

Brazil automotive industry supply chain



Article's Summary

The aim of the article reviewed in this paper is to emphasize how practices for Brazilian automotive industries in the management of their supply chain, which emerged in the automotive environment, as major contributions and developments in manufacturing and quality systems and which were subsequently extended to other business lines. Today, the biggest challenge for automotive vehicle manufacturers has been to adapt and successfully manage their supply chain, this way of surviving the constant changes of a globalized and highly competitive market. Some managerial initiatives were presented and as the circumstances in which the changes are executed, currently the automotive industry represents a considerable part of the Brazilian economy and there is a tendency for an industry to assume the role, providing profitability to all links in the chain.

In the last decades, due to the increasing demands of the market, the companies had to adapt their production processes and customer service, aiming at winning and maintaining clients, in order to obtain profitability. With the breakdown of customs barriers, changes in global competitiveness standards, and high- quality requirements, strategies to support these changes have become essential. Logistics rescue has been an essential factor in providing efficient supply chain management and represents today one of the biggest challenges faced by the business environment, enabling the product to be delivered to the consumer at the right time, in the right place, and moreover, meeting the needs of customers while maximizing the profitability of the company.

The main point of the article is a better understanding of the supply chain risks and how to mitigate them. And it was divided into five sections: the first, composed by introduction and presentation of the topic as well as its importance to the administrative practice. In the second section is found the presentation of the theoretical basis related to the evolution of risk management in the supply chain's field. As the article provides a case study, the third section presents the research methodology, detailing the tools, treatment, and analysis of the data extracted. The fourth section addresses the case study itself, followed by the last part of the article, the fifth section which presents discussions on the case and the conclusions of the dissertation, with its main findings and contributions to the administrative practice.

Analysis of the Article's Observations and Findings

Many studies are done based on the reality of companies, as well as their difficulties and major problems, seeking to introduce scientific means that bring profitability to them. Today's logistics become indispensable, due to its multi-functionality - involve the processes of order processing and stock maintenance up to the delivery type, making up, its primary activities.

Was observed an increase of automobilistics products in the Brazilian macroeconomic scenario (Focus Economics, 2017) and because of it, there was an increase of interest for the supply chain management by professionals and researchers. Is evident that the main challenges are to properly coordinate and manage the company's supply chain - which involves automakers, suppliers, retailers (distributors and resellers) and end

customers. Moreover, due to the complexity of its operations, parts, and components, is more than necessary the success in running a supply chain, otherwise, your production will be disrupted.

The supply chain management is a quite new matter, which has diffculted the understanding in the field, having few publications about this available in Brazil (Di Serio, Oliveira, Schuch & Martins, 2011). In a recent field survey by Sodhi and Tang, (2012), it was concluded that this new field of administrative practice presents three gaps: the first one is related to the terms used in risk management within the supply chain, which is not consolidated and shows communication problems between the researchers. The second gap, according to the article's authors, addresses the process and points to inadequate coverage of responses to risks and incidents. Finally, the methodological gap, with the inadequate use of empirical methods in the published research was pointed as a deficiency.

Also, can be observed that automakers are increasingly using lean and agile production systems, evolved concepts of " Mass Production Systems", which contribute considerably to the elimination of waste[1]and the continuous improvement of processes and products, always aiming to respond satisfactorily to the needs of the consumer market. For this, it is also necessary that the entire automotive supply chain meets the quality standards in the market, aiming at greater integration of suppliers, sub-suppliers, customers and assembler, in this way, optimizing time and resources, which automatically maximizes the profitability of all the chain.

According to the article, the auto industry is concerned with reducing costs and deadlines and any disruption in the supply chain has the potential to stop production (Guedes et al., 2015). Problems arising from an interruption in communication, equipment problems, etc. are difficult to measure, but very important. In this way, members of the chain should assess the likelihood of events that can interrupt production and the extent to which they can tolerate those risks.

It is possible to perceive that the main changes in the manufacturing systems really arose from the needs of the automobile industries to stay in the market, reducing their costs, streamlining their production and service process, eliminating waste, all aiming for a faster and more satisfactory response to customers. The automotive supply chain is highly dynamic and requires changing concepts aligned with the changes demanded by the market. This requires fast and coherent decisions because any failure in the process can jeopardize the entire chain.

A case study was made in the article to illustrate the actual situation of the automakers and the risks involved in the process and according to the authors, this is a perfect example why is important having an effective supply chain management system in case of disruption for any issue or even *force majeure* [2]. The study was made with an automaker which is listed within the top 10 in vehicle sales around the world, including Brazilian market (Guedes, Bittar, Serio, & Oliveira, 2015) and it was chosen because of its business' complexity. Being global demands some flexibility and effective management because it is more likely to appear some type of barriers in the pathway, in an international scenario, a distinct legal requirement can

become a potential risk. The automaker in the case, had a structured risk management in each of their departments, with high skilled professionals with expertise in Finance, Operations - focused in purchasing, Environmental and Enterprise issues. Natural disasters and also caused by the human being are observed as well in the article as a potential risk in the Brazilian market which makes it vulnerable and exposed.

Recommendations for Adoption of the Findings by Organizations in other Industries and Reasons

Some initiatives have been put into practice in Brazilian industries, such as partnership with suppliers, based on trust and mutual growth. One of the world trends is for automakers to coordinate its supply chain, while suppliers work on product development and vehicle assembly processes.

There is a need to give importance to the assessment, measurement and mitigation of the supply chain risk in the automotive industry, and with this, tools and processes have been created to support the management process, although predominantly focused on the operational level, they aim to reduce the impact of interruptions in the supply chain and transportation networks.

Not just the automobile industry might face challenges in their supply chain, but also any type of business and thus, is crucial for the company's survival be prepared to deal with the risk when they appear. The most effective solution for the mitigation risk strategy is treat them according to their nature, as mentioned in the article, the treatments can be through avoidance of the risk, acceptance, reduction, transferability, sharing it or even exporting it. Most of the risks can bring a monetary value, but

operational risks need to be monitored as well to avoid run in losses for the business (Guedes et al., 2015).

The development of the technology plays an important role in the supply chain risks management and the companies need to take advantage of it. It has affected competition by altering the structure of the industry, creating new business, and providing competitive advantages. Technologies such as EDI, WMS, fleet tracking, bar codes, among others, are being used to make it possible to process more information, more accurately, more frequently and from a larger number of geographically dispersed sources. Information technology makes it possible to publish, store and use this growing abundance of information through sophisticated analysis, modeling and decision support systems (Boyson, Corsi & Verbraeck, 2003).

Therefore, the importance of transparent management with effective corporate governance practices favors the management of risks in the companies' supply chain, properly managing the opportunities and threats related to its business strategies in the currently complex scenario. Considering this complexity, the probability of not achieving the expected performance, mainly due to the risks of failures in the several steps performed, might increase. Thus, companies need to understand their supply chain, interdependencies, risk factors, probabilities, ultimately the possible impacts and consequences of all these factors. Consequently, risk management plans should be developed as a means of control in order to avoid or mitigate them. Trends such as globalization, lean processes and geographic concentration of production have created differentials that affect

supply chains requiring more efficiency, which can turn in changes of the companies' risks structures.

In conclusion, an in-depth acknowledge about the supply chain and its related risks should be periodically up to date, so this significant practice inside the business management can gain even more force within organizations. It is understood that through risk management, organizations can increase their chances of success, which is very beneficial to all stakeholders and parts involved.

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[1]Also known as “ muda” (Japanese term) meaning “ futility; uselessness; wastefulness” (Lean Manufacturing, n. d.).

[2]Meaning “ superior force”; Generally intended to include occurrences beyond the reasonable control of a party (Force Majure, n. d).