretive structural modeling of supply chain risks. *International Journal of physical distribution & logistics management*, 41(9), 839-859.
- [16] Saleeshya, P. G., Thampi, K. S., & Raghuram, P. (2012). A combined AHP and ISM-based model to assess the agility of supply chain—a case study. *International Journal of Integrated Supply Management*, 7(1-3), 167-191.
- [17] Singh, M. D., Shankar, R., Narain, R., & Agarwal, A. (2003). An interpretive structural modeling of knowledge management in engineering industries. *Journal of Advances in Management Research*, 1(1), 28-40.
- [18] 'Stationery industry likely to register CAGR growth of 15pc', *Business Standard, Mumbai 22nd December 2016*.
- [19] Talib, F., Rahman, Z., & Qureshi, M. N. (2011). Analysis of interaction among the barriers to total quality management implementation using interpretive structural modeling approach. *Benchmarking an International Journal*, 18(4), 563-587.
- [20] Thakkar, J., Kanda, A., & Deshmukh, S. G. (2008). Interpretive structural modeling (ISM) of IT-enablers for Indian manufacturing SMEs. *Information Management & Computer Security*, 16(2), 113-136.
- [21] Wu, H. Y., Lin, Y. J., Chien, F. L., & Hung, Y. M. (2011). A study on the relationship among supplier capability, partnership and competitive advantage in Taiwan's semiconductor industry. *International Journal of Electronic Business Management*, 9(2), 122.