



## **A study of Automobile industry in India**

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### **Abstract**

In recent years, the automotive industry has gained a sizable percentage of the global market. Automobile manufacturers are attempting to corner the market by using a wide variety of business tactics, including an increased emphasis on tiny automobiles and fuel-efficient cars with low market prices. A number of environmental problems, including carbon emissions, warmer temperatures, and so on, have surfaced in response to the auto industry's increased market dominance. Automobile manufacturers in such a context are under double pressure: one to protect the environment, and another to sustain the company's long-term financial viability. The firm's success may be evaluated by looking at its finances, operations, and marketing strategies. This article attempts to establish a connection between the company's performance and sustainable growth via the adoption of green initiatives, and it also proposes a method for the adoption of the green initiatives at the business. This study would explore the many green strategies that businesses are doing, including green marketing, green supply chain management, green innovation, etc. The research would look at the realities and potentials of green initiatives for the growth and survival of the company and the planet. This report draws on exploratory research and a thorough review of the relevant literature to provide its results.

**Keywords :** Sustainable lean manufacturing; critical success factors; interpretive structural modelling; Indian automobile industry

### **Introduction**

The goal of the well-established car industry was to maximize output and earnings. It implies that industrial companies valued "production quality and standards" as a crucial part of the production process. As global rivalry among suppliers heated up, quality and cost-cutting concerns emerged. In response, the International Organization for Standardization (ISO) established the ISO 9000 series, a set of standards pertaining to quality management systems (QMS). The certification process is meant to foster the growth of a quality management system (QMS) that allows for constant improvement, the elimination of flaws, waste, and variation. Modern production and manufacturing methods place more emphasis on social and environmental responsibility, yet the continual production marathon in this decade overlooks these duties. For instance, the automotive sector is the biggest industrial sector in the world, according to global data. However, compared to established countries, less research has been done on the commercial and ecological manufacturing concerns that plague developing economies. In this respect, India's contribution to the automotive industry is unparalleled. Manufacturers on the global stage have taken notice of India and set up shop there. Considering



this, it's possible to make the case that ecological concerns are more important to grasp the varied outcomes. However, green supply chain management (GSCM) has been shown to be the most effective strategy for lowering an organization's ecological footprint while simultaneously increasing productivity. It follows that many facilitators and obstructions are needed to introduce GSCM in the automotive sector. Although the Indian car sector has been studied extensively, GSCM has received comparatively less attention. Major contributions to GSCM's implementation are coming from industrialized nations including China, Japan, the United States, and Taiwan. In terms of both output and quality, India's car industry has developed considerably during the last several decades. According to the research, India's contribution is negligible when compared to others. However, significant progress in GSCM has only been made in the recent past. Money is necessary to put GSCM into action. The article has been updated to cover two additional main obstacles: financial limits and the global financial crisis. Management of working capital helps a business make sure it has enough cash on hand to pay for immediate costs and meet its short-term debt commitments. To make the most of a company's assets, this approach may be used to lessen the impact of its financial restrictions. Organizational resources, and particularly working capital management, have been thrust into the spotlight in the wake of the global financial crisis and the failure of many large corporations, including General Motors, Lehman Brothers, and Bear Stearns. Working capital is the money a company has ready to pay for regular expenses, and depending on its line of business, this sum may constitute a significant chunk of its overall assets. Calculate working capital by subtracting current assets from current liabilities on a balance sheet. Profitability, risk, and ultimately a company's worth are all impacted by how well its working capital is managed. The manager of working capital takes certain calculated risks in order to make the most use of the company's short-term debts and liquid assets. In this case, the liquidity risk is much bigger. However, with the smallest possible amount of current assets, the rate of return on investment is expected to be quite high. Management of a company's working capital is a crucial part of sound fiscal administration. Liquidity and profits are implied in discussions about working capital management. By making calculated trade-offs between liquidity and profitability, a company's finance manager may optimize the firm's working capital. The best working capital management is shown to have a favorable effect on the value creation of businesses.

### **Review of literature**

(N.Nagaraja\*\*, 2012) studied “Customer Satisfaction in Automobile Industry–An Indian Online Buyers' Perspective of Car Manufacturers' Website” results showed, and The Indian automobile business has recently adapted to the trend of doing reservations and sales entirely online. The Internet is slowly permeating every business, including the automotive sector. It raises the car's profile, which in turn increases the likelihood that a potential customer will buy the car. It is widely accepted that the Internet will have a significant influence on the sales process and ultimately result in increased sales satisfaction. In this article, we look at how customers feel about automakers' online presences. In order to assist automakers learn more about how to make their customers happier, we set out to provide a theoretically and empirically sound starting point against which future research might assess the impact of



modifications in variables expressing consumers' preferences. According to the results of a regression study, those two factors have a substantial impact on how happy online auto customers in India are. Furthermore, by correctly interpreting parametric change in the regression analysis, we can investigate the effects of potential (future) adjustments to the Manufacturer's website on the World Wide Web, particularly with regards to improving the site's usability and content quality. In general, we argue that the proposed approach is optimal for Internet-based automakers seeking to maximize the happiness of both their current and future clientele.

(Haugh et al., 2010) studied “The Automobile Industry in and Beyond the Crisis” discovered, and In this article, we analyze the impact of the car sector on the present downturn. This demonstrates the significance of the industry to the economy and the interconnectedness of its cycle with the business cycle. After explaining what went wrong with the auto sector at the outset of the crisis, the policy measures put in place to help it recover are reviewed, in particular the vehicle scrapping programs. Car sales forecasts for the near and medium future are also derived in this article. Sales of automobiles are expected to increase in North America, Japan, and the United Kingdom, but they may slow in Germany due to being pushed much above trend. Sales in developed economies like the United States and Europe are expected to trend sideways over the next several years. In contrast, China and, to a lesser degree, India are expected to enjoy rapid expansions. Within the five main Western European markets as a whole, capacity is expected to surpass trend sales by roughly 20% in the medium future. These nations would have to maintain a high level of export performance without increasing their export capacity. In contrast, in order to prevent excess capacity, automakers in the NAFTA region would need to reverse their falling share of the local market or depend more heavily on exports. It will be important for Korean and Japanese factories to keep up their robust export performance if they want to sustain their capacity utilization rates at historically high levels.

(Farooqi, 2016) studied “Impact of Working Capital Management on the Profitability of Automobile Industry in India- An Empirical Study of...” discovered, and Management of working capital is an important skill in every economic setting, whether it a private home or a public corporation, for profit or not for profit. Management of working capital effectively is the single most important component in a company's capacity to stay afloat, avoid insolvency, and increase profits. Furthermore, the value of a company may be increased via effective management of working capital. Profitability and productivity across all industries have a direct impact on the health of the economy, and this is something that can be improved greatly via better management of working capital. It provides guidance on how to structure a company's finances for optimal resource use. The importance of working capital management has prompted an investigation into the effect it has on profit in India's car sector. However, CR, DTR, and ITR are used as independent proxy variables to demonstrate the effect of working capital management on business profitability.

(K. Narayanan) studied “Technology Acquisition, De-regulation and Competitiveness: A Study of Indian Automobile Industry” discovered, and This study makes an effort to analyze how the deregulation strategy instituted in India in the middle of the 1980s affected the country's ability to acquire new technologies and remain competitive in the car market. The



research takes an evolutionary theoretical approach and argues that disparities in organizations' ability to acquire technology are largely responsible for differences in company level competitiveness. The capacity of different companies to usher in technological paradigm and trajectory changes is a major contributor to the observed asymmetry in technology acquisition. The econometric study's findings provide credence to the idea that, even in the period of capacity licensing, the ability to establish certain technological trajectory advantages was vital to the development of competitive abilities. To do this, domestic technical initiatives are used to complement foreign technology.

(Balon, 2020) studied “Green supply chain management: Pressures, practices, and performance—An integrative literature review” discovered, and While there are many synergies to be gained when a production company upgrades to a green supply chain system, there are also many obstacles to implementing such a system, both internal and external. In light of this, the research examines the Indian car sector in order to identify and categorize the obstacles to a more environmentally friendly supply chain. This is achieved via the application of interpretative structural modeling, a respectable technique in the realm of mathematical modeling. The analysis found thirteen roadblocks based on the existing literature and one more by consulting with industry experts.

(Kumar et al., 2020) studied “Modelling the interrelationship between factors for adoption of sustainable lean manufacturing: a business case from the Indian automobile industry” discovered, and The expansion of India's automotive sector is crucial to the country's economy. As a result of global warming and rising pollution levels, all nations must reevaluate their environmental policies to ensure their long-term viability. Both consumers and governments are putting enormous pressure on the car sector to prioritize sustainable growth. Therefore, the Indian car industry is committed to both economic growth by increasing profits and environmental progress by adopting sustainable lean manufacturing practices. Critical success factors (CSFs) for sustainable lean manufacturing are identified from the existing literature, and the advice of experts is taken into account to complete the inter-relationship between CSFs in the implementation of sustainable lean manufacturing using Interpretive Structural Modelling (ISM) methodology. In order to execute SLM and guide the other CSFs, top management has been singled out as the most influential CSFs. The article also summarizes the driving and dependent elements from the viewpoint of the Indian car industry. The findings of a study based on information gathered from the micro, meso, and macro vehicle markets. Sustainable production (lean and environmentally friendly methods) has been shown to provide better outcomes than conventional production techniques. Therefore, in order to improve the economy, society, and environment, the automotive sector must embrace lean manufacturing practices. slim production methods.

### **Conclusion**

The use of GSCM in India's automotive sector has been met with 14 identified obstacles. The model was found and developed using the ISM technique. The first quarter revealed no obstructions (autonomous). Dependence power is high in the second quadrant. Dependence power consists of the following factors: commitment from senior management, adoption of reverse logistics methods, strategic planning, an integrated information system, metrics for



measuring environmental performance, and assistance and advice from regulatory agencies. The linking barriers are located in the third quadrant, where their combined driving and dependent powers are maximized. The amount of supply chain integration, training and skill development programme level, and reluctance to change and acceptance of innovation (B12) all act as linkage obstacles. The independent or foot-level barriers are located in the fourth quadrant and have high driver power but low dependency power. Ground-level obstacles include a lack of eco-literacy among supply chain partners (B3), corporate social responsibility (B4), market demand (green product) (B5), financial limits (B13), and global financial crises (B14). If these obstacles can be removed, GSCM will function better in India's automotive sector. Using ISM, a model depicting the connections between the different obstructions was created. Inadequate information is readily available, especially about obstacles and their consequences on the car sector. One obstacle to the model's credibility is its rate of uptake. While the ISM's reliance on expert opinion serves as the major basis for this work, quantitative methods like structural equation modelling (SEM) and the linear structural connection approach may also be employed to construct such models. The current model improves upon our prior understanding of GSCM. With the use of this model, we can better understand the factors that are preventing GSCM from being widely adopted. Additional significant supply chains, such as those in the process industry or the service sector, may benefit from the same approaches.

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