Achieving Supply Chain resilience: the role of strategic sourcing

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Abstract

Today's general market defined by the fluctuating needs and expectations of customers as the value or benefit that the customer envisions and looks for when purchasing a commodity or benefiting from the service of claimants and stakeholders who have high expectations in terms of outcomes, thus supply chain resilience can help these manufacturers to overcome these expected and unexpected upheavals. The ability of the supply chain to continue, adapt or transform in the face of change, and to achieve a significant competitive advantage. Supply chains are broad, deeper and ever evolving, which means they must be resilient to be effective. Previously, supply chains met the needs of organizations and customers by creating an integrated model that is largely unaffected by change. Now consumers have multiple choices in terms of how they buy products, whether in stores, online, and more. Consumers are also waiting for increased levels of personalization. Therefore, the resilience of the supply chain can meet these expectations. It is evident from this objective of this study is to investigate the effect of some strategic sources on the resilience of private supply chains in manufacturing companies located in Turkey. Through this study, we targeted through our study more than 200 manufacturing companies in Gaziantep and the surrounding areas, and random samples selected with a sample size of 80 manufacturing companies representing 11 industrial sectors in the manufacturing companies. Data collected with a questionnaire. Descriptive and inferential statistics with the help of statistical packages for the twenty-fourth edition of the social sciences used to calculate the percentages of respondents' answers. The study found that strategic sourcing was an important predictor of supply chain resilience, evidenced by the questionnaire used and the results provided.

Keywords: supply chain resilience, sourcing, manufacturing
JEL Classification: L10
Paper type: Empirical research
1. Introduction:

The production of manufacturers affected by the disruption that affects the supply chain and this leads to the complexity of the work environment, in order to avoid these problems; the demand for global and flexible operations in the manufacturing companies has become strong. Skipper and Hanna (2009); Scholten and Fynes (2014), They show that global supply chains are facing increasing complexity by meeting the ever-increasing demands of customers, which has made manufacturers recognize their operational and economic weakness in front of these threats surrounding them. The resilience of the supply chain that reduces and overcomes exposure to risks surrounding manufacturing companies by developing strategies to recover and return to its original state after being disrupted (Juttner & Maklan, 2011). This explains the tendency of manufacturers to use supply chain resilience to limit, overcome, and bypass disruptions if they occur. In today's interconnected day, manufacturers are aware enough that surrounding risks such as a workforce strike or weather conditions can disrupt the supply chain. (Blackhurst, Dunn & Craighead, 2011). The cause of these disruptions would be unexpected or planned, and this would affect the supply chain and the normal flow of each of the products or services. (Crayhead, B. Blackhurst, R. Natto, Sanatham & Handfield, 2007). This strong effect highlights how weak supply chains are. Here we evoke an example of the Japanese earthquake that struck the country in 2012. This earthquake not only hit the economic fields, but also led to a shortage in supply chains for auto and technology men in Europe. (Schholtin, Schott, & Fennis, 2014).

Like other global economies, the Turkish economy is also still vulnerable to many external shocks, within the developments that are taking place in the global economy from internal stability, with mention of weather-related disturbances. Local stability is an encouraging reason for increasing foreign investment. Therefore, the Turkish state must ensure mechanisms that will respond effectively and flexibly to the surrounding risks and turmoil. (Republic of Turkey, 2013). For example, in the Turkish economy of nonwoven supply chains, many problems limit the access of these raw materials to companies, and some of them linked to shipping companies and others to the high prices of materials. For example, the countries exporting these materials through Europe, we find that the cost of shipping has doubled or that the raw materials. It is from a high place of manufacture, which led to weakness in various sectors related to this material.

After introducing the principal terms of our research, we will use the literature on our topic question through the research. Exploiting the questions posed to specialists and executives in Turkish manufacturers, we will analyze the findings and highlight the strategic sources that are likely to generate supply chain resilience. In conclusion, we will present the contributions, limitations and perspectives of our work.

2. Literature review and hypothesis development

The objective of this study was to determine the influence of sourcing on supply chain resilience in manufacturing firms in Turkey

2.1 Background

The Turkish government considered one of the producing countries in the world, and this explains the growing interest in its strategies for development. Today, it ranks nineteenth in the world’s nominal GDP and thirteenth in GDP according to purchasing power parity. According to the International Monetary Fund (2019). Contribution to the manufacturing bottom of the GDP accounts for about 29.5% of Turkey's national product, however, the recent period has
witnessed some kind of political instability, which has generated some kind of fluctuations in the financial markets and burdened Turkey, according to the CIA. Transparency International (2013) confirms that institutions in Turkey today more threatened by disruptions in their supply chains in terms of wasting public resources and economic corruption, especially with the approaching elections, as these disturbances affect not only manufacturing companies in Turkey but also all companies at the level of the scientist. Here we mention that the whole world is going through many natural crises, including health and economic, which have a clear impact on the various sources of companies. (Gunipero Eat L., 2015). In 2013, at least 75 per cent of organizations experienced a single disruption, and in terms of numbers, 21 per cent suffered more than one and a half million euros in costs for each disruption or incident affecting the resource chain as a disruption or interruption in supply. What led to disruption, interruption and breakdown of data technology. (Business Continuity Institute, 2013).

For all this reason, the purpose of this study is to investigate the impact of sourcing on supply chain resilience in manufacturing firms in Turkey.

2.2. Hypotheses development

H Strategic Sourcing has a significant positive influence on supply chain resilience in manufacturing firms in Turkey.

2.2.1 Strategic Choice Theory

The scientist child developed a theory in 1972 called the theory of strategic choice (SCT). This indicates that the objectives of the institutions are to reach economic limits that will reach high goals with an increase in performance and efficiency. We take as an example the Turkish companies that have to take into account the contextual factors in order to increase the profit at the lowest costs. Managers who choose to invest in new technology in order to reduce problems, monitor, and analyze risks are more likely to become more resilient. Here, it is necessary for the administrative framework to make radical and reformative changes to choose beneficial performance criteria that related to the objectives of the organization. (Child, 1972; Ketchen & Hult, 2007). Making strategic decisions takes place through 3 layers, the upper layer, meaning planning through the long-term level, then the middle layer or as it is called the functional layer, and then the lower layer, which is short-term and known as individualism (Kochan, Katz & McKersie, 1986). Strategic choice theory holds that managers are important to making and directing decisions. They are the decision makers who fundamentally change the chains of the company. As the scientist Child calls, the change that varies in the organizational structure, it contributed by three important levels: environmental conditions, technology and size.

2.2.2 Strategic Sourcing

The purchasing function has changed and become with the times, and today it has become one of the strategic elements of institutions in order to ensure high competitiveness (Palraj et al., 2006; Tassabehji and Moorhouse, 2008). To identify sourcing through a strategy enables the company to define a single organization, and thus procurement will support the profitability of the companies (Anderson & Katz, 1998). Purchasing activities can expand more traditional procurement as it has a more complex functional role. As it includes long-term plans, aligning procurement objectives with those of competitive organizations, and developing operations with supply chain strategy. In order to reach the global competitiveness of enterprises within global supply chains, strategic sourcing aims to set goals for internal and external relations for the proliferation of different sources. In addition to that, the strategic sources also include the relationships between the buyer and the supplier; and how to promote this relationship. Considering the diversity among suppliers to reach an effective methodology that ensures business sustainability. As an effective function in the purchasing department, executives must
include delivery and competition. Noting that the delivery of products and services achieved through the unification of complex negotiations (Vitasek, 2018) this is in order to reduce the fluctuations of purchases and control them as much as possible. To evaluate the executive performance of the purchasing department done through the price variation of the purchase; this is what leads to the double yield in the price only. In addition to realizing the overall limitations of the organization, the details within costs are not understood and unclear within suppliers. The goal here is to provide an inverse concept, for example it is known that the objectives of buyers and suppliers are often conflicting, instead of vague goals, the proposal is to be through clear and sound mechanisms, companies will be able to gain mutual profits. In this context, buyers and suppliers must create common goals and mutually beneficial values by reducing uncertainty, thus achieving a flexible and integrated supply chain with lower costs and faster speed.

To implement strategic sourcing in the company, there are seven crucial steps including:

1. **Profile the Category**

First, the source commodity or services is determined, such as quantity, size and type, and then determine the cost spent on these services or products, and the prices calculated by the suppliers, this step is as identification for users and their place of work within the supply chain within the participating departments.

2. **Supply Market Analysis**

The second step is to understand the strength of the buyer, and the alignment of his objectives with the objectives of the supply strategy. For this, it will require an analysis of the market, which will help to determine the most appropriate strategy. We mention here the Kriljic method that is concerned with the classification of vendors, so that a matrix is set with two main values, namely, risk and profit, for the laboratory the expected and unexpected events placed, while the profit placed its potential to affect the institution.

3. **Build a Sourcing Strategy**

In this step, the expectation and the purchasing function known in order to reduce risks and raise profit, and to ensure the best services with current and potential suppliers in the future. Then the process of selecting suppliers comes through special processes and criteria in line with resource requirements.

4. **Select the Sourcing Process**

Here, offers are requested, which is written by the procurement team, where there are all the details of the product or service in terms of quantity, prices and payment terms without forgetting the legal and financial provisions with the presence of evaluation criteria.

5. **Negotiate and Select Suppliers**

After receiving a set of offers from the suppliers, it is now required to collect the suppliers who responded to the request in order to meet for clarification or even ask for more details.

6. **Implementation and Integration**

The negotiation stage is enough to select the suppliers that agreed with for a partnership to reach the next step, which is an implementation. Here suppliers must be involved in all product or service meetings in order to ensure their presence in the chain.

7. **Benchmarking**

The last stage is the evaluation of the supplier's performance over time. The performance is measured through the current state of the product with continuous performance monitoring, in
order to see if it achieves the goal. Especially if any problem was discovered during implementation, the supplier contacted to not disrupt the supply chain.

2.2.3 Supply Chain Resilience

Through research in the literature, we find a definition of supply chain resilience as ‘the ability of an organization or institution to survive, adapt and evolve in the face of turbulent change’. (Fiksel et al. 2015). Most organizations have the ability to anticipate the impact on supply chains and this called valuable skills, which will increase the ability to respond quickly and ensure a short period of recovery during exposure to disruption, and this will contribute to forming the difference between high-performing companies from the rest of the other companies. Business entities must have sufficient global capabilities and flexibility in their supply chains in order to reduce their vulnerability to transportation disruptions and reduce the many problems that can affect supply operations that may grow during major crises. (Accenture 2010; Ponomarov and Holcomb 2009; Spiegler, Naim, and Wikner 2012; Tukamuhabwa, Stevenson, and Busby 2015). In addition, the definition of risk differs on the concept of resilience, which is what is defined as the probability of a negative event (Knight 1921). During operations, companies need to monitor and examine all the results of a particular project or potential risk, in order to compare the potential returns with the risks of the investment that could result (Ho et al. 2019). In practice, risk measured based on historical data, but this will require making assumptions based on subjective information. Therefore, risk differs from uncertainty in quantitative terms (Ho et al. 2019). Most of the problems that commercial entities fall into are due to the presence of a large number of unreliable suppliers. Which leads to the hypothesis of late delivery, also many relationships in the supply base play an important role, the possibility of suppliers fluctuations to change in demand. The important density of information and the overload of an important proportion of events Unexpected (Accenture 2010). According to (Luhmann, 1995), The concepts of risk and complexity are interrelated, as complexity usually arises with high conditions of freedom in operations on the theoretical side, even managers have difficulty controlling all the elements present at the same time, which leads to its treatment gradually. Weak risk control lies in the inability to characterize events with low hypothesis and high consequences (Corominas 2018). Assessing traditional risks is difficult with unexpected events. The difference in the survival of the supply chain effective and adaptable is good evidence of the success of this chain, in addition to the fact that current conditions such as global crises can lead a resilient supply chain to reach a highly competitive advantage. Scientific research today has many shortcomings regarding supply chain resilience, such as the lack of a comprehensive view of resilience, risk conditions and consequences for supply chain operations, as well as examples of resilience management (Bhamra, Dani, and Burnard 2011; Gunasekaran, Rai, and Griffin 2011; Ponomarov and Holcomb 2009). There are some studies that suggested merging logistics capabilities with supply chain resilience, but with the complexities, it is difficult to identify this study, in addition to the few studies that focused on time aspects without taking into account the complexity (Colicchia, Dallari, and Melacini 2010). As an example of global supply chains, they contain many complexities and uncertainties, with a brief timeline for third-party logistics services.

3. Research Method

During our study of this topic, we made a tomographic survey design, which depends on design through quantitative and qualitative methods. We targeted approximately residents with 200 manufacturing companies in Gaziantep and its surroundings in 2022. During this study, we also used random samples to choose the criteria of a sample of 80 manufacturing companies that included 11 industrial sectors. We collected this information using a questionnaire. In order to
analyze and conclude, we used descriptive statistics and statistical packages, and thus access to calculate the percentages that we reached through the responses of the responding companies.

3.1. Research Model

The aim of our study is to identify the impact of strategic sourcing on the flexibility of the supply chain in commercial entities in Turkey. To pursue our goal, we have collected indicators, including cooperation, supplier base, and then the conditions that control the selection of suppliers. Here we have instructed managers to point out the issue of strategic sourcing and its importance in implementing a flexible supply chain for manufacturing companies. Our study is therefore classified at a similar level, but is not limited to short, medium or long term, in addition, our study does not include the level of the small level, but rather a large and agreed upon a level.

In order to address our research, we will use regression analysis in order to demonstrate the effect of strategic sourcing on the resilience of the supply chain of Turkish manufacturers. Whereas, the hypothesis chosen is H: strategic sourcing has a significant positive impact on the resilience of the supply chain of manufacturing companies in Turkey.

Figure 1: Explanatory model

3.2. Sample selection or data and description

During the questionnaire that we conducted in this study, we distributed it to the supply chain managers of Turkish manufacturing companies. The target audience answered 50 self-reported questionnaires out of 69 expected questionnaires. We reached 90% of the questionnaire, which is a special percentage for us, so that if the percentage is 50%, this is considered acceptable for analysis, but if the percentage is 60%, then this is appropriate, and 70% or more is considered more than good according to (Cornupia, 2008). The results of our survey are due to the accuracy of the questionnaire and the collection of information with a good response rate on the part of the managers.

3.3. Analysis

Collaborations:

Through the response of the executives, it found that the majority of them, with an estimated 80%, agreed that the manufacturers in Turkey exchange information with their internal and external partners on a continuous basis during the operations of the supply chain, as 20% of them indicated that there is moderation. On the other hand, 60% of the respondents indicated that Turkish manufacturing companies have shared their plans and decisions with their partners in the supply chain in order to improve profitability, and 35% of them admitted their moderate

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opinions, while 5% of respondents praised that manufacturers never share their information with any partner. Especially in supply chains. 30% of the respondents answered that the manufacturing companies in Turkey have corrected their decisions and the objectives of their supply chains according to the partners in order to increase profitability and reduce costs and risks, while 50% of the respondents indicated moderation in their answers, while only 20% of the respondents indicated that the manufacturing companies never do that. In addition, a small number of respondents, estimated at 20%, suggest that companies share their resources with their partners in order to benefit from the capabilities and assets, while 50% of the respondents indicated moderation and 30% did not agree. Regarding collaborative communication methods, 70% of the respondents admitted that manufacturing companies have a high efficiency of collaborative communication with their partners in the supply chain, while 18% indicated moderation and 2% disagreed.

Table 1: Measurement of Collaborations

<table>
<thead>
<tr>
<th>Item</th>
<th>Scale (1 to 5) ‘Not at all’ to ‘Very much’</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply chain partners</td>
<td></td>
</tr>
<tr>
<td>1) Share information</td>
<td>1 1 2 4 2</td>
</tr>
<tr>
<td>2) Exchange information</td>
<td>2 3 1 4 2</td>
</tr>
<tr>
<td>Operations department and planning</td>
<td></td>
</tr>
<tr>
<td>3) Share the plan</td>
<td>0 4 5 2 5</td>
</tr>
<tr>
<td>4) Share the decision</td>
<td>1 3 5 2 5</td>
</tr>
<tr>
<td>Sharing resources with supplier:</td>
<td></td>
</tr>
<tr>
<td>5) Sharing the resources</td>
<td>0 2 4 5 3</td>
</tr>
<tr>
<td>6) Common vision</td>
<td>0 5 3 3 2</td>
</tr>
<tr>
<td>Collaborative knowledge with supplier:</td>
<td></td>
</tr>
<tr>
<td>7) Formal collaboration</td>
<td>0 1 3 3 2</td>
</tr>
<tr>
<td>8) Voluntary contractual relationships</td>
<td></td>
</tr>
</tbody>
</table>

Source: Authors

Supplier base:

A total of 60% of the respondents admitted that the manufacturers in Turkey maintain a small database, in order to facilitate their knowledge and control, in contrast to a large database of suppliers who are difficult to track or choose offers from them. While 30% indicated moderation in their answers, the remaining 10% of respondents refused that manufacturers store few suppliers in their database because this may put the manufacturer at risk if a supplier withdraws without prior expectation. The majority of respondents from the implementation managers of the manufacturers, 85% of them agreed that the manufacturers depend on different sources in order to ensure reliable delivery, while 10% showed moderation and 5% did not agree with the multiplicity of supply sources used by the Turkish manufacturers.

Table 2: Measurement of supplier Base

<table>
<thead>
<tr>
<th>Supplier Base</th>
<th>Scale (1 to 5) ‘Not at all’ to ‘Very much’</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small supplier base</td>
<td>1 1 3 3 4</td>
</tr>
<tr>
<td>Multiple sourcing</td>
<td>0 2 2 5 2</td>
</tr>
</tbody>
</table>

Source: Authors
Criteria selection of suppliers

Through our research, we found that 50% of the respondents praised the manufacturing companies choosing their suppliers according to the extent of their financial strength, which allows them to survive for the longest period in the market, while 40% said they were moderate in their saying that the companies choose their suppliers. In terms of quality, it found that 99% of the respondents agreed that quality is one of the important criteria used by manufacturers in order to select their suppliers, while 1% of the respondents did not agree with quality as a criterion for selecting suppliers. 80% of the respondents agreed that choosing suppliers can be their previous performance and previous experiences, which helps in making a positive reputation for them in the labor market, while 15% of them admitted that their opinions are moderate, and only 5% refused to say that the previous performance of suppliers as their choice.

Regarding production requirements, 80% of the respondents agreed that it is a constructive criterion for selecting suppliers, while 20% of them answered in moderation, so that technology comes at this stage, which 70% of the respondents agreed that it is included in the supplier’s selection list, while 20% of them answered in moderation. 20% did not agree that technology relied upon to select suppliers.

Table 3: Measurement of criteria selection of suppliers

<table>
<thead>
<tr>
<th>criteria selection of suppliers</th>
<th>Scale (1 to 5) ‘Not at all’ to ‘Very much’</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial strength</td>
<td>0</td>
</tr>
<tr>
<td>Product</td>
<td>0</td>
</tr>
<tr>
<td>Performance of the supplier</td>
<td>0</td>
</tr>
<tr>
<td>Capacity of production</td>
<td>0</td>
</tr>
<tr>
<td>Technology</td>
<td>2</td>
</tr>
</tbody>
</table>

Source: Authors

4. Results and discussion

In the results section, we will try to provide a description of the main findings of our study to know the impact of strategic sourcing on the resilience of the supply chain for manufacturers in Turkey, while the discussion section explains the results and present their significance.

4.1. Descriptive statistics

The aim of our research is to investigate the impact of strategic sourcing on the flexibility of the supply chain for manufacturers in Turkey. In addition, in order to reach to determine this effect, we used three levels: cooperation, then supplier data, up to the criteria used to select suppliers during decision-making. Through our research, we asked executives to give their views on the issue of strategic sourcing identified in the flexible chains in the manufacturers in which they operate.

Collaborations:

Through this research, it was found that the manufacturers in Turkey used the advantages of collaboration with their suppliers in order to analyze the market and take advantage of the competition through the suppliers’ sharing of information and the involvement of suppliers in the important decisions of the company, which led to raising and improving performance. We find that these results found previously also during the research of (Scholten, Scott, and Fynes 2014), which showed that it is one of the successful solutions to avoid disturbances and get out of them with the least damage, which is the sharing of information and knowledge between the
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Developing the values of collaboration between the two parties, i.e. the manufacturer and suppliers, also contributes to raising the performance of supply chain resilience, consolidating relations between the company and its suppliers, and supporting each other when any disruption occurs in order to ensure a flexible and coordinated supply chain. (Jüttner & Maklan 2011). Through collaboration that aims to share information between the parties to the supply chain through the manufacturer to the suppliers. It contributes to reducing uncertainty between them. Despite all these positives in cooperation, the manufacturers in Turkey show that they do not share with their suppliers -either through information or resources-, so that they benefit each other with each other's capabilities. In addition, non-participation with suppliers not achieved across organizational levels or appropriateness of objectives by sharing costs, profits and risks. (Scholars Gichuru, Iravo and Arani, 2015) emphasize that manufacturers in general should develop their sense of cooperation and partnership with suppliers in all fields in order to make the right decisions in normal times and during turmoil, this will help manufacturers in developing their products according to market requirements and help to anticipate upcoming requirements. This means that trading companies in Turkey have to share information with suppliers for public benefit to increase profits and reduce costs within a flexible supply chain.

Supplier Base:

With our research, we found that the manufacturers in Turkey have stored a small database of suppliers so that you can control it and make it easy to choose between suppliers, as well as to ensure reliable delivery of the specified requirements. We find that these results are in agreement with the results (Christopher and Peck, 2004), Which states that the supplier database has become one of the important issues that must be shown by manufacturers, instead of narrowing and minimizing the supplier database in order to control it, it must be practical limits that must be known before making this decision. We find that these results are also present in a study (Simangunsong et al., 2012), as the manufacturers must think of different and varied sources regarding the selection of suppliers, as this will avoid the risks and disruptions that may occur when the company chooses to deal with one or a few suppliers. The abundance of suppliers means that the competitive value is great with high quality and guaranteed delivery time, and thus this will contribute to raising the resilience of the supply chain.

Criteria selection of suppliers:

Based on these results, it appears that Turkish manufacturers use financial strength to choose suppliers as a major factor, followed by the quality of services and products. As well as the modernity required in the market that the supplier adopts during response to demand. These results were also shown in the study of (Zsidisin et al., 2000), which shows that one of the most important elements for choosing suppliers is the extent of their financial strength, which keeps them for a longer period in the job market, while suppliers who do not achieve high profits quickly fail in the labor market. This is the reason behind the adoption of financial strength as a mainstay for selecting suppliers. Financial strength means resilient strength. This is also, what we find in (Farrington, 2006); study that suppliers selected according to financial capabilities, then quality capabilities in products and services, followed by environmental and ethical levels, without forgetting the technology factor. The process of selecting suppliers takes place when a request is made for a specific product or services, and when offers are obtained, the selection of suppliers begins and placing them within the company’s list of trusted suppliers, which helps in increasing the returns and ensuring the resilience of the supply chain.

4.2. Regression results

Through our study, we conducted a regression analysis in order to reach the extent of the impact of strategic sourcing on the flexibility of the supply chain, as the example of manufacturing
companies located in Turkey. The hypothesis that has been relied upon in this research is H0 strategic sourcing has a strong impact on the flexibility of the supply chain of production companies in Turkey. Through regression analysis, it becomes clear that $R^2 = 0.099$ and this indicates that the percentage can change by 9.9% in the flexible supply chains if there is a change in the level of strategic resources. The results we have indicated in the table below, it is also evident within the results that if there is a change in the strategic sources, by 9.9% it will affect the flexible supply chain in the production companies in Turkey. From here, we conclude that the strategic sources have a clear impact on the flexibility of Supply chain in production companies in Turkey.

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted Square</th>
<th>R</th>
<th>Sted. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.338</td>
<td>.114</td>
<td>.099</td>
<td>.90304</td>
<td></td>
</tr>
</tbody>
</table>

**Table 4: Model Summary**

With regard to the results of the additional analysis that we performed using ANOVA, it was found that the F statistic less than 0.05 with p value $p=0.00$, these results are indicated in the table below; this explains the strong link between strategic sources and flexible supply chain. Strategic sourcing is creating a flexible supply chain in the production companies of Turkey, so the executives in these companies must give priority when developing their strategies for the supply elements and make their goals identical to raise the performance of resilience. We recall that the results of our study also matched with a study of Carla et al. (2014), which linked strategic sources and their impact on the flexibility of the supply chain for manufacturers through cooperation and supplier selection.

<table>
<thead>
<tr>
<th>Sum Of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>6.018</td>
<td>1</td>
<td>6.018</td>
<td>7.365</td>
</tr>
<tr>
<td>Within Groups</td>
<td>46.985</td>
<td>57</td>
<td>.819</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>52.478</td>
<td>59</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Table 5: ANOVA table**

4.3. Discussion

Through our study, we were able to reach the conclusion that strategic sources play a positive and important role in influencing the flexibility of the supply chain for business entities in Turkey. Also from the results of the research, it is clear that the strong relationship between strategic sources and the flexible supply chain in commercial entities in Turkey, that is, if strategic resources used and rationalized by company officials, especially executives, this will enable the development of supply chain flexibility in manufacturers in Turkey. In addition, through our study, we found that the factor of cooperation is very important in companies through the main partners through various communications in order to make decisions and common goals within a cooperative framework. This collaborative framework achieved through the sharing of costs and risks in continuous communication. Here we come to the discussion that the commercial entities in Turkey relied on different sources to bring their
resources by choosing suppliers in order to ensure reliable and on-time delivery, and this includes financial levels in this choice and then products or services in addition to technology as an important factor. It turns out that the processes of cooperation and the selection of suppliers are among the most important parts of strategic sourcing, and should properly be applied in Turkish supply chains in order to reach the desired goals. One of the recommendations included in our study is to give priority to strategic sourcing, which would achieve successes in the supply chain in the manufacturers in Turkey. In order to achieve strategic resources, cooperation was created between the various parties of the manufacturer in a cooperative and participatory framework through information sharing. It is worth mentioning that our study also recommends the supply chain managers of Turkish manufacturing companies to use various sources of supply in order to ensure reliable delivery of the specific details by choosing standards for suppliers that suit the company’s goals within a framework that increases the competitive power in the market.

5. Summary and Conclusions

Today, companies are able to develop flexibility through three important points: increasing redundancy, building resilience, and changing the corporate culture. Increasing redundancy has limited benefit and the rest is very important. In addition, in theory, a resilient company built by creating surpluses throughout the supply chain, as the primary objective of the procurement strategy is to refresh the teams with a set of methods and best practices in alignment with the main concerns of the organization. The goal is to enhance profitability by reducing overheads, reducing delays, and then speeding up the supply chain. We can define procurement as a group of business that starts from the source to the end customer; it is literally the driving force of the business; as it is present in every element of the value chain: sourcing a product, purchasing the product, manufacturing and quality control, matching the commodity to market requirements, going to market, and after market.

The responsibility of the Purchasing Department is to select suppliers, goods and services as well as negotiate contracts and ensure that negotiated procurement is cost-effective while ensuring high quality. Without purchasing, it would be difficult to operate the entirety of the business. The Procurement Department ensures that all items and services are received correctly so that projects and operations can proceed efficiently and successfully Building and maintaining positive relationships should be the primary focus of procurement professionals, according to TECOM's Executive Director of Procurement, Cory Thwaites.

Through our research, we found a strong relationship between strategic sources and the flexibility of the supply chain of Turkish production entities, and this confirms that if manufacturing companies pay attention to strategic sources, this will increase the flexibility of the supply chain in these companies.

In addition, the results obtained allow us to say that the manufacturers in Turkey depend on their main partners by cooperating with them by sharing information and decisions taken with them. Manufacturers in Turkey continue to share profits, costs and risks with their suppliers, and the choice of these companies for different suppliers is due to ensuring reliable delivery through different criteria such as financial strength, quality of goods and technological capabilities. For all these reasons, cooperation and supplier selection processes are one of the most important strategic resources that, if effectively applied in Turkish manufacturers, will create flexibility in the supply chain.
References

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