



DETERMINING SUPPLY CHAIN STRATEGIES BY SWOT ANALYSIS: A CASE STUDY TEDARİK ZİNCİRİ STRATEJİLERİN SWOT ANALİZİ İLE BELİRLENMESİ: BİR UYGULAMA

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Abstract

A strategy is a plan of action designed to achieve a long-term or general purpose. It is a military term, and its origin goes back to Sun Tzu. Its use in the modern sense coincides with the 1980s. In the increasingly competitive environment in recent years, businesses need to make a difference in the market, increase their profitability, closely follow technological developments, etc. They attach importance to developing their strategies in the corporate sense and in the field of business management strategies. However, it has been determined that enterprises cannot develop in the field of supply chain management strategies, which is one of their functional strategies, especially in the researches. Determining supply chain strategies will enable them to compete in the market, especially in terms of reducing costs, increasing customer experience, adopting innovative approaches or quality. Businesses may choose to compete in only one of these factors, or they may adopt several factors. In this study, a supply chain strategy determination study was carried out in a company that has a very important position in the wood-based panel industry sector and has adopted supply chain management, but where no strategic decisions or projects have been created. SWOT analysis was used in terms of company and supply chain process. Ten (10) supply chain strategies were determined.

Özet

Strateji uzun dönemli hedefleri gerçekleştirmek için dizayn edilmiş hareketlerin bir planıdır. Kelime askeri kökenli bir terim olup Sun Tzu'ya kadar dayanmaktadır; modern anlamda kullanımı 1980'li yıllara rastlamaktadır. Artan rekabetçi çevrede işletmelerin karlılıklarını arttırmak, teknolojik gelişmeleri yakında takip etmek vs gibi nedenlerle bir fark yaratmaları gerekmektedir. Bu anlamda işletmelerin kurumsal stratejilerinin ve iş yönetim stratejilerinin önemi artmıştır. Bununla birlikte; araştırmalara göre işletmelerin fonksiyonel stratejilerinden olan tedarik zinciri yönetim stratejilerini geliştiremedikleri saptanmıştır. Tedarik zinciri yönetim stratejilerini belirlemek işletmelerin özellikle maliyetleri azaltmak, müşteri deneyimini arttırmak, yenilikçi yaklaşımlar benimsemek ve kalite alanında pazarda rekabet edebilirliğini arttıracaktır. İşletmeler bu alanlardan birini seçebilecekleri gibi birkaçında da rekabet etmeyi seçebilirler. Bu çalışmada ağaç bazlı panel endüstri sektöründe önemli bir konuma sahip, ancak tedarik zinciri stratejileri belirlenmemiş ve herhangi bir proje bu bağlamda oluşturulmamış bir işlemenin süreçlerini analiz ederek tedarik zinciri yönetim stratejilerinin belirlenmesi amaçlanmıştır. 10 adet tedarik zinciri stratejisi belirlenmiştir.

Keywords: Supply chain strategy, SWOT, wood-based panel industry sector

Anahtar Kelimeler: Tedarik Zinciri Stratejileri, GZFT analizi, ağaç bazlı panel endüstrisi

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1. DETERMINING SUPPLY CHAIN STRATEGIES BY SWOT ANALYSIS: A CASE STUDY

1.1. THE PURPOSE OF THE STUDY

This study aims to determine supply chain strategies at a company in wood-based panel industry sector.

1.2. DEFINITIONS

Strategy: Although the origin of the word “strategy” is Greek, Turkish equivalent, it was translated into French and started to be used in social sciences towards the end of the 20th century (Güçlü, 2003).

Strategy as a concept means to direct, send, take, and herd. The origin of the word is thought to be used in reference to the knowledge and art of Strategous, one of the ancient Greek generals. Some other sources state that strategy comes from the line of river bed, which is the meaning of Latin word “stratum.” Although there is a disagreement about the origin of the word, it can be said that both definitions have similar meanings in a general approach. It is about guiding (Dinçer, 2013).

Strategy means creating a unique and valuable position in the market where companies are located, turning to a different field of activity (Porter, 2019).

Strategic Management: Strategic management is the management of a business focused on achieving its goals and objectives. It is very important for companies that the target is clear, understood, and assimilated by everyone (Ertuna, 2008).

Supply Chain Management: Supply chain management is the management of the flow of goods and services and includes all processes that transform raw materials into final products. It involves the active streamlining of a business's supply-side activities to maximize customer value and gain a competitive advantage in the marketplace (Fernando, 2022).

Supply Chain Vision: A vision statement is an inspirational statement of an idealistic emotional future of a company or group. Vision describes the basic human emotion that a founder intends to be experienced by the people the organization interacts with (Wikipedia, 2022).

Supply chain vision is creating a future statement by analyzing the current status of a company and placing a future status of the company in accordance with the company's goals in terms of business strategies and revival strategies.

SWOT: It is the shortened version of strength, weakness, and opportunities, threats. This is an analysis to determine the current status of a company in above mentioned four dimensions.

Supply Chain Strategy: Supply chain strategy is one of functional strategies among business strategies which targets to compete on innovation, customer experience, quality, and cost.

1.3. ABOUT ABC COMPANY IN WOOD BASED PANEL INDUSTRY SECTOR

The wood-based panel industry sector has a significant importance which contributes a great deal to the country’s foreign trade. Most of the import in the sector is being done by the USA, and most exported products are shipped out from China.

ABC company was founded in 1960s and takes place in wood-based panel industry sector. The company’s grading is 7th in the world and 4th in Europe in addition to being the leader of the sector in Turkey. It has about 200 suppliers, 600 customers, both internal and external, and exports to more than 100 countries around the world. ABC company uses all transportation modes for logistics operations.

1.4. THE SWOT ANALYSIS OF ABC COMPANY AND SUPPLY CHAIN PROCESS

This analysis has been done with the managers of the company and with two academics. Firstly, the company’s SWOT analysis has been done afterwards the company’s supply chain SWOT analysis has been done.

Table 1. The ABC company SWOT analysis dated 2021

Strengths	Weaknesses
World class, environmentally friendly, healthier, competitive, rich product range with color and pattern, and strong brand awareness.	The process of protecting technological developments with patents (difficulties experienced in the process of protecting the innovations made in some products with patents such as parquet).
Ability to respond quickly and effectively to customer demand, thanks to the integration of distribution networks and between production facilities in different countries.	Very low profit margins due to the fact that products are commodities.
Owing modern and high-capacity production facilities and the ability to reach minimum costs with economies of scale.	The high owning of logistics in total costs
Having experienced employees in the sector.	Low corporate perception as an employer brand.
Having a competent knowledge (know-how) from past to present (production, investment, sales, marketing, supply chain, product development, etc.)	Insufficient level of innovative approach in company culture
Operational excellence and agility have an important place in company culture.	The necessity of being close to the market and having raw materials in order to compete.
Having a superior computing infrastructure in all processes.	Competition in finding and retaining qualified workforce.

Managing the supply chain with the understanding of “integrated business planning.”	Transportation problems encountered during the transportation of the products, unsuitability of the products for transportation and handling.
Opportunities	Threats
The need for new housing in Turkey and the need to renovate the existing houses	Changes in political environment and laws in the invested countries
Increased demand for product due to increasing welfare in the world.	Uncertainties in global and local economies
Strengthening sustainable forest management (expansion of industrial plantation practices) in the world.	Capacity increase of domestic producers above the demand
An product alternative to replace the composite panel does not currently exist and does not appear in the near future as economically.	The price of wood, which is the main raw material used in production of the company, is twice more expensive in Turkey than in Europe, and 3-4 times more expensive than in America, Ukraine, and Russia.
Rapid expansion of composite panel recycling (particleboard)	The risk of elimination of our facilities that cannot renew their technology and reduce costs with increasing intense competition.
Reflection of increased furniture demand on sales in epidemic diseases (Covid 19, 2020)	Insufficient raw materials resources (wood)
	Low customer loyalty due to intense competition in the industry.

Table 2: The supply chain process SWOT analysis of ABC company dated 2021

Strengths	Weaknesses
Ability to respond quickly and effectively to customer demand, thanks to the integration of distribution networks and between production facilities in different countries.	High logistics costs due to the fact that the products are cheap and heavy in size.
Having high level of qualified manpower in the supply chain.	Insufficient domestic raw material resources, therefore, the high import rate of products and the increase in costs
Presence of facilities close to raw materials and consumption points	Insufficient forest resources (wood raw material)
Achieving competitive prices in purchasing logistics services due to the very high production and sales volume	The products are not suitable for transportation and handling.
Very effective use of WM module in Warehouse Management	Low accuracy in demand planning.
Managing supply chain planning with integrated business planning approach.	There are several SKUs in reality in company.
Use of company ship for woodchips shipments	Insufficient warehouses.

Having AEO certificate	RFID technology is not applicable to the finished products warehouse of the company.
	Presence of very strict transport cooperatives in certain locations.
Opportunities	Threats
Increased export opportunities due to fluctuations in foreign exchange	Geopolitical risks
Blockchain practices in supply chain management	Rising energy costs
Reflection of furniture demand on sales in epidemic diseases (Covid 19, 2020)	Reflection of factors such as equipment imbalance in import and export, post densities and border gate densities on logistics operations during epidemic diseases.

1.5. THE SUPPLY CHAIN VISION AND MISSION OF ABC COMPANY

The vision and mission of supply chain of ABC company has been determined by the company’s high-level managers and two academics.

Supply chain vision: To have a digitalized autonomous structure integrated with customer and suppliers under a global roof.

Supply chain mission: To ensure supply and demand stability.

Based on the vision statement, it was determined that ABC company should transform into a digital supply chain. According to mission statement, ABC company should balance the supply and demand in production.

1.6. DETERMINED STRATEGIES OF THE ABC COMPANY

The process above has been examined with managers and academics, and the strategies below have been determined and should be practiced by the company.

Table 3: The Supply Chain Strategies of the company

Digitalization of transport management systems
Digitalization of IBP system
Managing supply chain performance more effectively
Focus on customer experience in supply chain management
Integrating organizational structure in supply chain management
The digitalization of supply chain management system
Developing innovative approach in supply chain management
Developing Human Resources in supply chain management
Increasing institutionalism in supply chain management
Adopting inventory management system

1.7. THE APPLICATION OF STRATEGIES

- 1. Digitalization of transport management system:** ABC established a working committee included in the action plan in the last quarter of 2019. This team included employees from the Foreign Trade Group Management and the Supply Chain Logistics Group Management. This team met with a few companies under the leadership of logistics manager, asked for conceptual studies to be carried out, and collected prices from consultancy firms. A decision was made with a company in the first quarter of 2020, and the current situation and future situation analysis, import, logistics, and export processes were evaluated by the company officials and the steering committee. Tables, process flow charts, and diagrams were created. The positions of the project stakeholders (shipper, lashing operator, customs officer, insurer, etc.) were determined. These processes were transferred to the digital environment, and screen tests were made. This platform is planned as an external portal, but it is aimed to be integrated with ABC company's ERP based software. At the same time, it is aimed to work in integration with the “Devrim” program, which is the customs system. The healthy progress of the target workflows, the increase in the accuracy of the reporting as a result of obtaining the data clearly, and the increase of traceability are ensured. Analysis studies lasted about 1 year. It is aimed that the relevant platform will go live until the first quarter of 2022.
- 2. Digitalization of IBP systems:** Before integrating advanced planning techniques, all planning stages in ABC business are demand planning, supply network planning, production planning, detailed scheduling, and G-ATP (global available to promise). Processes were either completely manual or did not exist at all. In 2014, Supply chain team sought to get consultancy service in ABC. It has been understood that the planning should be digital as a result of this consultancy service and meanwhile the supply chain team should be managed under a directorate. The enterprise launched the demand planning module for the first time in the first quarter of 2018. Towards the end of 2018, it launched production planning (PP), supply network planning (SNP), and detailed programming (DS). At the end of 2019 and in the first quarter of 2020, G-ATP was commissioned. By the first quarter of 2022, it is aimed to integrate IBP processes in four subsidiaries abroad.

Before all these processes, planning was progressing with S&OP. Logistics, planning, sales, production, etc. department officials came together and tried to balance all planning, production, and sales activities as a result of certain negotiations. Planning in the enterprise is positioned according to ABC analysis in IBP processes.

3. **Managing supply chain performance more effectively:** The "performance" title of the SCOR model is primarily addressed in the studies. Among the metrics grouped at 3 levels, those that are suitable for the industry and those that can be measured in ERP will be filtered, and a list of appropriate metrics will be created. The determined metrics will be constructed as a pyramid at 3 levels with the deduction method, and a deterministic relationship will be established between the metrics. The "Agility" performance title was excluded from these studies since the measurement practice could not be determined. It is planned to create an index from the determined metrics and follow up an inclusive index of the supply chain with the weighted scoring method. In this way, it will be possible to monitor the performance of the supply chain through an index by the senior management, and it is aimed to prevent the subjective evaluations of the supply chain.
4. **Focusing on customer experience in supply chain management:** It is an organizational change suggested to the business that the Customer Service Department within the Sales Department should be linked to the Supply Chain Department. In the Customer Services department, orders from customers are transmitted via e-mail and telephone. At this stage, employee competence is important. The people who provide the appropriate solution to the customer and ensure customer satisfaction are the employees of the customer service department. The company does not yet have a digital order processing platform. The implementation of this platform is suggested by this study. There is no platform like digital marketing and e-commerce site activities. It is suggested to carry out these studies and to establish an integrated platform where customers can examine the stocks of the products and enter their own orders, in short, to start a process such as an e-commerce site. In the digitalizing world, these e-marketing and e-commerce concepts are important. The importance of keeping up with this process in the information age has been emphasized once again with this study. Return processes are another process that customers have difficulty with. Quality, Logistics, Customer service departments should simultaneously manage the process effectively. At this stage, it is suggested to introduce a structuring just like in e-commerce websites.
5. **Integrating organizational structure in supply chain management:** Under this heading, action will be taken while establishing the Global Supply Chain Management framework. It is still at the conceptual stage.
6. **Digitalization of supply chain management system:** With this study, it has been proposed to ABC company to establish a Supply Chain Control Tower for effective management of supply chain processes, ensuring traceability, visibility, operational excellence, and digitization. The company must implement this process. For this study, primarily the digitization strategies of transportation management processes and IBP processes should be implemented. Subsequently, it was suggested that the enterprise

should activate the Control Tower management process with the outputs obtained at the end of these processes.

7. **Developing innovative approach in supply chain management:** Consultancy proposals were collected, and the scope was determined in order for the Supply Chain Development and Subsidiaries Group Management to evolve towards a center of excellence. Different software related to the idea platform was purchased.
8. **Developing Human Resources in supply chain management:** Business studies related to career projection are still in the idea stage. However, a rotation study was carried out. The request for orientation from the employees have been gathered. The supply chain school, on the other hand, had its first graduates in the last quarter of 2019. The second term was held in the last quarter of 2020. During this period, a total of 14 courses related to supply chain management processes were taught. It took 4 months in total. At the beginning of the second quarter of 2021, the second exam was held, and the employees have graduated.
9. **Increasing institutionalism in supply chain management:** This is under conceptual process.
10. **Adopting inventory management system:** the first goal is effectively using WMS system and secondly adopting the RFID system to the process.

1.8. CONCLUSION

In this study a company's supply chain current process has been analyzed by the help of SWOT analysis. Afterwards the vision and mission statements have been determined by the help of managers' and academics' ideas. After supply chain strategies have been determined, the practice of these strategies in the company have been observed. These strategies should be adopted in five years period in the future to achieve the vision statement. Digitalization is the most important criteria during this process since the world is digitalizing day by day.

We have chosen a company since literature review during this study showed that there is no such paper published previously. In addition, companies in the world have difficulties to adopt the supply chain strategies to their process since the dynamic environment in supply chain management and additionally companies supply chain leads are not attending management level meetings about cost reduction topics so far. So, that is the reason for analysing a company's supply chain process in order to adopt the strategies.

For future studies, a sectoral study can be carried out or recent development in supply chain like logistics 4.0 may adopt to the strategy formulating process.

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