

A Study of the Indian Automobile Industry's Strategic Sourcing from a Risk Management Perspective

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Abstract:

The national economy is supported by the automobile industry. The sustained growth of the economy and social economy is facilitated by the efficient operation of the automotive supply chain. As a result, the supply chain team and strategic sourcing team collaborated to reduce supply chain risks. The study was conducted to learn more in-depth information regarding strategic sourcing and MUNJAL AUTO INDUSTRIES Limited's level of risk management. This research examines the supply chain risk concerns of MAI LIMITED and examines how well the supply chain team manages various risks, such as those related to natural disasters, geopolitics, infrastructure outages, supplier business rules and practices, etc. The information was gathered using a standardized questionnaire. To derive findings, appropriate statistical tools have been utilized. ANOVA, correlation, and percentage analysis were employed as statistical methods. Based on the information gathered from them, the company is given the conclusion and recommendations. The SPS software receives the collected data (SPSS). The SPSS is used to analyze the data. Descriptive statistics, chi-square analysis, and factor analysis-test are used to analyze the data.

Keywords: Automobile Industry, Supply Chain, Strategic, Risks, Strategy

1. INTRODUCTION

The automobile industry in India is one of the largest in the world. Following the delicensing of the Indian sector in 1991, the situation began to change. A new era for the Indian automotive industry began with the opening up of 100% FDI via the vehicle channel. The automotive sector produces 23.96 million automobiles annually and accounts for 7.1% of the nation's GDP in the fiscal year (FY) 2015–16. In 2014, India exported autos worth \$14.5 billion. The production of trucks, buses, cars, defense vehicles, two- and three-wheelers, etc. is part of the Indian automobile industry. The automotive sector can be broadly classified into units that produce cars, two-wheelers, and heavy vehicles. Government initiatives, new product introductions, and exports of low-cost goods to foreign nations are the primary growth drivers for the Indian vehicle sector. The Indian government anticipates the market for passenger vehicles to quadruple to 9.4 million units by 2026, as noted in the Auto Mission Plan (AMP) 2016-26, and wants to make the automobile manufacturing industry the key driver of the "Make in India" effort. The development of eco-friendly cars, such as CNG-powered vehicles, hybrid vehicles, and electric vehicles, in the Indian automotive sector is helping to protect the environment. The government

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announced intentions to give farmers credit of Rs. 850,000 crore in the union budget for 2015–16, which is anticipated to increase sales of tractors.

Throughout the country, there are four significant hubs for the automobile sector.

1. Delhi-Gurgaon-Faridabad in the North.
2. Mumbai-Pune-Nashik-Aurangabad in the West.
3. Chennai-Bengaluru-Hosur in the South and
4. Jamshedpur-Kolkata in the East.

2. INDIAN AUTOMOBILE INDUSTRY

Indian automobile industry divides into 2 periods of time: before 1991 and after 1991(liberalization). After liberalization, the growth in automobile industry has increased in both domestic and international market. Many multinational companies are investing in automobile industry in India.

The first manufacturing automobile companies in India are:

- Premier Ltd (1941)
- Hindustan Motors Ltd (1942)
- Tata Motors Ltd (1945)
- Mahindra & Mahindra Ltd (1945)
- Bajaj Auto Ltd (1945)
- Ashok Leyland Ltd (1948)

India's automobile industry has a lot of potential for economic expansion and development. Several manufacturing sectors benefit from it, including those that produce steel, aluminum, electronics, chemicals, auto parts, machine tools, and more. Moreover, the auto industry supports the services industry, which includes finance, insurance, IT and software, logistics, transportation, and repair and upkeep. In order to achieve the status of world-class automotive manufacturing hubs with well-evolved forward and backward linkage for sustainable growth, the Government of India established the Automobile Mission Plan, a ten-year roadmap for promoting growth, achieving technological competence, and maturing. The AMP 2006-2016 anticipated a desirable road map and a solid plan to establish a significant automobile export hub. The AMP 2016-2026 aims to boost the GDP to more than 10% while also planning to add 25 million new jobs by 2016.

3. AUTOMOBILE INDUSTRIES OF HARYANA

One of the biggest in the world is the auto industry in India. 7.1% of the nation's Gross Domestic Product is made up by this industry (GDP). Due to a young population and a growing middle class, the two-wheeler segment leads the Indian automobile market with an 81 percent market share. Also supporting the sector's expansion was the corporations' rising interest in investigating rural markets. 13% of the market is taken up by the Passenger Vehicle (PV) segment altogether.

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India is a significant exporter of automobiles and anticipates rapid export development in the near term. Commercial vehicle exports increased by 18.36% between April and January 2016 and April and January 2015. In addition, it is anticipated that by 2020, India would be a global leader in the Two Wheeler (2W) and Four Wheeler (4W) markets thanks to a number of initiatives by the Government of India and the country's main automakers.

4. STRATEGIC SOURCING

A group called Strategic Sourcing chooses whether to manufacture or purchase a product. After a decision is made, they will advise the SCM team to set up the materials required for the production process. While making a purchase choice, the strategic sourcing team will obtain drawings from the research and development department. They will then use their vendor banking to select suppliers, with the assistance of the quality team. After selecting a vendor, a member of the strategic sourcing team will go to the vendor's site and have a techno-commercial talk with them. During this discussion, the vendors will be compared for quality, productivity, and price. Eventually, the vendors are chosen in accordance with the evaluation, and the supply chain team is notified.

5. IMPORTANCE OF THE STUDY

The purpose of this study is to inform the organization about the level of supply chain risk management practiced by MUNJAL AUTO INDUSTRIEIES Ltd and to offer some insightful recommendations that can be carefully considered and put into practice for the benefit of the business. As a result of this study, MUNJAL AUTO INDUSTRIES LTD will be better able to identify and resolve their specific issues with logistics and supply chain risk management, giving them a competitive edge over their rivals in the long run of their business.

6. NEED OF THE STUDY

Curiosity and the pursuit of novel insights are prevalent traits among academics. Today's economic revolution, demographic shifts, and technological innovation are all directly attributed to globalization. These factors have an impact on workplace cultures, employee performance, organizational development, and the trajectory of an organization's growth. The challenges, possibilities, risk, variety, and competition among firms have all increased as a result of the ongoing process of globalization. Organizations are now standardizing their approaches to planning, organizing, directing, and regulating as a result of this. Due to the rising difficulties and opportunities, firms are implementing best management practices. Organizations are placing a high priority on their most essential asset, their "workforce," in order to fulfill the need of addressing rising problems and opportunities because the performance of workers completely determines the growth and development of the businesses. Thus, as a result a research study on risk management's strategic sourcing practices in the Indian car industry.

7. REVIEW OF LITERATURE

Alok et al.(2022). Global supply chains have been impacted by the COVID-19 epidemic at an unprecedented rate and scope. This study examines the COVID-19 outbreak's impact on manufacturing businesses' supply chains, focusing on emerging markets. We outline a theoretical framework based on the dynamic capability theory to examine problems and the appropriate mitigation measures. Based on a survey of the literature, an analysis of many news pieces, and interviews with experts, ten significant issues are highlighted. Additionally, the Grey-Decision-making Trial and Evaluation Laboratory (Grey-DEMATEL) method is employed to evaluate the links between various supply chain difficulties. The greatest issue is revealed to be a lack of labor (PSL), closely followed by a lack of materials (SSM). The findings also imply that the difficulty that most strongly corresponds with other variables is inconsistency of supply (PIS). Lastly, we offer recommendations and tactics in this study for professionals and academics to effectively address supply chain issues following the COVID-19 epidemic.

Bhattacharya, Mukhopadhyay and Giri (2020). Since economic liberalization in the early 1990s, the Indian automotive industry, which consists of producers of vehicles and parts, has expanded substantially. The influx of significant international vehicle manufacturers has inspired the domestic industry to adopt Supply Chain best practices. This has improved competitiveness, which has caused exports to increase significantly. The extremely complicated automobile supply chain, however, has additional difficulties because the Indian automotive industry must operate in a distinctive environment. Thus, it is felt that there is a constant need to examine supply chain methods in this industry from a modern, practitioner's perspective in order to uncover significant differentiators that would ultimately give competitive advantage. This essay aims to comprehend the current situation, intricacies, and difficulties the Indian auto industry is facing. It looks at how supply chain effectiveness is impacted by themes including visibility and innovation, teamwork and supplier networks, and changing leadership roles. The presentation of problem-solving techniques also serves as a framework for additional investigation and analysis.

Prakash, Surya & Gautam, Aditya & Soni, Umang. (2018). This essay will examine the quality and risk management aspects of the Indian automotive supply chain. By using the inputs from the existing literature, the supply chain's possible hazards are determined. In order to prioritize and rate the most important supply chain risks, the enablers for supply chain risk management are further identified. From the standpoint of the Indian automobile sector, the study was successful in identifying enablers such as relationships, various sourcing, redundancy, flexibility, coordination, visibility, collaboration, and delay. Also, each enable was analyzed in this work, and advice on how to choose the best supply chain risk management technique is provided. Implementation of the survey instrument for twenty highly skilled workers. The findings indicate that relationships and varied sourcing are the key facilitators in the Indian environment for developing the most effective risk management and supply chain quality improvement policies.

Also, it was discovered that the most significant risks in the contemporary Indian automotive supply chain environment are internal machine malfunction, raw material volatility, and manufacturing issues at the supplier end.

8. OBJECTIVES OF THE STUDY

1. To assess Munjal Auto Industries Limited's proficiency in handling various hazards inside the company

9. RESEARCH METHODOLOGY

• HYPOTHESIS OF THE STUDY

H₀ - There is no significant relationship between gender and concern about risk management.

H₀ - There is no significant relationship between Age and Level of preliminary discussions.

This study tries to explain how MUNJAL AUTO INDUSTRIES LTD handles risks and engages in market competition. Although 170 respondents were given surveys, the researcher ultimately only recognized 150 completed forms as complete and legitimate responses. The questionnaire is the single source of primary data, on which the study is completely based. The researcher gathered the pertinent data from the personnel using the questionnaire that was given out to them. ANOVA, correlation, and percentage analysis were employed as statistical methods. Based on the information gathered from them, the company is given the conclusion and recommendations. The SPSS software receives the collected data (SPSS). The SPSS is used to analyze the data. Descriptive statistics, chi-square analysis, and factor analysis-test are used to analyze the data.

10. RESULTS AND DATA INTERPRETATION

TABLE-1: DISTRIBUTION ON THE BASIS OF DEMOGRAPHIC PROFILE OF THE RESPONDENTS

Factors	Number Of Respondents N=150	Percentage
Gender		
Male	88	58.6%
Female	62	41.4%
Age (Years)		
Up to 25	24	16%
26 to 50	67	44.6%
Above 50	39	26%

Table No. 1 displays the demographic breakdown of the respondents to the study. It has been found that, of the 150 respondents who volunteered to take the poll, the majority are men (58.6%), and (45%) are between the ages of 26 and 50.

TABLE-2

	Mean	Std. Deviation	N
Gender	1.05	.258	150
Concern About Risk	1.32	1.457	150

The gender is shown in table.1 (M=1.05, SD=.258). and risk aversion (M=1.32, SD=1.457).

TABLE-3 CORRELTION

	Gender	Concern About Risk
Pearson Correlation	1	-.076
Gender Sig. (2-tailed)		.101
N	150	150
Pearson Correlation	-.076	1
Concern About Risk Sig.(2-tailed)	.101	
N	150	150

It is very obvious from Table.3 that P value is more than 0.05, and as a result, there is no significant correlation between gender and supply chain risk management concern. As a result, H₀, the null hypothesis, is accepted.

TABLE-4 DESCRIPTIVE STATISTICS

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Min.	Max.
					Lower Bound	Upper Bound		
High	42	1.89	1.353	.384	1.67	3.01	1	4
Medium	48	1.69	1.169	.009	2.27	1.90	1	4
Low	60	1.11	1.094	.009	1.79	1.32	1	4
Total	150	1.39	1.087	.179	2.13	1.54	1	4

TABLE.5-ANOVA

	Sum of Squares	df	Mean Square	F	Sig.

Between Groups	19.254	2	9.127	6.618	.001
Within Groups	244.106	147	1.329		
Total	263.360	149			

It is very obvious from Table.4 that the P value is less than 0.05, indicating a strong association between age and the number of initial interactions with the supply chain team. Thus, alternative theory (H1) is accepted.

11. CONCLUSION

The goal of the study was to understand the various methods used by MUNJAL AUTO INDUSTRIES Ltd, Faridabad, to control risks. For the purposes of this research, a well-structured questionnaire was created and given to the personnel. Hence, information gathered from 150 respondents was tabulated and then statistical tools like simple percentage, correlation, and Anova were used to analyze the data. The investigation discovered that although MAI Limited has the essential risk mitigation standards, they are not properly followed to reduce risks. It also discovered that MAI lacked any strategy for dealing with suppliers that refused to work with them to manage and mitigate risks. It is advised that the business give its workers access to a decent working environment and implement measures to enhance logistics and control organizational risks.

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