A Study on a Study on Identification of Critical Parameters for Cost Effective Supply Chain

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ABSTRACT :

Indentification of critical parameters for cost effective supply chain is carried out with an objective to sustain the growth and efficiency of the company by management of material and information flow in supply chain to provide the highest degree of customer satisfaction at lowest possible cost supply chain requires commitment of supply chain partners to work closely to coordinate order generation, order taking and order fulfillment that creating an extend enterprise spreading for beyond producer locations. The sample size of the survey is nearly 150 respondents.The statistical tools used are chi-square and correlation. Observations, findings and suggestions have been presented to the organization and we hope that the organization will look into it and try to implement it in the future to increase productivity.

Keywords: Cost efficiency, inventory management, total cost of ownership, risk management, strategic sourcing, cost -benefit analysis, value chain analysis, Demand forecasting, lean manufacturing

1.1 Introduction :

A supply chain is a system of organizations, people, activities, information, and resources involved in moving a product or service from supplier to customer. Supply chain activities involve the transformation of natural resources, raw materials, and components into a finished product that is delivered to the end customer Supply Chain Management is consists of all parties (Including Manufacturer, Marketer, Suppliers, transporters, Warehouses, Retailers and even customers) directly or indirectly involved in fulfillment of a customer The main objectives of Supply chain management are to improve the overall organization performance and customer satisfaction by improving product or service delivery to consumer.

1.2 Review of Literature :

A supply chain, according to Handfield and Nichols (1999) is the flow and transfer of goods from raw material to final product, and the actryties that achieve this successfully The management of the supply chain is the integration of sard activities and the relationship building plus maintenance needed to perform these activities. Saunders (1997) seconds this definition, but adds that it is also the flow of money. Finances are, after all, what drive the purchasing chain and the key to exchange. Eltram and Cooper (1993)summarise and further this in saying supply chain management is an integrating philosophy to manage the total flow of a distribution channel from supplier to ultimate customer' (Rich and Hines 1997: 212).

Handfield and Nichols (1999) show an example of a supply chain that of a cereal manufacturer, of which is detailed in figure one of the appendices. The example supply chain demonstrates their previously described flow of goods. Bowersox and Closs (1996) also detail an example supply chain, for a food distributor, as shown in figure two of the appendices.

Rich and Hines (1997) also found that flatter organisational structures achieve competitiveness in time, this supports both Bowersos and Closs (1996) and Saunders (1997). These flatter organisations include quicker manufacturer responses and improved supplier relationships. In developing relationships with suppliers, the supplier themselves can allow outsourcing to avoid costly risks in technology. In turn, Rich and Hines (1997) found vertical integration of the supply chain also permits for multiple vendors to be factored in along the supply chain, as it flows from raw materials to final product, through a hierarchical management strategy.

1.3 Research Gap

While existing literature provides valuable insights into critical parameters for cost-effective supply chains, there remains a gap in understanding the interplay between these parameters and their dynamic nature in response to evolving market conditions, technological advancements, and regulatory changes. Future research could focus on developing comprehensive models or frameworks that integrate multiple critical parameters and analyze their

synergistic effects on supply chain costs over time. Additionally, empirical studies validating the effectiveness of proposed strategies in diverse industry contexts would contribute to bridging the research-practice gap in cost-effective supply chain management.

1.4 Objectives of The Study

- To analyze the total flow of the distribution channel from supplier to customer
- To provide the various suggestions for achieving premium performance through competitive efficiency

1.5 Research Methodology

1.5.1 Meaning of Research Methodology: Research methodology is the specific procedures or techniques used to identify, Select, process, and analyze information about a topic. In a research paper, the methodology section allows the reader to critically evaluate a study's overall validity and reliability.

1.5.2 Instrumental Design: Utilizing Likert's five-point rating system, five questions were formulated for each component of the structured questionnaire.

1.5.3 Method of Data Collection: Questionnaires were used to collect primary and secondary data on the factors influencing the information provided by employers and employees of the organization.

1.5.4 Sample Size and Sampling Method: To gather data for the study, a sample size of 150 respondents was chosen using the uncomplicated technique of simple random sampling.

1.5.4.1 Meaning of simple random sampling method: A simple random sample takes a small, random portion of the entire population to represent the entire data set, where each member has an equal probability of being chosen. Researchers can create a simple random sample using methods like lotteries or random draws.

1.5.5 Data Analysis: To examine the data, descriptive analysis methods were used. A contingency table based on the frequency distribution was created using percentage analysis, which allowed for a more understandable depiction of the gathered data.

Bar charts are used in chart analysis to help visualize percentage data and make distributions and trends easier to interpret.

1.5.6 Statistical Tool Used: To arrange and interpret the collect the data the following statistical tools were used. Such as:

- Percentage analysis.
- Chi-Square analysis.
- Correlation analysis

How satisfied packaging product and supplier

Particulars	*Frequency*	*Percentage*
Very dissatisfied	10	6.7
dissatisfied	48	32
Neutral	38	25.3
Satisfied	38	25.3
Very satisfied	16	10.7
total	**150**	**100.0**

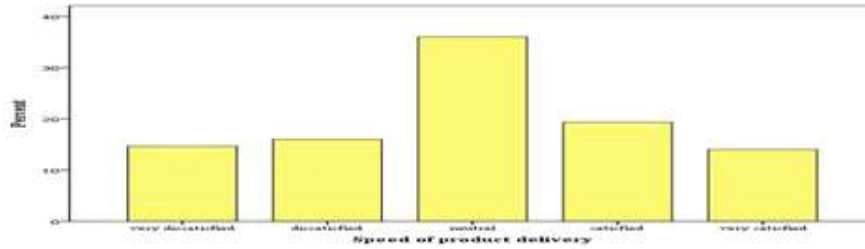Table. No 1.1   **How satisfied packaging product and supplier**

Fig no.1.1 How satisfied packaging product and supplier

Inference

From the above table, it is inferred that **32%** of the respondents dissatisfied **25.3%** of the respondents satisfied **25.3%** of the respondents are neutral, **10.7%** of the respondents very satisfied and **6.7%** of respondents Very dissatisfied

How satisfied are you customer during the distribution process

Particulars	Frequency	Percent
Very dissatisfied	38	25.3
dissatisfied	10	6.7
Neutral	19	12.7
Satisfied	48	32.0
Very satisfied	35	23.3
total	**150**	**100.0**

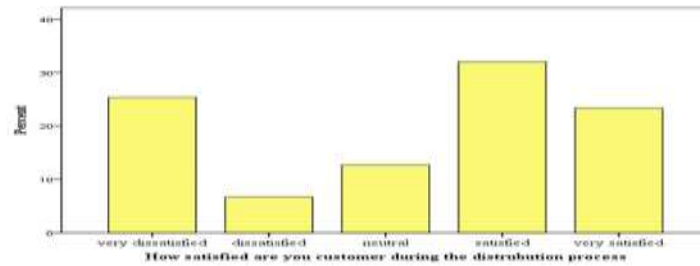**Table no.1.2 how satisfied are you customer during the distribution process**

Fig no.1.2 how satisfied are you customer during the distribution process

Inference

From the above table, it is inferred that **32.0%** of the respondents satisfied, **25.3%** of the respondents Very dissatisfied, **23.3%** of the respondents are **Very satisfied**, 12.7**%** of the respondents neutral and **6.7%** of respondents dissatisfied

Rate the overall reliability distrubution channels

Particulars	Frequency	Percent
Very unreliable	11	7.3
Unreliable	20	13.3
Neutral	45	30.0
Reliable	31	20.7
Very reliable	43	28.7
Total	**150**	**100.0**

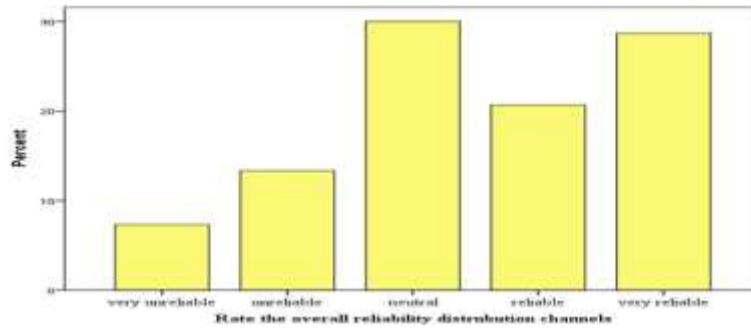**Table no.1.3 rate the overall reliability distribution channels**

Fig no.1.3 rate the overall reliability distribution channels

Inference

From the above table, it is inferred that **30.0%** of the respondents neutral, **28.7%** of the respondents Very reliable **20.7%** of the respondents are Reliable, **13.3%** of the respondents Unreliable and **7.3%** of respondents Very unreliable

How like you are recommend our distribution channels

Particulars	Frequency	Percent
Very unlikely	30	20.0
Unlikely	12	8.0
Neutral	36	24.0
Likely	43	28.7
Very likely	24	19.3
Total	**150**	**100.0**

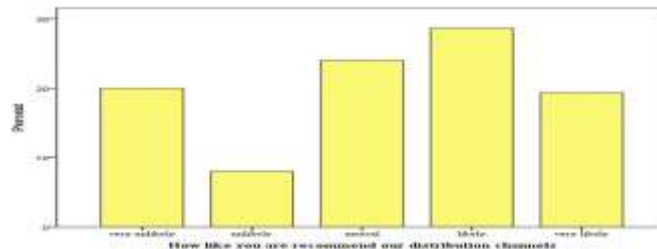**Table no : 1.4 How like you are recommend our distribution channels**

Fig no : 1.4 How like you are recommend our distribution channels

Inference

From the above table, it is inferred that **28.7%** of the respondents likely, **24.0%** of the respondents neutral, **20.0 %** of the respondents are Very unlikely, **19.3%** of the respondents Very likely and **8.0%** of respondents Unlikely

4.1.2 Chi-Square Tests

Null hypothesis

H0: There is no significant association between the Best value for technology transportation services and Lack of transparency regarding the movement of material.

Alternative hypothesis

H1: There is a significant association between the Best value for technology transportation services and Lack of transparency regarding the movement of material.

Summary of the Chi-Square

Table no

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Total
Best stronglyagree	0	12	7	11	4	34
value for technology agree	0	0	11	13	0	24
neutral	3	0	13	5	28	49
disagree	10	3	11	7	10	41
strongly disagree	0	0	0	2	0	2
total	13	15	42	38	42	150

Table. No. 1.7 Summary of the Chi-Square

Particulars	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	94.825a	**16**	**.ooo**
Likelihood Ratio	**198.329**	**16**	**.000**
Linear-by-Linear	**.136**	**1**	**.712**
N of Valid Cases	**150**		

Table. No. 1.8 Chi-Square Test

Inference

From the analysis, it bis inferred that the significance value is .000 which is smaller than 0.005. So, accept H1. Therefore, there is significant association between the Best value for technology transportation services and Lack of transparency regarding the movement of material.

4.1.3 Correlation

Null hypothesis

H0: There is no significant association between the rate the effectiveness our supply chain management and recommend specific initiative strategic to enhance

Alternative hypothesis

H1: There is significant association between the rate the effectiveness our supply chain management and recommend specific initiative strategic to enhance

Particulars	Satisfaction of physical work environment	Level of trust between employees and management
Rate the effectiveness our supply chain management Correlation	1	.046
Sig. (2-tailed)		.598 .
N	150	150

Recommend specific initiative strategic to enhance		
Pearson Correlation	.046	1
Sig. (2-tailed)	.598	
N	150	150

Table. No. 1.9 Correlation

Inference

The value r = .046. It indicates that there is a negative correlation between the rate the effectiveness our supply chain management and recommend specific initiative strategic to enhance.

1.5 Suggestions

- Managers/supervisors working in must consult their employees in taking important decisions in their organization
- It would be better if the delivery process of is improved by taking better remedial measures.
- The company has to concentrate on the promotional activities in order to retain the customers and also to attract the new customers.
- The company has to improve the marketing activities such as advertisement in order to create more awareness among the customers.
- Employees work related suggestions must be valued and recognition for their involvement has to be focused more.

1.6 Limitations of the study

- The respondents may be illiterate.
- Many of the respondents were not willing to fill the questionnaire.
- The respondents feel that the Questionnaire has many questions.
- This study limits to the geographical area of function.

1.7 Conclusion

The study of "A Study on Identification of critical parameters for cost effective supply chain The customers are the back bone of the company. So that company has to realize that they have to do things right by listening to their customers and adopting a strategy based on mutual agreement with the customers. The company has a better chance to overcome their competitors and be more efficient in building relationships with their customers by using SCM strategy. A proper process for customer feedback, complaint management, front staff training and offers to customers will increase the business performance. Evaluating the past and present behaviour makes it possible for the company to adopt the most effective business.

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