Organizational Behavior of Supply Chain Management: A Case Study Carried Out in a Textile Industry in the Northeast Brazil

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Abstract

The study addresses the organizational behavior of the supply chain of a northeastern Brazilian textile industry. This company produces home decoration utensils and balancing nets of various types. The general objective of this research was to diagnose the performance and procedures adopted by a textile company in São Bento / PB, to manage its supply chain. Presents as specific objectives. Identify the practices used in inventory and inventory control of materials and finished products using the SCOR diagnostic tool. Analyze problems inherent in material input and output response times using the SCOR diagnostic tool. Evaluate the methods used in manufacturing the products, know the organization, communication methods, and people management model with the employees involved in the manufacturing processes of the company. For this work, we conducted bibliographic research of major authors in the industry, such as Ballou (2012), Pires (2016), Slack, Brandon-Jones and Johnston (2015) and Krajewski, Ritzman and Malhotra (2009). This is a field research, in which two questionnaires applied: one with employees who are part of the production line and another directed to employees who work in the administrative sector. This last questionnaire used the adapted SCOR diagnostic model from SUPPLY CHAIN COUNCIL (2012). The study also used the informal observation technique performed by one of the researchers. Despite some setbacks, the production is well structured. However, planning requires a larger organization in issuing production orders.

Keywords: Supply Chain; Production; Strategic Planning.

INTRODUCTION

One of the most prominent segments in the Brazilian backlands is textile, precisely because it has a large share of the economy. To give you an idea, the country is the fifth largest textile producer in the world, according to ABIT (2017). According to data from JORNAL TODAY (2013), "the region is the one that produces the most spinning (37%) and ranks second in the production of weaving (19.4%), only behind the Southeast (58%). "According to the report, it is potential in the segment.

In order to understand how companies relate to each other and how logistics it is handled between them, it can be a predominant factor to provide significant changes in performance that can contribute to the development of the local market. Their potential can create opportunities to work with the need for skilled labor, creating more companies to develop a quality product with reduced costs.

Amongst so many textile companies found in the backlands of Paraiba, Santa Luzia Redes e Decorações stands out with its differentials, presented to the market, products with handmade finishes and using sustainable raw material in some of its products. Another strength of the company that differentiates from the other textile producers is the concern that the company has in putting its brand in all the products that compose its production line. Unlike many other factories that instead of trying to create value in its products,

continues to compete in a market within the perspective on the price war, which ultimately devalues its products.

Based on the importance of the segment and the local representation that Santa Luzia Redes e Decorações have for the textile sector of the region, it becomes the focus of this study that has as problematic to identify What behavior presented in the supply chain management of a company of the textile sector of the municipality of São Bento / PB? With the purpose of assisting the work, it established as a general objective: to diagnose the performance and procedures adopted by a textile company in the municipality of São Bento / PB to manage its supply chain. As steps to achieve this objective, the following specific objectives were established. Identify the practices used in the supply and control of inventories of materials and finished products using the SCOR diagnostic tool. Analyze the problems inherent in the response times of material inputs and outputs using the SCOR diagnostic tool; evaluate the methods used in the manufacture of the products and know the organization. Communication methods and the people management model with the employees involved in the company's manufacturing processes.

The importance of this work directly related to the fundamental economic role that the textile industries have for the region. Due to their participation in the local gross domestic product, guaranteeing income for some families that live only and exclusively of the textile product, a factor that gains even more prominence due to the company chosen to make the study be located in the city that has the highest concentration of textile production in the Paraíba region. The local focus is on the fabrication of sleeping nets, where most of the economy of the city and its production reaches not only the national territory but also gradually entering the international market.

MATERIALS AND METHODS

Methodological procedures were used both qualitative and quantitative characteristics, since the tool used has open questions that provide the interviewee with a means to present their opinion in a more comprehensive way, in which the researcher can make their conclusions without using statistical data. Another method used was the closed questions that will bring to the researcher multiple-choice alternatives, so that the researcher can statistically measure the results in order to assess precise results (Gil, 2012).

The research was carried out in the company Santa Luzia Redes e Decoração, it is a textile industry located in the city of São Bento-PB. Currently, the company has a wide variety of products such as rugs, bedspreads, bed nets, chair netting, blankets, and curtains among others. The product that stands out in relation to sales are the sleeping nets (balance nets). In addition, Santa Luzia Redes e Decoração is one of the first companies in the network trade to export its products. Among the countries to which it exports are Portugal, Spain, France, Norway, Switzerland, South Africa, New Zealand, Germany, USA, Canada, Chile and the Netherlands.

From the perspective of the study defined, as subjects of the research for the first stage 11 employees, with the participation of the inventory manager, and the rest are employees who are involved from the production of the fabric to the finish. In the second stage, another questionnaire used, using the SCOR model, which carried out with five employees, who make up the administrative team, precisely because they have the necessary information to respond to the questionnaire with the closest possible degree of satisfaction. Strategic planning of the entire supply chain.

The research instruments used were composed of two questionnaires, one of which was elaborated with nine questions, eight of which were objective and one was subjective, with the aim of fully disclosing the opinions of employees who are directly involved in production. The second questionnaire, directed to the company's administrative sector, used an adaptation of the tool of the Council of Supply Chain Management Professional (CSCMP), adapting 20 questions, which corresponded to the characterization of the productive arrangements and to supply chain performance attributes using the SCOR model of the SUPPLY CHAIN COUNCIL (2012). This used a Likert scale with seven positions, ranging from one to seven for all issues.

The data collection of the questionnaire applied to the employees of the production line occurred from June 19 to 23, 2017, where the researcher sought to select employees from different sectors of the production line in order to obtain information that related to all production in a general context. The second questionnaire applied to a part of the employees that compose the administrative sector in the period from November 27 to 30, 2017, selecting those who had the information about decisions that involved the supply chain, as well as for the internal controls.

Soon after the data collection, they tabulated and analyzed through descriptive statistics. This done using spreadsheet software from Microsoft Excel software. Frequencies identified and analyzed before the two questionnaires, totaling 29 questions divided into two groups (first survey with 9 questions, second survey with 20 questions).

RESULTS AND DISCUSSION

In order to understand and ascertain information about the supply chain of the company, a questionnaire applied to the employees of the administrative sector in order to know what the situation of the organization would be in some aspects. The first question asked the employee to indicate the fixed capital in relation to the monthly turnover of the company. It verified that the concentration of inventory in relation to its billing is equivalent to 2 to 4 months of its monthly billing, which serves as security in case there is any eventuality in production. However, it can be a problematic factor for the company when it comes to maintaining this level of inventory, since it represents a very high value of stopped capital, which according to Ching (2010) could be used more efficiently in other activities of the company.

The second question asked about the number of suppliers available in your region, being in the same city or neighboring cities. In view of the results demonstrated, it was possible to perceive a certain comfort of the company in relation to the choice of suppliers, considering that the majority, about 40% of the interviewees, believe that the availability of suppliers close to the locality of the company is normal. Ching (2010) states that one must seek to create a relationship with its suppliers by keeping them as partners in the organization.

The third question asked the employees to indicate capital immobilized in stock of raw material in relation to the monthly turnover of the company. The analysis showed that the total capital immobilized in raw material in the stock refers to the monthly invoicing of 2 to 3 months, which be said to be a reasonable amount. According to Fleury, Wanke and Figueiredo (2000), companies must decrease their inventory levels, so it is necessary to establish partnerships with the suppliers that make up the supply chain, in this case those that supply the raw material.

In question four, he sought to know the level of waste of raw material in the manufacture of the products. It was noticed that the level of waste of raw material ranges from normal to very low, being that they emphasize the low level, which shows an efficiency in the productive sector when it comes to the use of the resources, thus generating a reduction of the costs of production. The process of eliminating unnecessary resources seeks to reduce waste and is part of the implementation of the lean production system, which aims to perfect each activity in relation to its efficiency in the use of resources as in reducing production time as a whole (Krajewski, Ritzman, & Malhotra, 2009).

The fifth question asked what would the average time taken by suppliers to pay for the purchase of raw materials. By means of analyzes, it could be seen that the respondents in the majority affirm that they are 1 or 3 months the deadline to make the payment, this variation of term can be taken into account the difference of requests, that at the moment that the size of the consequently, the deadline given by suppliers is modified. The main focus of the organization is to be attached to the price of the commodity, since Ballou (2012) places priority on the purchase question, of course, taking into consideration the seasonal price patterns that the commodity may have.

The sixth question, sought to know from the employees the level of commitment of production due to lack of raw material in some periods of the year. Regarding the data collected, the level of production commitment due to lack of raw material is high, where this may be one of the reasons responsible for the excessive quantities of raw material in the stock. For Ballou (2012) it is important to know when to order, where the delivery time of suppliers must take into account together with demand generated by the production line, creating an appropriate ordering point. It is also important to minimize the waste of raw material, which causes some companies to increase the values of their final products, reducing their competitive power.

The seventh question seeks to know what the average delivery time of the raw material and more important inputs by the supplier would be. It been found that the delivery time to suppliers is fast. Sixty percent say that the deadline is only 15 days, which somewhat goes in contrast to the need to have large levels of raw material stocks. Following this line of thinking, Ballou (2012) reports the importance of working with the minimum of possible stock, as well as of partnerships with suppliers to obtain an efficient replacement.

The eighth question seeks to identify the quality of the raw material used in production by the respondents. It observed that 60% of the interviewees affirm that the raw material used can characterized as very good. This shows the importance that the company has in giving its customer a quality product, which makes it a differential of the organization. According to Kotler and Keller (2012), the use of quality materials in the manufacture of products is a means of enhancing the value of the brand of the product through the material used; in order further enhance the product in the eyes of the customer.

The ninth question sought to know from the interviewees how they would classify production expenditures, except raw material. Given the analyzed data, it noticed that the cost of production varies from normal to high, which can be a worrisome factor for the company, since its products end up becoming more expensive, affecting its competitiveness. It is up to the organization and its managers to be attentive to this question. Evaluating the compensation of having high costs comparing with the added value gain in its final product, as well as verifying if this value is perceptible to the customer, since it does not advance the product to have quality if the client is not able to perceive (Kotler & Keller, 2012).

In the tenth question, we inquired about the level of service provided by the suppliers, related to the number of requests received. Given the results demonstrated, it was possible to identify a positive point since it considered a slightly high level, in regards to the efficiency of the suppliers in matching the requests made by the company. Since suppliers represent the beginning of the supply chain, and if there is a failure at the beginning of the order, there is a great risk of generating a series of problems in the processes that follow, the possibility of this happening entirely linked to the processes depend on each other (Carpinetti, 2016).

The eleventh question sought to know how to classify the quantity of orders delivered to its customers correctly, which in the case would be the perfect request. The efficiency of the delivery to customers considered from slightly low to normal, which brings a worrisome factor to the organization and that in the future might cause great difficulties for the company. Following the thinking of Bowersox et al (2014), the service provided to the client starts from three fundamental factors: started by the availability of the products to the customer now he needs them.

The twelfth question asked about the aesthetic standard and the quality of the packaging of its products. Based on the analyzed results, a great variation in the qualification of the packages by the employees perceived, in which they define to be from low to high quality. What can take as the conclusion of this result is an absence of consensus on the part of the collaborators. In their concepts, Kotler and Keller (2012) affirmed the importance for well-designed product design, since the product that will have a direct impact with the customer at the time of purchase, and following this thinking, the packaging composes the product, the importance of conquering the customer visually.

The thirteenth question asked that it indicate the time in which manufactured products remain within the undertaking. In light of the information presented, the vast majority say that products can stay in the company for around 45 days to 2 months, which shows a not very high turnover of products. Production managers must take care to control the production line, always based on the possible market oscillations that the company may face, as described by Slack, Brandon-Jones and Johnston (2015) for the importance of planning the production capacity. Medium and long term as a way of being prepared for the variations of demands.

The fourteenth question asked as to how long the products would produce. As it analyzed, according to all the collaborators the time of manufacture of the products is of 45 days, which shows an exact definition, since all responded the same thing. However, this is a reasonably high time, but one factor that may be causing this prolongation is because the product has artisanal processes. However, the search for the reduction of time is necessary so that the production can have more flexibilities in order to adapt the possible eventualities that may arise during the programming (Corrêa & Gianesi, 1993).

The fifteenth question asked the level of commitment of production when one or more employees were missing. Before the analysis, the level of commitment is somewhat high according to the interviewees, which makes the process negative for the whole company, since it suggests that the lack of a specific collaborator, where only he knows how to do that process, or the information necessary for solving some specific cases in production can compromise all processes. The interaction between the collaborators that compose the same team is of paramount importance, precisely to avoid delays of work, being prepared to cover the colleague's lack (Chiavenato, 2015).

The sixteenth question asked about the levels of production planning of the company. As observed, the level of planning considered high by the interviewees, since it could not be otherwise, due to the great time used in the production. If there is no proper planning, there is a risk of gaps in production. Krajewski, Ritzman and Malhotra (2009) point to the importance of the production manager being in line with the other sectors of the organization.

The seventeenth question asks what time the product will delivered to the customer. According to the analysis with the employees, the vast majority defined two delivery times, which could be 15 days or 45 days. A time that can considered high, even if you can have some factors that increase, 45 days may be enough to make the customer dissatisfied and give up the purchase. One point that can emphasized would be the verification of the time used in the internal processes necessary for the product to follow the way to the client, in order to verify its efficiency, since these are procedures that if not well structured and defined can time for the company. (Ballou, 2012).

Continuing with the questionnaire, we analyze the eighteenth question, which sought to identify the extent to which having a portfolio with long-time clients, contributes to the production schedule of the company. In view of what was analyzed, it was possible to conclude the great influence of the old customers when it comes to scheduling production, which leads one to believe that they are still responsible for a good part of the company's monthly billing, that is , prospecting for new customers is low. In fact, as Kotler and Keller (2012) already put it, having loyal customers is one of the company's primary goals, because in a way, it states that the organization is providing a good service capable of maintaining customers.

The nineteenth question asked about the level of difficulty imposed by the location of the company in relation to the shipment of its produced goods. Based on the analysis, it concluded that the location of the company presents a difficulty that varies from normal to very high in the shipment of the goods, which may be influencing the delivery time of the products. In this sense, Ballou (2012) classifies the predominant problem that could be the economy in the acquisition of the location of the company's facilities.

The last question asked employees about distance, where most of the company's sales were concentrated. Sales distributed throughout the Brazilian territory. Which shows the potential of the company to get customers regardless of where they are, as well as the breadth of the market. Which can be one of the factors that hinders their logistics, leaving it with high levels of complexity, at the same time it has made the delivery process difficult, and it should pay more attention to it. The authors Fleury, Wanke and Figueiredo (2000) point to the importance of segmentation of clients, in order to define differentiated logistics services for the different groups, which can be classified by geographical region. In the case of business customers, this classification could done by invoicing, or by the volume of purchases made.

CONCLUSION

Achieving your space in a highly competitive market has been the biggest challenge for companies today, making a quality or innovative product is no longer satisfying consumers. The search for more agile and practical alternatives to have the product ready for consumption has been raising the levels of demand. In this way, the research carried out in the company Santa Luzia Redes e Decorações that is part of the textile sector, with the proposal to diagnose the performance and the procedures adopted by it in the management of the supply chain.

In order to reach the first specific objective that was in charge of identifying the practices used in the supply and control of inventories of materials and finished products, the respondents asked about investments made in inventories, availability of accessible suppliers, as well as their evaluations and opinions regarding their organization. In the diagnosis presented, the company is not using the resources correctly; the inventory and warehouse controls are not having the effect that the organization needs, since the high levels of material stocks do not seem to be necessary, since the suppliers have a considerably fast delivery time response, which makes it easier to dry material stocks.

The second specific objective of the research was to analyze the problems inherent to the time of response to the input and output of materials, for which the research used an instrument based on the SCOR model, on the levels of inventories with respect to the demand and efficiency in the use of the resources in production. A problem mentioned above has to do with the high levels of inventories, which necessarily corresponds to the needs of the company. In the case of their use, a high level of efficiency has verified, ascertaining low levels of waste of the materials, which positively affects the final manufacturing cost of finished products.

The third objective was to analyze the methods used in the manufacture of the products, for which the employees asked how they evaluated the production in the sense of productive planning and efficiency. It observed that despite some setbacks, production is well structured. However, their planning still leaves a little to desired, due to the issuance of production orders of products they did not need, as well as the presence of flaws reported by the respondents. In a way, this affects the use of the raw material, directly affecting production time. Even knowing the high index of time used in the production, there is the relation with the question of the products present in the artisanal processes. The existence of failures between processes can increase this time even more, which leads one to believe that there is a possibility of reducing this time only by organizing and structuring the productive processes.

The fourth objective was to know the organization, its methods of communication as well as the people management model used by the employees involved in the manufacturing processes. What we could analyze about these points was that the methods of communication are not being well worked, since these are not constant within the organization, in a way, this impairs the performance of response to possible eventualities, or even when the company need to make decisions quickly. The management model and hierarchy of the organization considered centralized, while positions along with activities defined for each employee. However, they claim they do other activities that would be out of their obligations, which increases the chances of failure due to the accumulation of tasks, or even unpreparedness to perform them.

Based on the four specific objectives, the achievement of the overall objective proven. Therefore, the present research had the possible solutions of the problem satisfactorily elucidated in the research, since its behavior can clearly studied, where it presents flaws in some aspects. One of the worrying factors of its behavior is the quality of logistics service presented to its customers, where quality considered questionable due to delays in delivery. The researcher observed that some of these delays occurred due to problems with transportation, as the company has clients all over Brazil, some of its deliveries are necessary to outsource the service, due to the impossibility of doing so with own fleet. The problem begins in the search for the company that provides such delivery service, because in some cases the same delay to find these organizations, which ends up affecting the delivery of the product to the customer.

It is in this context that can enter as an alternative solution to fix partnership with transport companies, such action could reduce the delivery time to the customer. Following the suggestions of the employees, the company in question needs to check their stock levels of materials, creating a minimum stock and making better use of the service of their suppliers, for this will require a more rigid control of inputs and outputs of inputs. The levels of communication need to be more effective, the supply chain management mainly works with the exchange of information of all the components that form part of it, creating a tuning and enabling strategies to create better levels of efficiency.

The research carried out at Santa Luzia Redes e Decorações in the city of São Bento / PB was able to contribute to the verification of the productive processes and the supply chain management of the aforementioned company. The application of this research in other market segments could further enrich the study, so that it could compare the results obtained in the future research with the current results. Regarding the limitations of the study, the use of a larger number of subjects surveyed or even the application of the SCOR model could guarantee a more accurate assessment of the company.

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