



## RESEARCH ARTICLE

## Supply Chain Management Practices and Their Impact on Competitive Advantage of Turkish SMEs

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**ABSTRACT**

This study aims to examine how supply chain management practices, such as strategic partnerships with suppliers, customer relationship management, and lean systems, influence competitive advantage in SMEs in Turkey. The study conducted a comprehensive review of relevant literature and developed a theoretical framework and model. Ultimately, this study conceptualizes supply chain management practices as valuable resources that can lead to competitive advantage for SMEs in Turkey. The integration of these practices into daily business operations is viewed as essential for SMEs seeking to enhance operational efficiency, reduce costs, and achieve sustainable growth in an increasingly competitive global market. A questionnaire was designed based on previous literature to measure the variables. To analyze the correlations between the study variables, appropriate statistical methods and multiple linear regression techniques were used to determine the effect of the independent variables on the dependent variable. The data collection process focused on assessing how different SCM practices directly and indirectly influence competitive advantage, considering the unique challenges faced by SMEs in Turkey. The questionnaire was distributed to workers and owners of companies in several states in Turkey, and the distribution process resulted in 437 responses from managers and owners of small and medium-sized companies. The survey instruments underwent a systematic review to evaluate their validity and reliability. The Statistical Package for the Social Sciences (SPSS) was used to analyze the data. Results indicated that supply chain management practices, such as strategic partnerships with suppliers, customer relationship management, and lean systems, significantly predicted competitive advantage. This finding highlights the importance of fostering strong supplier relationships, optimizing customer interactions, and adopting lean methodologies to achieve long-term success. To gain a competitive advantage, the study recommends managers and business owners implement effective supply chain management strategies. In addition, policies should be put in place to encourage the adoption of these practices by SMEs in Turkey. Furthermore, the study calls for increased governmental support in providing training, financial incentives, and infrastructure improvements to enable wider adoption of SCM practices. This study contributes to the current body of knowledge on supply chain management practices.

## INTRODUCTION

The logistics concept, which first emerged in the 1950s and matured in the 1970s, is the foundation for supply chain management (SCM). In the mid-1980s, SCM started gaining traction in the manufacturing industry, and the early 1990s saw a growing emphasis on lean manufacturing. Over the past decade, SCM has experienced significant and continuous development, capturing the attention of both scholars and industry professionals. This growth in interest led to the incorporation of SCM into the educational context in 2007 (Habib & Jungthirapanich, 2008). The effectiveness of supply chain management (SCM) in promoting stability, growth, and success for businesses has been well-established. By enabling agility coordination and control within and across organizations. The goal of SCM is to achieve operational excellence from start to finish, revolutionizing the management of businesses and cultivating robust partnerships with all stakeholders involved in the supply chain (Lambert & Cooper, 2000). In this competitive landscape, it is imperative to comprehend the supply chain management practices that yield favorable outcomes. This understanding not only benefits individual companies but also plays a vital role in the survival of their upstream and downstream supply chain collaborators. As markets and societies increasingly embrace technology, companies are realizing that attempting to handle all aspects internally is not financially viable. This changing environment emphasizes the significance of expertise and specialization dispersed across the supply chain. At every stage of the chain, distinct entities contribute value and acknowledging and capitalizing on this specialization becomes paramount for achieving success (Heizer & Render, 2011). Conversely, the comprehensive supply chain network encompasses more than one company, incorporating cooperative efforts among suppliers, customers, producers, trading partners, retailers, service providers, and transporters (Naway & Rahmat, 2019). With the rise of competition and the expansion of markets worldwide during the 1990s, organizations began to realize the intricate challenges of delivering products and services in a streamlined and cost-efficient manner. It became evident that enhancing internal processes alone would not suffice; a comprehensive improvement of the entire supply chain was necessary to achieve competitiveness. Consequently, the significance of comprehending and implementing supply chain management (SCM) has emerged as an essential prerequisite for sustaining a competitive edge in the global market and optimizing profitability (Choon Tan et al, 2002). The focus of this study is specifically on small and medium-sized enterprises (SMEs) in Turkey, taking into account their unique needs and operating environment. While SMEs have a significant impact on supply chain performance, particularly as suppliers, distributors, producers, and customers, there is a lack of literature addressing the use of supply chain management practices and their effect on SME performance in emerging market economies like Turkey. In most countries, SMEs play a crucial role in terms of employment and value added, accounting for more than half of these factors (Lenny Koh et al, 2007). Turkey follows this trend, with SMEs comprising 99.5 percent of all business enterprises and employing 61.1 percent of the workforce (Yılmaz, 2004). On the other hand, supply chain performance can greatly contribute to gaining a competitive advantage, as any disruptions or inefficiencies in the supply chain can impact the overall performance of SMEs. Therefore, this research aims to address the following question:

In Turkey, do the practices of supply chain have an impact on the competitive advantage of small and medium-sized enterprises?

## LITERATURE REVIEW

According to the Council of Logistics Management (CLM), supply chain management (SCM) is defined as a strategic and synchronized endeavor aimed at improving the overall performance of both individual organizations and the entire supply chain in the long run (CLM, 2004). Manufacturers and retailers widely adopt the concept of supply chain management to optimize their product development, quality, and delivery goals while minimizing waste. Through this approach, companies can leverage the knowledge and technological capabilities of their suppliers, thus streamlining the

process of launching innovative products (Morgan and Monczka, 1995). Research that combines strategic business choices with logistics by implementing supply chain management demonstrates that this methodology enables the various entities within a channel to function as a unified logistics entity, rather than merely pushing inventory along the supply chain. By coordinating the logistical operations of independent companies within a supply chain, supply chain management leverages the benefits of vertical integration (La Londe and Masters, 1994). The adoption of supply chain management strategies can result in operational advantages, including reduced production lead times, decreased costs, expedited product development, and enhanced quality. Additionally, it plays a role in enhancing the effectiveness of quality management initiatives (Foster Jr et al, 1999). Li et al. (2005) conducted a study where they developed and verified a tool for assessing supply chain management practices (SCMPs). This instrument consisted of six dimensions: strategic supplier partnership, customer relationship, information systems, information quality, internal lean practices, and process deferral. These dimensions aimed to enhance the efficiency and flexibility of the supply chain, ensuring it aligns with market demands in a more precise and effective manner. In a study conducted by Sundram et al. (2011), the correlation between different supply chain management practices (SCMPs) and supply chain performance (SCP) was examined. The SCMPs investigated included strategic supplier partnerships, customer relationships, information systems, information quality, deferral, agreed vision and goals, as well as risk and reward sharing. Similarly, another study conducted by Chow et al. (2008) provided a comprehensive list of SCMPs, which encompassed customer and supplier management, supply chain functions, communication and speed, information systems (IS), integration, customer service management, quality and service, and sales effectiveness and design. According to the study conducted by Aitken et al. (2002), it has been established that the ability to respond swiftly in the supply chain is a crucial element in obtaining a competitive edge. Nevertheless, in the case of small and medium-sized enterprises (SMEs), research has revealed that medium-sized companies are significantly slower in adapting to shifts in customer demand compared to larger manufacturers, sometimes taking up to eight times longer (Sharifi & Zhang, 2001). Consequently, augmenting supply chain responsiveness not only leads to cost reduction, but also grants companies an advantage in multiple facets of competition. By effectively implementing manufacturing cycle time reduction, companies can achieve significant improvements in manufacturing costs and productivity. This allows them to maintain their competitive advantage and effectively meet the diverse needs that arise from rapid market changes. Ultimately, a responsive supply chain developed through this process can reduce time to market (Towill & Christopher, 2002).

### **Theoretical Framework**

The effective management of a supply chain involves various activities that an organization carries out. Supply chain management practices encompass both the upstream and downstream components of the supply chain, forming a multidimensional concept. These dimensions consist of crucial practices that must be properly managed to strengthen and develop competitive advantages:

#### **Supplier Partnership (SP)**

The concept of strategic supplier partnership refers to the continuous exchange of information and the establishment of enduring connections between an organization and its suppliers. For this partnership to be deemed strategic, it must be structured in a manner that enables all participants in the supply chain to derive long-lasting advantages from their involvement in this interconnected network (Qrunfleh & Tarafdar, 2013). The establishment of cooperative buyer-supplier relationships has been linked to significant benefits, including cost reduction, shortened lead times, enhanced productivity, and improved quality (Li et al., 2012). Creating harmonious connections between an organization and its suppliers can promote stable working relationships, thereby reducing inefficiencies and increasing productivity. This collaboration has proven particularly beneficial in streamlining processes and optimizing resource utilization. Ultimately, successful partnerships with

suppliers become an important component of the innovative supply chain and play a key role in the overall success of the organization (Yoshino & Rangan, 1996). The formation of these alliances is driven by the goal of maximizing mutual benefits and establishing long-lasting involvement in key strategic domains such as technology, products, and markets (Gunasekaran et al, 2001). This allows the following assumptions to be formulated:

H1: Strategic partnerships with suppliers positively impact competitive advantage.

### **Customer Relationship (CR)**

In the realm of supply chain management (SCM), customer relationship management (CRM) holds immense importance and is regarded as a crucial component from various angles such as process, strategy, philosophy, capability, and technology (Paul et al, 2021). Consequently, companies prioritize building strong relationships with their customers as part of a comprehensive strategy aimed at maximizing profits, generating revenue, and ensuring optimal customer satisfaction. This is achieved through a meticulous analysis of customer trends and segmentations, which facilitate active customer engagement and foster positive customer satisfaction behaviors. Moreover, this approach entails aligning all aspects of the company's operations with both its customers and suppliers (Hollensen, 2005).

According to Wisner (2003), the establishment of robust customer relationships enables the differentiation of products from competitors, fosters customer loyalty, and enhances the overall value delivered to customers. The establishment of trust between customers and companies enables the cultivation of stronger partnerships and the advancement of relationships. This cultivation of trust creates a collaborative atmosphere where collective endeavors yield outcomes that surpass what either the company or its customers could accomplish individually (Fynes et al, 2005). According to Coyle et al. (1992), the concept of customer service goes beyond the intellectual aspects of logistics and encompasses key elements that contribute to excellence. Customer service plays a crucial role in ensuring customer satisfaction by offering the necessary support and services to meet their needs. This allows the following assumptions to be formulated:

H2: Customer relationship positively impact competitive advantage.

### **Lean Systems (LS)**

Lean systems, also known as LS, refer to a set of methods and practices designed to streamline processes and eliminate waste.

The application of lean manufacturing principles to all aspects of the supply chain is implicit in the concept of lean systems. The concept embodies a collaborative network of interconnected organizations that strives to minimize costs and eliminate waste by efficiently delivering products, services, information, and funds to meet the individual needs of customers. It is a valuable strategy for optimizing operational efficiency and minimizing waste throughout the supply chain (Martínez-Jurado and Moyano-Fuentes, 2014). In contrast, applying lean manufacturing principles across different levels of the supply chain is more difficult. Achieving lean production across the entire supply chain may be viewed as impractical. However, when scrutinizing individual levels within a supply chain, it becomes easier to assess the extent to which lean practices have been adopted and to ascertain whether current processes align with efficient manufacturing principles (Naim & Gosling, 2011). Improving overall performance is a direct result of implementing Just-in-Time (JIT) practices, which prioritize reducing inventory levels and operational expenses, while simultaneously increasing customer satisfaction. By adopting JIT techniques, organizations are able to reduce setup time and improve the quality of their products. These improvements in material flow, coupled with cost reduction and quality improvement, result in significant improvement in both supply chain performance (SCP) and manufacturing performance (MP) (Simpson & Power, 2005).

## Competitive Advantage (CA)

Competitive advantage (CA) relates to the level to which a company can establish a secure position with respect to its competitors. It includes certain qualifications that enable a company to differentiate itself from its competitors and is the result of complex management decisions. Previous studies have indicated that different dimensions influence price, quality, supply, product innovation, and competitive advantage of the supply chain over time in the market. For example, supply chain management practices have been observed to influence CA through factors such as price, quality, delivery, product innovation, and market duration. Scholars argue that price, premium pricing, price value to the customer, reliable supplies, and product innovation are all factors that should be considered in terms of competitive advantage (Quynh & Huy, 2018). Competitive advantage is achieved through judicious adoption of interconnected supply chain management practices, thus creating a “defensible position over competitors.” Competitive advantage can be gained when an organization possesses certain capabilities, namely price/cost, quality, reliability of delivery, product innovation, and short time to market. Hence, cost, flexibility, quality and delivery, these factors are specific to supply chain management environments (Li et al., 2006). Based on previous literature, a research framework was developed to identify five dimensions of competitive capabilities: competitive pricing, premium pricing, quality value to customers, reliable delivery, and production innovation (Li et al., 2006). These dimensions are consistent with the dimensions of competitive advantage used in this study, which include price/cost, quality, reliability of delivery, product innovation, and time to market. In the same vein, Barney (1991) points out that a company can achieve a lasting competitive advantage by implementing a unique value-creating strategy, one that is not used by any current or potential competitors. This advantage is sustainable and allows the company to maintain its superiority in the market. The conceptual definition of this advantage, known as SCA, involves the use of a distinctive value generation strategy that sets the company apart from its competitors. However, replicating the benefits of this approach is a challenge for other companies. Supply chain management (SCM) practices impact an organization's competitive advantage. They are expected to improve an organization's competitive advantage through price/cost, quality, time to market, and product innovation. Previous studies have indicated that different components of supply chain management practices (e.g. strategic supplier partnership) have an impact on different aspects of competitive advantage (e.g. price/cost). For example, strategic partnerships with suppliers can improve supplier performance, reduce time to market, and increase customer responsiveness and satisfaction (Ragatz et al., 1997, Power et al., 2001).

## Hypothesis Development

An effective supply chain has been proven to help organizations gain competitive advantage by managing changing demands, providing flexibility to reduce cost, and improving product quality (Iqbal, 2021). Furthermore, the supply chain improves collaboration between suppliers and helps create a lasting competitive advantage (Golobic & Smith, 2013). Hence, the first hypothesis is:

*H1: There is a statistically significant positive effect of SSP on CA.*

For the relationship with suppliers and customers, building a long-term partnership helps improve supply chain flexibility by creating mutual understanding between them (Chang et al., 2005). Organizations must also engage customers and suppliers to improve quality performance, reduce cost and achieve customer satisfaction (Phan et al., 2011). Hence, the second hypothesis is:

*H2: There is a statistically significant positive effect of CRM on CA.*

By implementing SCF procedures, SMEs can enhance their ability to respond quickly to market demands. Therefore, it is important for SMEs to invest in tools and strategies that can improve SCA practices, enabling them to adapt to market changes and meet customer requirements. This requires the flexibility to adjust the allocation of financial resources, time and effort, thus enhancing supply

chain efficiency. By developing SCA capabilities, SMEs can raise their overall performance (Darmawan et al, 2023).

*H3: There is a statistically significant positive effect of LS on CA.*

## **RESEARCH METHODOLOGY**

### **Study Population and Sample**

The Turkish market, an emerging economy, heavily depends on the involvement of small and medium-sized enterprises (SMEs). The comprehensive annual survey conducted by the Turkish Statistical Institute (TÜİK) gathers a vast array of industry and service statistics. Notably, the 2022 census revealed a total of 3,773,000 companies operating in the industry and service sectors, all of which can be classified as SMEs.

The year 2022 witnessed an astonishing fact: small and medium-sized enterprises (SMEs) constituted a remarkable 99.7% of all organizations. Yet, their significance surpasses mere numerical representation, as they contribute significantly to various aspects of the economy. SMEs account for a substantial 70.6% of employment, 47.5% of employee costs, 42.5% of turnover, 36.3% of production value, and 36.4% of value added by factor costs.

To explore the viewpoints of SME owners regarding supply chain management practices and their influence on establishing a competitive edge in SMEs in Turkey, a quantitative methodology was employed for this research. To ensure a representative sample size, convenience sampling was utilized, and questionnaire distribution continued until a substantial sample size was achieved, typically ranging between 384 and 400 participants at a 95% confidence level and 0.5 probability (Krejcie et al., 1970). Ultimately, 437 valid questionnaires were collected for analysis, which aligns with the requirements for studying large populations.

### **Study Instrument**

Regarding the study tool, a questionnaire was utilized to assess the study variables. These variables were measured using established measures from previous research studies, which have been proven to be reliable and valid (Li et al., 2006; Sundram et al., 2016; Vargas et al., 2018). The first variable pertains to strategic supplier partnership (SSP) and consists of five phrases that assess various aspects such as supplier selection quality, problem-solving with suppliers, enhancing supplier product quality, implementing continuous improvement programs, and involving suppliers in new product development processes. The second practice, customer relations (CR), was also evaluated using four statements that gauge the level of commitment towards assessing customer satisfaction and identifying future customer expectations.

To ensure customer satisfaction, it is important to provide assistance and regularly assess the customer relationship. Another crucial factor is information sharing (IS), which involves sharing knowledge with business partners, keeping them informed about project-related matters, and staying updated on essential business operations. The quality of information sharing (IQ) is also significant and encompasses timely, accurate, sufficient, and reliable exchange of information with partners. Risk and reward sharing (RR) is another variable, which involves supply chain members sharing costs, rewards, research and development outcomes, and risks. Lastly, the sixth variable pertains to lean systems and practices.

The first group of concepts within lean systems, such as JIT programs, continuous improvement, lead time, waste reduction, and minimizing returns, is complemented by the second group which focuses on Supply Chain Agility (SCA). SCA encompasses eight elements that revolve around flexibility in handling irregular orders, the ability to swiftly implement significant product improvements, efficiently manage new product launches, and promptly respond to customer needs. These

capabilities are highly valued by the target market, which seeks quick and timely responses to customer inquiries. The dependent variable in this context is competitive advantages (CA), which is measured across five dimensions: quality, cost, time, delivery, and innovation.

### Measurement Assessment

The statistical reliability of the scales was measured by Cronbach's alpha values. Cronbach's alpha is greater than 0.60 and in more recent standards greater than 0.70 supports the reliability of the scale (Sekaran & Bougie, 2016). Cronbach's alpha values were greater than 0.70 for all variable measures and are within the acceptable range. Table 1 shows the Cronbach's alpha values.

**Table 1: Reliability Test**

| Variables                  | Items | Cronbach's Alpha | Internal Consistency |
|----------------------------|-------|------------------|----------------------|
| Supplier Partnership (SP)  | 5     | 0.870            | 0.932                |
| Customer Relationship (CR) | 3     | 0.773            | 0.879                |
| Lean System (LS)           | 9     | 0.925            | 0.961                |
| Competitive advantage (CA) | 11    | 0.929            | 0.963                |

The table includes several important variables related to supply chain practices and their impact on competitive advantage. The Cronbach's alpha coefficient values for all variables (between 0.760 and 0.928) indicate high consistency in the answers provided by the sample. This indicates how strong the relationship is between the items in each variable. The self-reliability values are very high (between 0.876 and 0.963), which means that the items in the questionnaire well reflect the intended concepts and provide an accurate perception of the studied variables. This means that the reliability is high and statistically significant.

### Descriptive Statistics

The following table shows the arithmetic mean and standard deviation of the expressions for the first variable of supply chain practices, which is the company with suppliers, as follows:

**Table 2: Strategic Supplier Partnership (SSP)**

| N | Strategic supplier partnership (SSP)  | Mean | Std. Deviation | Rank | Level |
|---|---|------|----------------|------|-------|
| 1 | Quality is our first criterion in choosing suppliers.                       | 2.21 | 1.053          | 04   | Low   |
| 2 | We regularly solve problems in cooperation with our suppliers.              | 2.20 | .972           | 05   | Low   |
| 3 | We help our suppliers improve the quality of their products.                | 2.39 | 1.071          | 01   | Low   |
| 4 | We have continuous improvement programs involving our key suppliers.        | 2.31 | 1.127          | 03   | Low   |
| 5 | We actively involve our key suppliers in new product development processes. | 2.38 | 1.072          | 02   | Low   |

The mean ranges from 2.20 to 2.39, which indicates a moderate level of ratings for the statements. While the standard deviation ranges between 0.972 and 1.127, this indicates a degree of variation in company evaluations. Higher values indicate greater variation in opinions. All statements are rated as 'low'. This indicates that there is a required improvement in the areas of strategic partnership with suppliers, and the evaluation shows that there are opportunities to improve the partnership with

suppliers, as these projects must understand the strengths and weaknesses and take the necessary measures to enhance cooperation with suppliers.

### Customer Relationship (CR)

The following table shows the arithmetic mean and standard deviation of the expressions for the second variable of supply chain practices, which is customer relations, as follows:

**Table 2: Mean and Standard Deviation of Customer Relationships**

| N | Customer relationship (CR)                            | Mean | Std. Deviation | Rank | Level  |
|---|---|------|----------------|------|--------|
| 1 | We frequently evaluate customer satisfaction.         | 2.14 | 1.028          | 03   | Low    |
| 2 | We often determine future customer expectations.      | 2.28 | 1.054          | 02   | Low    |
| 3 | We make it easier for customers to seek help from us. | 2.65 | 1.207          | 01   | Medium |

The data in the Customer Relationship table contain arithmetic means that range between 2.14 and 2.65, which indicates variation in companies' evaluation of aspects of their relationships with customers, while the standard deviation ranges between 1.028 and 1.207, indicating variation in evaluations. Thus, it is clear that there are possible improvements in aspects of customer relations, and companies investigated in this area can take corrective measures, enhance customer experience and raise their level of satisfaction.

### Lean Systems (LS)

The following table shows the arithmetic mean and standard deviation of the expressions for the sixth variable of supply chain practices, which are lean systems for all members of the chain, as follows:

**Table 3: Mean and Standard Deviation for Lean Systems**

| N | Lean systems (LS)  | Mean | Std. Deviation | Rank | Level |
|---|--|------|----------------|------|-------|
| 1 | Our company applies just-in-time (JIT) procurement processes.        | 2.49 | 1.010          | 02   | Low   |
| 2 | The organization produces products that are in high demand           | 2.39 | .958           | 04   | Low   |
| 3 | Just-in-time (JIT) production has improved our company's performance | 2.32 | 1.031          | 05   | Low   |
| 4 | Our company produces high quality products to avoid returns          | 2.29 | .948           | 06   | Low   |
| 5 | We try to reduce time wastage in operations                          | 2.28 | .983           | 08   | Low   |
| 6 | We have quality improvement programs                                 | 2.26 | .971           | 09   | Low   |
| 7 | We supply products as per customer request                           | 2.44 | .977           | 03   | Low   |
| 8 | We offer short lead times to suppliers                               | 2.29 | .975           | 07   | Low   |



|   |  |      |       |    |     |
|---|--|------|-------|----|-----|
| 9 | We organize business activities properly | 2.54 | 1.028 | 01 | Low |
|---|--|------|-------|----|-----|

There appears to be a trend towards implementing lean systems in the supply chain of the companies studied, but there is variation in the degree of implementation. Therefore, it is clear that there are more efforts to activate these practices, and this is explained by the averages, most of which are below average.

### Competitive Advantages (CA)

The following table shows the arithmetic mean and standard deviation for the expressions of the dependent variable, which is competitive advantage, as follows:

**Table 4: Mean and Standard Deviation of Competitive Advantage**

| N  | Competitive advantages (CA)   | Mean | Std. Deviation | Rank | Level |
|----|---|------|----------------|------|-------|
| 1  | We have the ability to compete based on quality.                          | 2.20 | .944           | 11   | Low   |
| 2  | We provide highly reliable products.                                      | 2.30 | .984           | 04   | Low   |
| 3  | We provide highly durable products.                                       | 2.29 | .952           | 05   | Low   |
| 4  | We offer competitive prices.  | 2.39 | .979           | 01   | Low   |
| 5  | We have the ability to offer prices as low or lower than our competitors. | 2.22 | .933           | 09   | Low   |
| 6  | We deliver the type of products required.                                 | 2.38 | 1.017          | 02   | Low   |
| 7  | We deliver the customer's order on time.                                  | 2.25 | .984           | 06   | Low   |
| 8  | We offer reliable delivery.   | 2.25 | .950           | 07   | Low   |
| 9  | We offer customized products  | 2.21 | .878           | 10   | Low   |
| 10 | We change our product offerings to meet customer needs.                   | 2.24 | .999           | 08   | Low   |
| 11 | We respond well to customer demand for "new" features.                    | 2.33 | .999           | 03   | Low   |

The average ranges between 2.20 and 2.39, indicating an average level close to competitive advantage. The standard deviation shows the strength of variation between different ratings. The standard deviation values range from .878 to 1.017, which means that there is some variation in the level of opinion between different aspects of competitive advantage. It is clear from the results that companies show some support for aspects of competitive advantages such as competitive prices and on-time delivery. However, the analysis also shows that there are opportunities to improve other features such as the ability to compete on the basis of quality and improving product features to better meet customer needs.

### Hypotheses Testing

**Table 5: Model Summary**

| Model                          | R Square Change   | F Change | df1 | df2 | Sig. F Change |
|--------------------------------|-------------------|----------|-----|-----|---------------|
| 1                              | .448 <sup>a</sup> | 352.861  | 1   | 435 | .000          |
| a. Predictors: (Constant), SSP |                   |          |     |     |               |

We have a measure of the explanatory coefficient, which has a value of approximately 44.8%, which means that the independent explanatory variable (X), the strategic partnership with suppliers as one

of the supply chain management practices, was able to explain 44.8% of the changes occurring in the dependent competitive advantage (Y), and the rest is attributed to other factors. The table shows the analysis of variance, through which the explanatory power of the model as a whole can be known through the F statistic:  $F=352.861$  and the arithmetic significance of  $Sig=0.000$ , which is smaller than the standard significance of  $Sig=0.05$ . This confirms the explanatory power of the linear regression model from a statistical standpoint, meaning that the model as a whole has significant significance.

**Table 6: Regression Analysis Summary for SSP Predicting CA**

| Coefficients <sup>a</sup> |            |                             |            |                           |        |      |
|---------------------------|------------|-----------------------------|------------|---------------------------|--------|------|
| Model                     |            | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig. |
|                           |            | B                           | Std. Error | Beta                      |        |      |
| 1                         | (Constant) | .959                        | .075       |                           | 12.810 | .000 |
|                           | SSP        | .573                        | .031       | .669                      | 18.785 | .000 |

a. Dependent Variable: CA

Through the table, we find that the company's strategic dimension with suppliers, which is the independent variable (X), has a significant impact on competitive advantage, which is the dependent variable (Y), as the value of (Sig) is (.000), which is less than (0.05), and the regression equation is on the following figure:

$$Y = .959 + .573X$$

The equation indicates that every increase in the independent variable, strategic partnership with suppliers, by one amount will lead to an increase in the dependent variable, competitive advantage, by 57%, and this effect is positive. Therefore, the hypothesis is accepted that states that partnerships with suppliers affect the competitive advantage of small and medium enterprises.

*H2: There is a statistically significant positive effect of CRM on CA.*

**Table 7: Model Summary**

| Model | R Square Change   | F Change | df1 | df2 | Sig. F Change |
|-------|-------------------|----------|-----|-----|---------------|
| 1     | .425 <sup>a</sup> | 321.322  | 1   | 435 | .000          |

a. Predictors: (Constant), CRM

We have a measure of the explanatory coefficient, which has a value of approximately 42.5%, which means that the independent explanatory variable (X), the relationship with customers as one of the supply chain management practices, was able to explain 42.5% of the changes occurring in the dependent variable, competitive advantage (Y), and the rest is attributed to other factors. The table shows the analysis of variance, through which the explanatory power of the model as a whole can be known through the F statistic:  $F=321.322$  and the arithmetic significance of  $Sig=0.000$ , which is smaller than the standard significance of  $Sig=0.05$ . This confirms the explanatory power of the linear regression model from a statistical standpoint, meaning that the model as a whole has significant significance.

**Table 8: Regression Analysis Summary for CRM Predicting CA**

| Coefficients <sup>a</sup> |            |                             |            |                           |        |      |
|---------------------------|------------|-----------------------------|------------|---------------------------|--------|------|
| Model                     |            | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig. |
|                           |            | B                           | Std. Error | Beta                      |        |      |
| 1                         | (Constant) | 1.035                       | .074       |                           | 13.925 | .000 |
|                           | CRM        | .527                        | .029       | .652                      | 17.925 | .000 |

a. Dependent Variable: CA

From the table we find that the dimension of customer relations, which is the independent variable (X), has a significant impact on competitive advantage, which is the dependent variable (Y), as the value of (Sig) is (.000), which is less than (0.05), and the regression equation is as follows:

$$Y = 1.035 + .527X$$

The equation indicates that every increase in the independent variable, the relationship with customers, by one amount will lead to an increase in the dependent variable, competitive advantage, by 53%, and this effect is positive. Therefore, the hypothesis is accepted that states that relationships with customers affect the competitive advantage of small and medium enterprises.

H3: There is a statistically significant positive effect of LS on CA.

**Table 9: Model Summary**

| Model | R Square Change   | F Change | df1 | df2 | Sig. F Change |
|-------|-------------------|----------|-----|-----|---------------|
| 1     | .594 <sup>a</sup> | 635.907  | 1   | 435 | .000          |

a. Predictors: (Constant), LS

We have a measure of the explanatory coefficient, which has a value of approximately 59.4%, which means that the independent explanatory variable (X), lean systems as one of the supply chain management practices, was able to explain 59.4% of the changes occurring in the dependent variable, competitive advantage (Y), and the rest is attributed to other factors. . The table shows the analysis of variance, through which the explanatory power of the model as a whole can be known through the F statistic: F=635.907 and the arithmetic significance of Sig=0.000, which is smaller than the standard significance of Sig=0.05. This confirms the explanatory power of the linear regression model from a statistical standpoint, meaning that the model as a whole has significant significance.

**Table 10: Regression Analysis Summary for LS Predicting CA**

| Coefficients <sup>a</sup> |            |                             |            |                           |        |      |
|---------------------------|------------|-----------------------------|------------|---------------------------|--------|------|
| Model                     |            | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig. |
|                           |            | B                           | Std. Error | Beta                      |        |      |
| 1                         | (Constant) | .556                        | .072       |                           | 7.739  | .000 |
|                           | CR         | .727                        | .029       | .771                      | 25.217 | .000 |

a. Dependent Variable: CA

From the table we find that the dimension of lean systems, which is the independent variable (X), has a significant impact on competitive advantage, which is the dependent variable (Y), as the value of (Sig) is (.000), which is less than (0.05), and the regression equation is on the following figure:

$$Y = .556 + .727X$$

The equation indicates that every increase in the independent variable, lean systems, by one amount will lead to an increase in the dependent variable, competitive advantage, by 73%, and this effect is positive. Therefore, the hypothesis is accepted that states that lean systems affect the competitive advantage of small and medium enterprises.

**DISSECTION AND CONCLUSION**

The main idea on which the study was built was that effective supply chain management practices can play a crucial role in building competitive advantage by enhancing supply chain agility for small and medium-sized enterprises (SMEs) in Turkey. After a theoretical review of the relevant literature and a comprehensive analysis of the data collected, the study concluded that supply chain management practices have a significant impact in explaining the dimensions of competitive advantage in the context of these projects. Furthermore, the study found that supply chain agility

mediates the relationship between supply chain management practices and competitive advantage. Hence, it has been observed that supply chain management practices act as a catalyst to make the supply chain more agile and flexible, which in turn leads to competitive advantage.

The impact of supply chain management practices on the competitive advantage of small and medium-sized enterprises is clear from the results of the analysis and testing of the study's hypotheses. These practices, including establishing strategic partnerships with suppliers, effectively managing customer relationships, and implementing lean systems within the supply chain, explain a large proportion of the variance in competitive advantage and are therefore closely associated with significant improvements in competitive advantage in the companies sampled in the study.

The descriptive analysis also revealed that most of these practices have medium to low averages, indicating that there is ample room for improvements and progress in these companies' supply chains as they can work to develop their skills in managing these practices. By implementing these practices, these companies can achieve a competitive advantage as their ability to reduce their costs, maintain the quality of their products and services and improve their ability to deliver on time and in the right quantity increases. The study revealed that the successful implementation of these practices was a strong indicator of improving the dimensions of competitive advantage, as supply chain management practices are positively related to competitive advantage. Our results are consistent, to some extent, with many results of previous literature, such as (Li et al., 2006, Sundram et al, 2016, Vargas et al, 2018).

In order to enhance their competitiveness and facilitate growth, small and medium enterprises (SMEs) must prioritize the implementation of effective supply chain management (SCM) practices. Business managers must allocate additional resources to build strong companies with suppliers, integration along the chain, and sharing information, risks and returns among its members, as this aspect plays a pivotal role in building and enhancing competitive advantage. Moreover, owners of these companies may need to increase their investments in quality, cost, and reliable delivery to enhance their competitiveness.

In order to enhance the overall performance of these companies, it is advisable for business managers and company owners to consider implementing different supply chain management strategies. More specifically, companies should allocate greater resources to enhancing relationship development practices with suppliers and customers, and enabling lean practices as this results in integration, high-quality information exchange, uncertainty mitigation, and risk reduction.

This sector must think carefully about these practices and activate them because of their role in enhancing the competitive position and that controlling them has an effective impact in controlling the costs that result from waste along the chain.

In order to enhance this, managers and business owners must take into account investments in quality, cost and reliability of delivery.

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