

A STUDY ON STRATEGIC SOURCING AND SUPPLY CHAIN RISK MANAGEMENT IN AVTEC LIMITED

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Abstract

Supply Chain Risk Management is the process of forecasting the risks that may happen in future and managing them effectively. In other words, SCRM is to apply risk management process tools, with partners in a supply chain or on your own, to deal with risks and uncertainties caused by, or affecting, logistics- related activities or resources in the supply chain. In order to be more efficient, firms have adopted strategies such as outsourcing, global partnerships and lean practices but resulted in lot of supply chain risks. Hence strategic sourcing and supply chain team combined together to minimize the supply chain risks. The study has been taken to gain an in-depth knowledge about strategic sourcing and the level of risk management in AVTEC Limited. This project is a study on AVTEC concern about supply chain risks and how good is the supply chain team in managing all the risks like Natural disaster risks, Geo-Political risks, Infrastructure outage risks, Supplier business policies and practices etc. A structured questionnaire has been used to collect the data. Appropriate statistical tools have been used to draw conclusions. The statistical tools such as Percentage analysis, Correlation and ANOVA were used. The conclusion and suggestions are provided to the company based on the data collected from them. The data collected are fed in the SPSS software (SPSS). The data are analysed using the SPSS. The data are analysed using descriptive statistics, chi-square analysis and factor analysis-test.

Keywords:

Strategic Sourcing, Supply Market Analysis, Supply Chain Risks, Logistics Management

1. INTRODUCTION

Supply Chain Risks are the biggest threats faced by many organizations as they try to adapt to more strategies [6]. To eradicate supply chain risks, many organizations tries to combine strategic sourcing and supply chain team together believing that the combination of both teams will help the organization to reduce the supply chain risks [7]. As a result of the combination of strategic sourcing and supply chain team the risks have been minimized [8]. Hence, strategic sourcing plays a vital role in managing supply chain risks in the organization [9]. This study main focuses on managing supply chain risks in Automobile Industry (CK Birla Group- AVTEC) and how strategic sourcing team helps supply chain team to overcome the supply chain risks [10].

1.1 STRATEGIC SOURCING

Strategic Sourcing is a team which decides whether to make or buy a product. In case of make decision they will suggest SCM team to arrange the materials needed for the production process. In case of buy decision the strategic sourcing team will collect the drawings from research and development department and they decide the suppliers through their vendor banking and the decision of choosing a vendor is done with the help of quality team. After

choosing a vendor, strategic sourcing team will visit the vendor location and do a techno-commercial discussion in which the vendors are evaluated based on their quality, productivity and cost. Finally based on the evaluation the vendors are fixed and its handover to supply chain team.

1.2 IMPORTANCE OF THE STUDY

The importance of this study is to help the organization to know their level of supply chain risk management [4] in CK Birla Group-AVTEC Limited and to provide them some valuable suggestions, so that the suggestions can be evaluated and implemented for the betterment of the company. This study will also help AVTEC to know their exact problems in supply chain risk management and logistics management, which will make the company to gain competitive advantage over its competitors by eliminating the risks of supply chain in longer run of business.

1.3 INDUSTRY PROFILE

The automotive industry is a wide range of companies and organizations involved in the design, development, manufacturing, marketing, and selling of motor vehicles, some of them are called automakers. It is one of the world's most important economic sectors by revenue. The automotive industry does not include industries will be dedicated to the maintenance of automobiles following delivery to the end-user, such as automobile repair shops and motor fuel filling stations. The term automotive was created from Greek autos (self), and Latin motives (of motion) to represent any form of self-powered vehicle. This term was proposed by Elmer Sperry.

From the mid period of phase 3 and the beginning of phase 4 of economic reforms (that is during 1985-1990) the industry marked the entry of Maruti Udyog into the production of passenger car segment as persistent high import tariffs were relaxed to a great extent, and with lesser import cost adding to the overhead production cost, higher productions were possible leading to the start of growing exports. AVTEC is one of the part of CK Birla Group, who manufactures transmission and power train components in India.

2. REVIEW OF LITERATURE

The researcher gone through many Journals, which is very useful for the research purpose to identify the tools to be used in the research and how to prepare the questionnaire for research purpose. Vanany et al. [1] suggests that research on supply chain risk management that attempts to compare strategies to manage risk or to create a robust supply chain across different sectors is still limited. Juttner et al. [2] also suggest that it is important to develop risk management approaches for specific supply chains /

industries. To enable this, it is necessary to first understand different types of risks that are dominant in different supply chains / industry sectors. Generally, it is conceivable that the types of risks, and then the appropriate mitigation actions, vary with supply chains industry sectors. For example, in the electronic sectors, the competitions due to many players and the rapid development of technology force products to have shorter life cycle. These pose various supply chain risks such as forced markdown prices and inventory obsolescence. In the pharmaceutical industry, on the other hand, long product development time (time to market) could be a major issue related to supply chain risk management. Thus, it would be important to expand supply chain risk management research. Wang et al. [3] suggests three conceptual models adopting cross-functional and multi-tier perspectives to help companies not only avoid supply chain risks but also seize potential opportunities. The researchers believe that by using the three conceptual models [5] [12] [13] introduced by them, the supply chain problems can be eradicated in the organization by which the company also gains competitive advantage. The study took place in three representative supply chains of the Brazilian automotive industry and sought mainly to identify and compare supply chain contextual constraints that hinder product delivery to end-customers. Constraints such as supplier's capacity, diversity of suppliers, supplier's cooperation, trust and commitment, tariffs, exchange rates and inventory were identified in different supplier tiers of the OEMs as the main factors influencing the observed volume and mix flexibilities. Additionally, Supply chain flexibility types such as sourcing, relational, delivery, postponement, new product and responsiveness influenced the Supply chain flexibility provided to the end-customers.

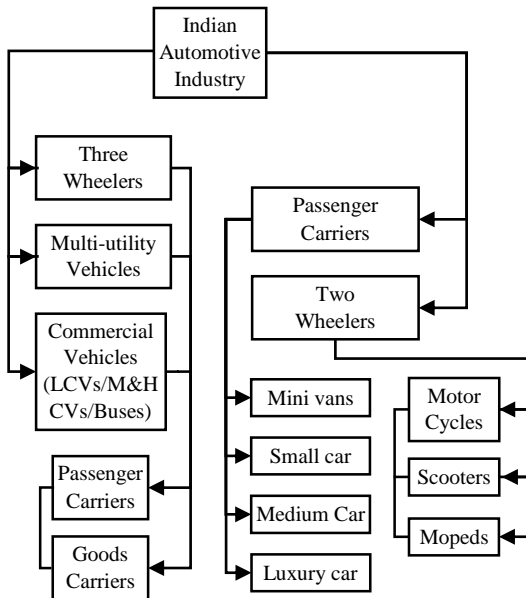


Fig.1. History of Indian Automotive Industry

2.1 RESEARCH GAP

From the review of literature, it is found that there are various researches done in the area of Supply chain Risk management but most of the article suggests having a further research on this field to know more about managing risk effectively. There was no research done in CK Birla Group-AVTEC Limited, hence there is

a research gap and the researcher would like to address the research gap by carrying out a research at AVTEC Limited, Hosur for effective risk management.

2.2 OBJECTIVES OF THE STUDY

- To know whether AVTEC is concerned about supply chain risks.
- To find out different ways by which AVTEC builds/maintains customer rationalization. To know whether AVTEC has a published set of resilience and risk mitigation standards. To know how well is AVTEC in Logistics Management.
- To find out how good is AVTEC in managing different types of risks in the organization.

2.3 RESEARCH METHODOLOGY

This study aims at describing the way by which AVTEC manages the risks and compete in the market. The questionnaires were distributed to 350 people but finally only 225 filled questionnaires were accepted by the researcher as full and valid response. The study is solely based on the primary data and the source of primary data is the questionnaire. With the help of the questionnaire distributed among the employees, the researcher collected the relevant information from the employees.

2.4 SCOPE AND LIMITATIONS OF THE STUDY

This study focuses on finding out effectiveness of Supply chain risk management in AVTEC Limited. It also helps us to know the importance of risk management in automotive industries to stay firm in the market. This study helps the Supply chain team to know their level and the work they need to do to stay in the market with the competitors. This study will enable AVTEC to focus on the ways to improve managing risks and it paves way to do lot of additional research in this topic to survive in future. The limitations of the study is as follows:

- The study is restricted within the company.
- The study is limited to time constraints

2.5 DATA ANALYSIS AND INTERPRETATION

2.5.1 Distribution of Employees Based on the Importance of Logistics Quality:

An attempt was made to study the distribution of employees based on the importance of logistics quality in AVTEC. (Source: Primary data)

It is evident from Fig.2 that majority 90% of employees informed that the Logistics quality is very important for an organization.

2.5.2 Distribution of Employees on the Based on AVTEC Showing Interest to Improve Logistics:

An attempt was made to study the distribution of employees based on AVTEC showing interest to improve logistics. (Source: Primary data)

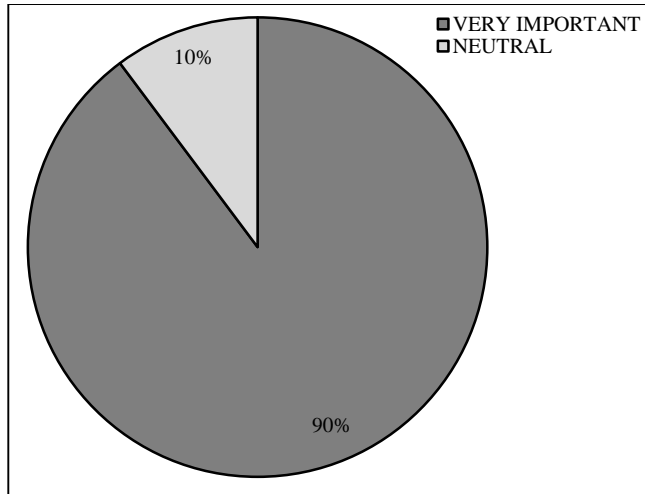


Fig.2. Distribution of employees based on the importance of logistics quality

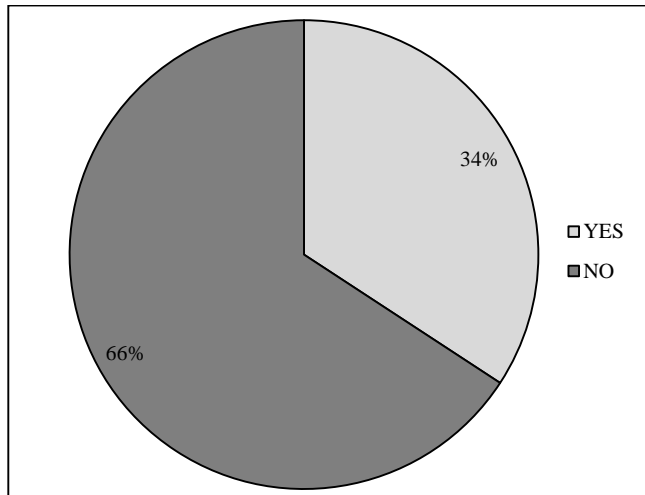


Fig.3. Distribution of employees on the based on AVTEC showing interest to improve Logistics

It is evident from Fig.3 that majority 66% of employees informed that AVTEC is showing Interest to improve logistics and 34% of employees informs that AVTEC is not showing any Interest to improve logistics.

2.5.3 Distribution of Employees based on the Awareness about Logistics Outsourcing Decision:

An attempt was made to study the distribution of employees based on the awareness about logistics outsourcing decision [11].

It is evident from Fig.4 that majority 83% of employees informed that the third party logistics provides Improvement in Efficiency and 17% of employees informs that the third party logistics saves lot of time.

2.6 ANALYSIS USING SPSS SOFTWARE

Relationship between Gender and Concern about Risk management

- a) Null Hypothesis (H_0) - There is no significant relationship between gender and concern about risk management.

- b) Alternative Hypothesis (H_1) - There is a significant relationship between gender and concern about risk management.

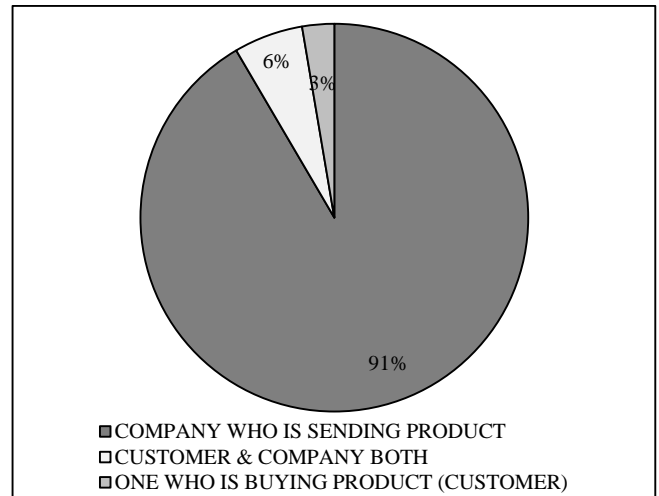


Fig.4. Distribution of employees based on providing personal protective equipment

Table.1. Descriptive Statistics

	Mean	Std. Deviation	N
Gender	1.07	.258	225
Concern About Risk	2.32	1.457	225

Table.2. Correlations

	Gender	Concern About Risk
Pearson Correlation	1	-.086
Gender Sig. (2-tailed)		.201
N	225	225
Pearson Correlation	-.086	1
Concern About Risk Sig. (2-tailed)	.201	
N	225	225

From the Table.2 it is pretty clear that P value is greater than 0.05 and hence there is no significant relationship between gender and concern about supply chain risk management. Therefore, null hypothesis (H_0) is accepted and alternative hypothesis (H_1) is rejected.

2.7 ONE WAY ANOVA

- a) Null Hypothesis (H_0) - There is no significant relationship between Age and Level of preliminary discussions.
- b) Alternative Hypothesis (H_1) - There is a significant relationship between Age and level of preliminary discussion.

From the Table.4 it is pretty clear that P value is lesser than 0.05 and hence there is a significant relationship between age and level of preliminary discussions with supply chain team. Therefore, alternative hypothesis (H_1) is accepted and null hypothesis (H_0) is rejected.

Table.3. Descriptive

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Min.	Max.
					Lower Bound	Upper Bound		
High	9	2.89	1.453	.484	1.77	4.01	1	5
Medium	96	2.69	1.069	.109	2.47	2.90	1	5
Low	120	2.11	1.194	.109	1.89	2.32	1	5
Total	225	2.39	1.187	.079	2.23	2.54	1	5

Table.4. ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	20.254	2	10.127	7.618	.001
Within Groups	295.106	222	1.329		
Total	315.360	224			

3. FINDINGS

It is found that majority 93% of employees are male in the AVTEC India Limited. Only 53% of employees Agrees that AVTEC is concerned about supply chain risks. 79% of employees accepts that the software used by AVTEC for supply chain management is effective. 53% of employee defines they have only low level of discussion with supply chain management team for managing risks. 55% of employees defines risk management is integrated as supply chain agenda in Avtec.63% of employees states they have good awareness about the exposure of their critical suppliers. 96% of employees defines AVTEC is good in managing manufacturing reliability and flexibility. It is found that majority 78% of employees defines AVTEC is only fair in managing supplier business policies and practices. 74% of employees defines AVTEC is good in managing commodity price and volatility risks. It is found that majority 68% of employees informs that they will visit their class B (Important suppliers) every year once frequently. Majority 66% of employees informs that AVTEC is not showing interest to improve logistics and informs that logistics is reviewed by AVTCE every month once. The employees inform that logistics outsourcing decision is taken by the company who is sending product.

4. IMPLICATIONS

The researcher suggests to the company that every department should have a high level of discussion with supply chain team to manage risks in the organization. The risk management should be integrated as supply chain agenda and it should be reviewed every day. Managing natural disaster risks, geo-political risks, supplier business and policies, economic cycle risks and demand forecasting can be improved. The company must have strategies to deal with suppliers who are not willing to partner with them to manage risks. The company should have a frequent visit to class A suppliers at least 3months once. And a frequent visit to class B and class C suppliers at least 6 months once. The company have

to show more interest in improving the logistics of AVTEC limited. The researcher also suggests to the company to review logistics of AVTEC limited at least every week once.

5. CONCLUSION

The study aimed to know different ways by which risks are managed in CK Birla Group - AVTEC Limited, Hosur. A well-structured questionnaire was prepared and distributed to the employees for the purpose of this research. Thus, data collected from 225 respondents were tabulated and analysed with statistical tools like simple percentage, correlation and Anova. The study found that AVTEC has the necessary risk mitigation standards but the standards are not followed properly to minimize risks, the study also found that AVTEC did not have any strategies to deal with suppliers who are not willing to partner with them to manage and mitigate risks. It is suggested to the company to provide good working infrastructure to the employees and the company should take steps to improve logistics and to manage risks in the organization.

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