

THE IMPACT OF LOGISTICS PERFORMANCE ON THE PREFERENCE OF CARGO COMPANIES – AN EMPIRICAL STUDY ON UNIVERSITY STUDENTS¹

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Makale İlk Gönderim Tarihi / Recieved (First): 12.11.2024

Makale Kabul Tarihi / Accepted: 23.12.2024

Citation / Atıf: Kafadar, O., and Bayat, T. (2024). The impact of logistics performance on the preference of cargo companies – An empirical study on university students. *Scientific Journal of Innovation and Social Sciences Research*, 4(2), 96-116.

Abstract

Logistics performance of cargo companies in Türkiye are evaluated by university students and it is aimed to determine the most important factors and agents of complaint in preference of cargo companies. An online survey was used with a simple random sampling method. The sample consists of 200 associate and undergraduate university students. Frequency, multiple response, and correlation analysis methods were employed. There was no statistically significant relationship was found between the logistics performance of cargo companies and cargo company preferences in Türkiye. The three most important features of company preferences were determined as delivery time, delivery of the cargo intact and complete, and price, respectively. The three most important problems with cargo companies were found to be delays, high cargo fees, and non-delivery, respectively. The three cargo companies with the most satisfaction were Trendyol Express, Aras Cargo, and Yurtiçi Cargo. Participants considered logistics performance as a criterion in their cargo companies' preferences, and either all companies showed similar performance or they cared more about the purchasing conditions of the delivered product than they accepted the cargo company with which the product was sent. Cargo companies direct their primary marketing efforts to sellers rather than consumers. The reasons why the participants chose cargo companies and the problems they experienced are also parallel.

Keywords: Logistics, Logistics performance, Cargo companies, Consumer purchasing decisions.

LOJİSTİK PERFORMANSIN KARGO FİRMASI TERCİHİ ÜZERİNE ETKİSİ - ÜNİVERSİTE ÖĞRENCİLERİ ÜZERİNE BİR ARAŞTIRMA

Özet

Çalışmada Türkiye'deki kargo işletmelerinin lojistik performansları üniversite öğrencileri tarafından değerlendirilmekte, bu kapsamda kargo işletmelerinin tercih edilmesinde en önemli faktörler ve şikâyet unsurlarının belirlenmesi amaçlanmaktadır. Çalışma, basit tesadüfî örnekleme yöntemiyle online (çevrimiçi) anket ile gerçekleştirilmektedir. Araştırmanın örneklemi toplam 200 ön lisans ve lisans düzeyinde üniversite öğrencisinden oluşmaktadır. Verilerin analizinde frekans, çoklu yanıt ve korelasyon analiz yöntemleri kullanılmıştır. Bulgulara göre, Türkiye'deki kargo firmalarının lojistik performansı ile kargo firması tercihleri arasında istatistiksel olarak anlamlı bir ilişki bulunamamıştır. Katılımcıların kargo firması tercihlerinde en önemli üç özellik sırasıyla teslimat süresi, kargonun sağlam ve eksiksiz teslim edilmesi ve fiyat olarak belirlenmiştir. Kargo firmaları ile yaşanan en önemli üç sorun sırasıyla gecikme, kargo ücretlerinin yüksekliği ve teslim edilememesi olarak bulunmuştur. Hizmetinden en fazla memnun kalınan üç kargo işletmesi sırasıyla Trendyol Express, Aras Kargo ve Yurtiçi Kargo olmuştur. Katılımcıların kargo işletmesi tercihlerinde lojistik performansı bir kriter olarak ele aldıkları, bu kapsamda ya bütün firmaların birbirine yakın performans gösterdikleri ya da teslim edilen ürünün satın alma koşullarını daha çok

¹ This article was developed from the paper presented at the 13th National Congress of Logistics and Supply Chain held in Afyonkarahisar, Turkey, on 16-18 May 2024.

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önemsedikleri düşünülmektedir. Bu nedenle ürün hangi kargo firması ile gönderiliyorsa o firmayı kabul ettikleri söylenebilir. Bu duruma göre de kargo işletmelerinin öncelikli pazarlama çabalarını tüketicilerden ziyade satıcı firmalara yönlendirmeleri tavsiye edilebilir. Katılımcıların kargo işletmesini tercih nedenleri ile yaşadıkları sorunlar paralellik göstermektedir.

Anahtar Kelimeler: Lojistik, Lojistik performans, Kargo işletmeleri, Tüketici satın alma kararları

1. Introduction

Trade is a phenomenon that has shaped individual and social life and guided the economy since the existence of humanity. The concept of logistics emerged with the existence and development of trade and has become a concept frequently emphasized by researchers as of the 20th century (Yaman & Erdoğan, 2019). Logistics is a system consisting of processes that include the planning, coordination, execution, and control of the physical flow and storage of goods, services, and information from the point of origin/production to the point of destination/consumption to meet customer demands and needs, and is an important part of the supply chain (Waters, 2021; Council of Supply Chain Management Professionals [CSCMP], 2018; Bilginer et al., 2008: 2). In this context, logistics is defined as the entirety of activities carried out to bring the right product to the right place, in the right quantity, at the right time, under the right conditions and at the right cost, without damage (Shapiro & Heskett, 1985: 6; Kotler and Armstrong, 2004: 419; Kotler et al., 2023: 383).

Today, cargo companies carry out transportation activities, which refer to the transportation of products from the production/initial point to the other consumption/destination point. In this context, the importance of cargo companies in logistics is increasing day by day. Cargo companies are always confronted with customers in the process from the receipt of the product at the initial point to the delivery of the product to the final point. Customers are evaluated according to the level of satisfaction they receive from the service provided by cargo or logistics companies, and not based on a single criterion but on different criteria. This evaluation is actually an evaluation of the effectiveness and efficiency of logistics activities.

Türkiye is accelerating its activities in the logistics and transport sector to make the best use of the advantages of its geographical location and to penetrate the export of goods and foreign trade within the scope of international trade. According to 2023 data, the logistics and transportation sector in Türkiye ranked 11th in the world by receiving a 2.5% share (100 billion dollars) from the global logistics market (Ministry of Commerce of the Republic of Türkiye, 2024). It has also been stated that the share of the logistics sector in Türkiye's total service exports has reached 40% (Dünya Newspaper, 2024). It is foreseen that the logistics sector in Türkiye will get even better in the near future. It is thought that this will be achieved through both the increase in the performance of logistics enterprises at the national level and the improvements in the logistics facilities of the country.

The Logistics Performance Index (LPI), which allows countries to see their place in the logistics field at the international level in comparison with other countries, is published by the World Bank. According

to the most recently published LPI-2023, Türkiye has been on the rise in recent years, although its ranking has varied over the years (World Bank, 2023).

Table 1. Logistics Performance Index Scores of Türkiye by Years

Year	LPI Score	LPI Ranking	Customs	Infrastructure	International Shipments	Logistics Competence and Quality	Timeliness	Tracking and Tracing
2023	3.40	38	3.00	3.40	3.40	3.50	3.60	3.50
2018	3.15	47	2.71	3.21	3.06	3.05	3.63	3.23
2016	3.42	34	3.18	3.49	3.41	3.31	3.75	3.39
2014	3.50	30	3.23	3.53	3.18	3.64	3.68	3.77
2012	3.51	27	3.16	3.62	3.38	3.52	3.87	3.54
2010	3.22	39	2.82	3.08	3.15	3.23	3.94	3.09
2007	3.15	34	3.00	2.94	3.07	3.29	3.38	3.27

Source: World Bank (2023) Logistics Performance Index

Table 1 shows Türkiye's LPI scores over the years. While it was in 47th place with 3.15 points in 2018, it rose to 38th place with 3.4 points in 2023. LPI provides comparative information on the current logistics activities in the country. In this index, where the logistics sector is evaluated, the main factor that increases the country's score is the components of the logistics sector. Cargo transport is one of the main components of the logistics sector. In this context, it can be said that the enterprises operating in the field of logistics in Türkiye have become more competent and efficient.

Table 2. Comparison of Türkiye's LPI-2023 Performance with LPI-2018

Year	LPI Score	LPI Ranking	Customs	Infrastructure	International Shipments	Logistics Competence and Quality	Timeliness	Tracking and Tracing
2023	3.40	38	3.00	3.40	3.40	3.50	3.60	3.50
2018	3.15	47	2.71	3.21	3.06	3.05	3.63	3.23
2023-2018 Difference (Points)	0.25	9	0.29	0.19	0.34	0.45	-0.03	0.27
2023-2018 Difference (%)	8%	19%	11%	6%	11%	15%	-1%	8%

Source: Edited by the authors.

Table 2 shows the comparison of Türkiye in LPI-2023 with LPI-2018 in terms of sub-criteria. It is seen that Türkiye reached 3.4 points with a comparative increase of 0.25 points (8%) in general logistics performance and rose 9 places to 38th place. When evaluated in terms of sub-criteria, it is seen that the highest increase was experienced in logistics competence and quality criteria with 0.45 points (15%). It can be said that this increase is due to the widespread education in the field of logistics management. However, the only decrease was seen in the "timeliness" criterion with 0.03 points (-1%). The main motivation of the study is to investigate the reasons for the decrease in this criterion. The main responsibility in correcting this situation falls on logistics and cargo companies.

Freight transportation, one of the dominant activities of logistics, makes significant contributions to the sustainability and development of the economy (Pfoser et al., 2022). On the other hand, the existence and efficiency of transportation modes are very important for the development of international trade (Erturgut, 2023). To get information about the logistics sector in Türkiye, it is possible to look at the data on freight transported in transport modes, which are the most important components of the sector,

and the types of transport used in foreign trade. In terms of domestic freight transportation rates, the highest transportation rate is by road with approximately 90% (Ministry of Transport and Infrastructure, 2023). The essential elements of domestic freight transportation are cargo companies. Cargo companies make significant contributions to the economy in Türkiye with road transportation. Especially with the pandemic period, the increase in e-commerce has made the role of cargo companies important. In addition, e-commerce transactions are increasing every year. For example, in Türkiye, e-commerce volume increased by approximately 115% in 2023 compared to the previous year (Ministry of Commerce of the Republic of Türkiye, 2024: 18). It is seen that the cargo companies market is also a dynamic sector. When the distribution of the number of parcel/cargo shipments is analyzed, it is seen that the cargo companies with the highest number of shipments between 2019-2022 change from year to year. In fact, it is seen that different cargo companies are leaders in the market in terms of cargo shipments in the 2021, 2022-1, and 2022-2, 2023-1 periods (Information Technologies and Communication Authority, 2023: 18). This situation shows that cargo companies can change their market share with the right strategic and tactical moves.

The continuous increase in freight volumes due to economic growth in Türkiye encourages companies worldwide to establish closer links with logistics organizations in Türkiye (Yurdakul, 2020; The Investment Office of the Presidency of the Republic of Türkiye, 2024). This trend necessitates research on the preferences of customers of organizations operating in the transportation and logistics sector. To sustain this worldwide trend and to provide more insights into the cargo industry in particular, the focus is being placed on university students, who constitute a significant portion of cargo demand. In this context, the study focuses on the leading cargo companies operating throughout Türkiye. Firstly, the relationship between the logistics service performance offered to customers by the relevant companies and company preference is examined. Afterward, the problems experienced with cargo companies and the factors that are effective in cargo company preference are discussed. Finally, cargo companies are ranked according to customer satisfaction.

This study provides a road map for businesses operating in the transport and logistics sector in Türkiye, companies, and customers who want to understand the logistics market and enter this market. From this point of view, to contribute to the literature with up-to-date data, it is aimed to determine the effect of the logistics performance of cargo companies in Türkiye on consumers' cargo company preferences in online shopping through university students. In addition, it tries to reveal the problems that the consumers experience with the cargo companies and the factors that are effective in the cargo company preferences. In doing so, the study contributes to the literature in the following points.

- (i) There is no statistically significant relationship between the logistics performance of the cargo companies and the company preferences of the customers in online shopping, it is thought that the main reason for this is that all companies perform close to each other or that they care more about the purchasing conditions of the delivered product.

- (ii) The three most important problems experienced by customers with cargo companies were found to be delay, high shipping costs, and non-delivery, respectively.
- (iii) The three most effective features in customers' cargo company preferences were determined as delivery time, delivery of the cargo intact and complete, and price, respectively.
- (iv) It has been determined that the three cargo companies that are most satisfied with the services of the leading cargo companies in Türkiye are Trendyol Express, Aras Cargo, and Yurtiçi Cargo, respectively.

The study consists of four sections including the introduction. The second section includes the theoretical background of the study, literature, and hypothesis development. The third section explains the methodology. The conclusion, discussion, and recommendations are included in the fourth section.

2. Theoretical Background and Hypothesis Development

In the historical development of marketing thought, approaches that will prioritize customer satisfaction are not seen in every period. The prevailing marketing approach focuses on the requests and needs of the consumer nowadays. First of all, requirements are determined and production is carried out according to them. Thus, profitability is ensured through customer loyalty and satisfaction. At the same time, the welfare of people is also taken into account (Dibb and Simkin, 2013: 23). Peter Drucker argues that if today's modern marketing approach had been adopted by businesses, consumerism movements would not have emerged. In this respect, consumerism movements stem from the failure of the marketing approach (Tokol, 1995: 5). Today's modern marketing concept that prioritizes the consumer can be provided by the power of consumers from purchasing/consumption. Companies have to satisfy their customers to be more profitable and make more sales. On the other hand, there have also been periods from past to present when consumer preferences have not been important. For example, Henry Ford's slogan "You can buy any color car you want from me as long as the color of the car you want is black" characterizes the Fordist production approach in the early 20th century (Koç, 2013: 74). If the cargo companies offer to customers during online shopping affects the purchase of that product, cargo companies will focus more on their logistics performance in the eyes of consumers. In the opposite case, it will be sufficient to keep their performance for consumers at an acceptable level. In this case, the effect of the cargo company' offered to consumers on the consumer's purchasing decision will determine the logistics performance of cargo companies in terms of consumers (Tien et.al., 2019: 6).

In the e-commerce market, the demand for cargo companies is a derivative demand of online shopping. In other words, the consumer selects the product from one of the e-commerce companies, and the product is delivered to the customer according to the shipping conditions of the e-commerce company. During this delivery, the delivery is made with one of the cargo/logistics companies that the e-commerce company has an agreement with. This situation creates a special situation regarding who the cargo companies' customers are. As it is known, the concept of the seven rights of logistics is to offer the right

product to the right customer at the right place and time, in the right quantity and quality, and at the right cost/price (Miler & Pac, 2015: 93). Is the customer of cargo companies' e-commerce companies or an individual or commercial customer who purchases the product from the e-commerce company? If it is an e-commerce company, the low cost can be prioritized provided that the other rights are at a reasonable level. If the customer shopping from the e-commerce company is the customer of the cargo company, the preference of this customer/customers can be adopted as the main reason for preference, while the other conditions are optimal and the quality is at a higher level.

2.1. Logistics Performance

Today, the evaluation of the results of planned and purposeful activities carried out by individuals, groups or institutions, and even countries are becoming more crucial every day. Because the goals or values achieved as a result of the evaluations made constitute the basis for the activities planned to be carried out in the future. In this context, performance, which is the Turkish equivalent of "business success", is a basic scale that shows the extent to which the desired goal or goals are approached or to what extent they are successful (Türk Dil Kurumu [TDK], n.d.). Performance, which is also an indicator of whether the activities are managed effectively, is important both at the business level and for countries competing globally. For this reason, both business management and policymakers of countries should make decisions, especially at the strategic level, by taking into account various financial and non-financial performance indicators. In this context, performance measurement, in addition to observing the performance of businesses or regions in the past periods, reveals the issues to be prioritized and also ensures the efficient use of resources.

Performance measurement is not only a matter of concern for managers or an internal matter of the business. Many groups such as business owners, potential investors, creditors, national or international sellers, suppliers, and customers are interested in the performance of the business in relation to the different decisions they will make. In particular, the performance of business operations is an indispensable basis for customer satisfaction, while the financial performance capacity reflects the level of the business's ability to maintain its internal profitability and competitiveness (Poluha, 2016: 62).

Logistics performance is seen as a subset of all business performances (Gleason & Barnum, 1982: 380). It is a measure that reflects the success and effectiveness of logistics activities. This performance refers to the quality and competence of logistics services and the timely delivery of products to the recipient (Bayraktutan & Özbilgin, 2015: 98). Sink et al. (1984: 284) examine logistics performance in seven dimensions: effectiveness, efficiency, quality, productivity, quality of work life, innovation, and profitability. While logistics agents are actively used in the delivery of products to consumers, targets are determined for logistics activities to improve these elements. Logistics performance is measured to understand whether these targets have been achieved. Logistics performance is important for consumers as much as it is for the manufacturer, seller/e-retailer, and cargo company. As a result, it is estimated

that consumers take into account the logistics performance of companies when making purchasing decisions (Arslan, 2019: 96). The effect of logistics performance on consumer decisions may yield different results in different sectors. In terms of online shopping, which has made great progress in recent years, it is seen as an important issue in how the logistics performance of cargo companies will affect consumer preferences. Therefore, the main hypothesis of the study was determined as "*H1: There is a statistically significant relationship between logistics performance of cargo companies and cargo company preferences in Türkiye.*"

2.2. Impact of Cargo Companies

In online shopping, customers tend not to distinguish between the roles of the purchasing platform and the cargo company in the purchasing process. For this reason, the retailer is held responsible for the mistakes of the cargo company. Within the scope of product reviews on the online platform, it is seen that there are positive and negative comments about delivery (Hepp, 2018: 26). In this respect, the last-mile delivery of cargo companies is the place where consumer relations are established or broken. (Cappgemini, 2016: 3). A delivery that succeeds in creating value for consumers provides retailers with increased sales opportunities. Moreover, delivery services are seen as an opportunity for retailers to offer additional benefits to customers (Hepp, 2018: 26). Developing delivery methods that suit consumers' lifestyles can mean more sales for online retailers. For example, approximately 70% of consumers believe that couriers should deliver on Sunday and almost 45% would order online if delivery services were improved (Lowe & Rigby, 2014: 10). It is seen that the delivery performance of the product in online shopping has a positive effect on ensuring customer satisfaction (Leuschner et al., 2012: 219; Cao et al., 2018: 400; Yıldız, 2020: 55; Yıldız, 2023: 83). In the studies conducted, a significant relationship was found between consumer behavior and logistic value, reliability, and economic cost factors (Duran, 2017: 109; Özyaydın et al., 2019: 86). As a result, improvements in logistics activities such as order taking, processing, supply, delivery of products to the customer, sales returns, customer service will affect the success of e-retailing (Holloway & Beatty, 2003; Kayabaşı, 2010; Fan et al., 2013).

2.3. Factors Affecting the Selection of a Cargo Company and Complaints Against Cargo Companies

The factors affecting the preference of cargo companies in the literature can be summarized as follows;

- Performance criteria such as competitive price, speed, safe delivery, service and convenience, and the ability to cope with unexpected situations (Chang et al., 2015: 480; Lin and Lee, 2009: 21-22).
- Continuous improvement in cost control, development of service procedures, improvement in the quality of service personnel, goodwill, and reputation (Chang et al., 2015: 480; Lin & Lee, 2009: 21-22). New services such as extensive distribution networks and systems, transportation

of different product groups or equipment, and providing satisfactory services to meet the needs of corporate customers (Li, 2002: 44-46).

- Door-to-door delivery, cargo loss, and damage liability, distribution methods, size of cargo, and meeting special service requirements (Min, 1998: 240).

As a result of the evaluation of customers' expectations and the resulting performance, customer dissatisfaction arises if these expectations are not met (Clark, 2013: 106). The expression of the behavior of customers to draw attention to this dissatisfaction is called “*complaint*” (Einwiller & Steilen, 2015: 196). A defect that may cause a customer to complain will cause a wider environment to hear/notice the current poor performance of the business (Heung & Lam, 2003). Customer complaints may arise to correct the current situation, to compensate for the mistake, to prevent the company from making the same mistake in the future, to let others know about the mistake, in short, to publicize the mistake made or for personal boycott (Day, 1980: 212; Singh, 1988: 95). The main complaints about cargo companies can be summarized as price, delivery time, belief that the cargo will be delivered intact and complete, the nearest cargo branch, the attitudes and behaviors of the employees, recommendations from the environment, convenience in shipment tracking processes, time spent in the shipment process, easy communication with the cargo company (Kayabaşı, 2010; Deniz & Gödekmerdan 2011; Gürce Yanar & Tosun, 2017; Çakmak & Özkan, 2017; Gulc, 2017; Kızılırmak, 2023).

Seo and Ahn (2019) analyzed the relationship between the factors of logistics service preferences of organizations in the supply chain in Shandong Province, China. The AHP (Analytical Hierarchy Process) method was used in the analysis of data collected by the survey method. According to the result of the analysis of the upper logistics service factors of the 3PL group, service level (0.60) was the most important service factor, followed by relationship (0.241), management (0.228), infrastructure (0.161) and finance (0.111). As a result of the general weight analysis by multiplying the weight of each sub-service factor with the upper service factor, customization and variety (0.136), convenience and economies of scale (0.134), reliability and timeliness (0.127), flexibility and responsiveness (0.111) were weighted in this order on the importance scale. Hui et al. (2023) collected data from 311 people in Malaysia through a survey to investigate the factors that affect customer satisfaction in e-commerce delivery services. As a result of the analysis made on the data obtained through the survey method, it was determined that variables such as price, reliability, assurance and empathy have a positive effect on customer satisfaction in e-commerce delivery services, while responsiveness has no effect. Assurance was found to be the strongest determinant of customer satisfaction.

Table 3 shows the factors and complaint issues affecting the cargo company preference of consumers/customers at different levels in Türkiye.

Table 3. Factors Affecting the Preference of Cargo Company and Complaint Topics

Research	Most Important Reason for Preference	Most Complained Issues
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Deniz and Gödekmerdan (2011)	Price, timely and fast delivery, and reliability of the company.	Delay, return of cargo, and extra payments
Gürce Yanar and Tosun (2017)		Fulfillment of the service on time, as promised, on-time delivery, providing good service.
Çakmak and Özkan (2017)	Complete delivery of the shipment, not opening or tampering with the shipment, delivery of the shipment to the specified address, and delivery of the shipment as received.	
Özgül, Börühan and Tek (2018)		Order phases, distribution, delivery, and management of returns.
Taşkın and Raçlı (2019)	Trust, wide distribution network, fast delivery, price.	
Burucuoğlu and Erdoğan Yazar (2020)		Delivery/distribution, business processes, communication, and personnel.
Deste and Savaşkan (2021)	Price, experience, number of branches, delivery time, number of staff, number of complaints, rate of resolved complaints, reputation.	
Kocabaş (2022)		Defective/broken product, unfair shipping charges, and refusal of return/exchange request
Çullu and Okursoy (2023)		The most common complaint was that the transport service was not provided on time; in terms of service quality dimensions, reliability, enthusiasm, trust, empathy were the most complained dimensions, respectively.
Kızılırmak (2023)		Non-delivery of the product, lost cargo and damaged package-product, on-time delivery, attitude and behavior of the branch employee, not answering the phone.

Employees of some businesses and organizations make customers feel as if they have no right to complain (Cook & Macaulay, 1997: 39). Some employees approach the issue reluctantly, making an easily solvable problem difficult (Carney, 1996: 21). However, by managing customer complaints with the right approach, customer loss is prevented, the customer is regained and the spread of negative comments about the company is prevented (Çakıcı & Güler, 2015: 222).

3. Methodology

In the study, survey research method, one of the quantitative research methods, was used. The survey method, which included all the statements in the scales used, was applied to 200 participants with the convenience sampling method. Afyon Kocatepe University students were preferred within the scope of the study. The reason for the preference of university students is that cargo companies use technology-based e-commerce applications, especially today and this young segment adapts to such applications more than other users and prefers them. In addition, it was thought that students coming from different cities might have intensive cargo transactions with their families after settling in Afyonkarahisar and it was estimated that university students have online shopping experience. For this reason, an online survey form was conducted online and face-to-face with Afyon Kocatepe University associate and undergraduate students.

3.1. Data, Population and Sample

The research was conducted with 104 associate degree and 96 undergraduate students studying at Afyon Kocatepe University, with a total of 200 participants, using the convenience sampling method. Convenience sampling is a non-random sampling method based on the researcher's judgment of the participants to be selected from the universe to collect data in the fastest, most economical, and easiest way (Zikmund, 1997: 428; Malhotra, 2004: 321; Aaker et al., 2007: 394). Determining the sample size is quite complicated and uncertain. In social sciences, it is considered ideal to have around three hundred to four hundred participants/respondents, and beneficial to have not less than one hundred (Aziz, 2013: 57; Karasar, 2017: 166). On the other hand, the sample size was created by taking into account the sampling error of ± 0.10 according to the sample size table prepared by Yazicioglu and Erdogan (2004: 49-50).

When the participants were evaluated, it was seen that 93 (46.5%) of the participants were male, 107 (53.5%) were female; 173 (86.5%) of the students were between the ages of 18-25, 25 (12.5%) were between the ages of 26-35. 2 (1%) students over the age of 35. Besides that, 14 (7%) of the participants were married and 186 (93%) were single in the survey.

3.2. Scales

In the study, 11 statements were taken from the 13-statement logistics performance scale prepared by Arslan (2019) to measure the logistics performance of cargo companies and adapted. To measure the effect on the preferences of cargo companies, 5 statements created by the researchers were used in terms of cargo company preferences in online shopping. Apart from these statements, the best cargo company, reasons for choosing a cargo company and the most common problems experienced with cargo companies were asked to the participants. Demographic questions were asked in the last section of the survey. The respondents evaluated the 16-statement scale according to the five-point Likert scale as “1 Strongly Disagree”, “5 Strongly Agree”.

SPSS statistical programme was used to test the hypothesis formed within the scope of the study. Correlation analysis was conducted for the H_1 hypothesis of the study. Correlation analysis measures the relationship between a dependent variable and one or more independent variables (Proctor, 2003: 282). This analysis determines the strength and direction of a linear relationship between two variables (Pallant, 2016: 144).

3.3. Findings

After the survey applied to two hundred participants, exploratory and confirmatory factor analyses were performed in the study. According to the analyze, sixteen statements were included in the study (Table 4).

Table 4. Scale Items and Factor Loadings

Scale Items	Factor Loadings
Performance Indicator of the Companies	

Cargo companies in Türkiye are clear about the speedy delivery of shipments.	.830
Cargo companies in Türkiye are sufficient in providing better service quality compared to the new and existing situation.	.824
The customer satisfaction rate of cargo companies in Türkiye is high.	.786
The customer retention success of cargo companies in Türkiye is high.	.773
The delivery speed of cargo companies in Türkiye is high.	.743
Cargo companies in Türkiye can overcome unexpected events.	.742
Cargo companies in Türkiye make undamaged product delivery.	.714
Cargo companies in Türkiye make timely and complete deliveries	.707
Cargo companies in Türkiye try to increase the added value of their services.	.695
Cargo companies in Türkiye respond quickly to customers.	.658
Cargo companies in Türkiye have a low rate of customer complaints.	.636

Selection of the Companies

If I am not satisfied with the cargo company when I shop online, I give a low score to my experience on the shopping platform.	.772
If I am not satisfied with the cargo company when I shop online, I write a negative comment on my shopping experience.	.758
If the company I am going to shop with sends the product with a cargo company that I do not like, I will give up my shopping.	.645
The cargo company with which the company I will shop will send the product is effective in my purchasing decisions.	.601
I usually prefer the same company for cargo shipments.	.535

In Table 4, the availability of the data for factor analysis is evaluated before the principal components analysis. According to the findings, the existence of many coefficients of the correlation matrix of 0.3 and above was determined. The KMO (Kaiser-MeyerOlkin) value is 0.88. This value can be interpreted as a perfectly reliable scale (Özdamar, 2017: 74). A statistically significant value of the Bartlett Test indicates that the data is available for factor analysis. In the analysis, the presence of two components with eigenvalues of 6.047 and 2.259, respectively, explains 51.92% of the total variance. “direct oblimin” rotation was preferred in order to contribute to the interpretation of the components. The average score given by the participants to the factors related to the logistics performance of cargo companies in Türkiye was 3.04 and the average score given to the factors related to the effect on cargo company preference was 3.52.

The relationship between the perceived logistics performance of cargo companies and cargo company preferences was examined through the Pearson product-moment correlation coefficient. The assumptions of normality, linearity, and homoscedasticity were checked with preliminary analyses. In the normality test, the Shapiro-Wilk significance value for the logistics performance of cargo companies scale meets the $p > .05$ condition. On the other hand, the Shapiro-Wilk significance value does not meet the $p > .05$ condition in terms of the cargo company preferences scale. However, the difficulty of meeting this condition in social sciences and the fact that many techniques are quite tolerant to the non-normal distribution of dependent variables and data have been taken into account (Pallant, 2016: 227). That said, researchers have also presented various indicators related to normal distribution. One of these indicators is related to the kurtosis skewness values. If the kurtosis skewness value is between ± 2.0 the data can be accepted as normally distributed (George & Mallery, 2016: 114). In terms of normal distribution, a sufficient sample size of 30 and above is accepted and violation of the normal distribution assumption does not cause any major problems as a result, if the sample size is 30 and above, it can be

accepted as a normal distribution (Pallant, 2016: 227; Saunders et al., 2016: 544; Field, 2018: 111-112). According to the analysis, it was seen that there was no statistically significant correlation between the two variables ($r=.061$, $n=200$, $p=.389$ and $p<.05$). According to these results, there is no statistically significant relationship between the logistics performance of the cargo companies and the cargo company preferences of the participants.

Besides that, when the same analysis is conducted separately for women and men, there is no statistically significant difference. An independent samples t-test was conducted to compare the logistic performance assessment scores of men and women. According to the results of the test, it was seen that there was no significant difference between the scores obtained from men ($M=34.04$, $SD= 9.37$) and women ($M= 33.69$, $SD= 7.75$); $t(198)= -.54$, $p= .59$). The magnitude of the differences between the means was found as; mean difference= $-.65$, 95% Confidence Interval: -3.04 to 1.74 and eta squared effect size= $.001$. According to the results of the independent samples t-test conducted to compare the scores of men and women regarding the choice of cargo company, there is no significant difference between the scores obtained from men ($M=17.54$, $sd= 4.13$) and women ($M=17.69$, $sd= 4.35$; $t(198)= -.26$, $p=.80$). The magnitude of the differences between the means was found as; mean difference= $-.15$, 95% confidence interval: -1.34 to 1.03 and eta squared effect size = $.000$.

In addition to correlation analysis, multiple response analysis was conducted to determine the most important features of the participants in their cargo company preferences. Participants were asked to indicate the three criteria they considered most important in choosing a cargo company. According to the analysis results in Table 5, the three most important criteria were seen as delivery time, belief that the cargo will be delivered safely and completely, and price, respectively.

Table 5. Features Effective in Cargo Company Preference

Feature	Number of Response	%
Delivery Lead Time	171	26.4
Faith that the cargo will be delivered intact and complete	132	20.4
Price	80	12.3
Easy communication with the cargo company	65	10.0
Ease in shipment tracking processes	61	9.4
The nearest cargo branch	41	6.3
Attitude and behavior of employees	40	6.2
Time spent in the shipping process	36	5.6
Advice from the environment	22	3.4
Total	648	100

A frequency analysis was conducted to determine the most important problems experienced by the participants with cargo companies. According to the analysis results in Table 6, the three most important problems experienced by cargo companies were found to be delivery time and delay, high cargo fee,

and failure to deliver the cargo (not being found at the address, delivery to the wrong address), respectively.

Table 6. Problems with Cargo Companies

Feature	Number of Response	%
Delivery time and delay	82	41.0
High shipping costs	44	22.0
Failure to deliver the cargo (not found at the address, delivery to the wrong address)	23	11.5
Failure to track the shipment over the Internet or failure to update the tracking information	18	9.0
Customer service	11	5.5
Damaged product delivery	9	4.5
Loss of the product	7	3.5
Courier behavior	6	3.0
Total	200	100

Table 7 shows the ranking of cargo companies that are thought to provide the best service. According to the participants, the three cargo companies that are thought to provide the best service are Trendyol Express (23.5% - 27 people), Aras Cargo (20.9% - 24 people) and Yurtiçi Cargo (18.3% - 21 people), respectively.

Table 7. Cargo Companies Providing the Best Service According to Participants

Cargo Company	Number of Response	%
Trendyol Express	46	23
Aras Cargo	46	23
Yurtiçi Cargo	36	18
Sürat Cargo	25	12.5
MNG Cargo	17	8.5
Others	30	15
Total	200	100

4. Conclusion and Discussion

Cargo transport is a sub-component of the transport and logistics sector in Türkiye and performs basic logistics and transport services such as loading, unloading, storage, consolidation, stacking, transfer, and delivery to the sender to deliver the cargo from the sender to the recipient in a short time, and also undertakes the responsibility arising from these activities. Achieving customer satisfaction today, where competition is intense and fierce, has an important place in the success of the cargo sector both at national and international levels. In this context, determining the elements related to customer satisfaction such as how the services provided by cargo companies are perceived by their customers and understanding where, when, and how service improvements will be made are extremely important for

companies operating in the cargo sector (Deniz & Gödekmerdan, 2011; Büyükkelik et al., 2014; Akbulut, 2016; Songur, 2016; Songur & Büyükkelik, 2016; Gürce Yanar & Tosun, 2017; Alp et al., 2019). For these reasons, the main purpose of the study is to investigate the relationship between the logistics performance of cargo companies and cargo company preference.

Accordingly, the first finding of the research is that no statistically significant relationship was found between the logistics performance of cargo companies and cargo company preferences. Besides that, an independent samples t-test was conducted to compare the logistics performance evaluation scores of men and women in cargo companies, and no statistically significant difference was found according to the results. In surveys, respondents are generally expected to answer in the direction of social desirability (Kalburan et al., 2021: 6). Even if the respondent's behavior is different in reality, it can be expected that he/she will respond that he/she wants the entire tangible product and enriched product package to be perfect when choosing a product during the purchasing decision process. For example, if there is no physical shopping in question, it can be expected that a higher rate of respondents would agree with the statement "If the company I will shop with sends the product with a cargo company that I do not like, I will give up my shopping". When the research design was prepared, the researchers expected that hypothesis H₁ would be accepted. In this respect, it is useful to reflect on the result. It is estimated that there may be two main reasons behind this result. For the participants, it is thought that the expected performance of the cargo companies is more or less at the same level, so it does not matter which cargo company the products to be sent to them will be sent with. The latter possibility is that the participants value other purchasing conditions such as the price of the product, its features, payment options, and comments about the store where the product is purchased more than the cargo company that will deliver the product in online shopping. They may not care which cargo company it comes with, if the purchase conditions of the product are favorable. Based on this finding, it can be recommended that cargo companies should direct their primary marketing efforts to vendors rather than consumers. It seems to be a more appropriate strategy for cargo companies to deliver their shipments to their customers with a service quality at least as good as their competitors and to meet the expectations of the main vendors in the best way possible. Yıldız (2020: 55) concluded that e-commerce logistics service quality positively affects trust and satisfaction, but there is no significant relationship between them and customer loyalty. In Yıldız's (2020) study, the lack of a relationship between service quality of cargo companies and customer loyalty is similar to the results of this study. However, e-retailers need an effective logistics system to ensure customer loyalty (Özgül et al., 2018: 633). Since the performance of cargo companies is a part of the performance of e-retailers and the two performances are holistically evaluated together by customers (Hepp, 2018: 26), cargo companies must improve their performance to create customer satisfaction in any case. However, firstly, what e-retailers want should be determined correctly. It is seen that cargo companies are currently working to improve their service quality. For example; instant online

tracking of cargo, estimated product delivery times, dog-looking robot cargo systems, autonomous cargo transport systems, drone and contactless delivery systems, etc. (Aydın, 2024).

Another finding is that the three most important criteria in the participants' cargo company preferences are delivery time, belief that the cargo will be delivered intact and complete, and price. On the other hand, the three most important problems experienced by cargo companies were found to be delivery time and delay, high cargo fee, and failure to deliver the cargo (not being at the address, delivery to the wrong address). When these two findings are evaluated together, there is a parallelism between the reasons for the participants' preference for the cargo business and the problems they experience. In other words, in line with the findings, cargo companies will become the preferred company if they solve the problems of their customers. According to the findings of Deniz and Gödekmerdan (2011: 394), the most important factors when choosing a cargo company were found to be price, timely and fast delivery, and reliability of the company. The problems encountered in cargo delivery were found as delays, return of the cargo, and extra payments (Deniz & Gödekmerdan, 2011: 390). In this study, the most important problem that the participants experienced with cargo companies was found to be "delivery time and delay". This result is similar to the studies of Deniz and Gödekmerdan (2011), Gürce Yanar and Tosun (2017), Çullu and Okursoy (2023). This result also shows that Türkiye's low "*timeliness*" criterion in international LPI is also perceived as a problem by domestic customers. According to this situation, it shows that policy makers and researchers should endeavor to improve this criterion.

Online shopping sites such as Trendyol and Hepsiburada may have resorted to establishing their own distribution organizations instead of outsourcing due to predictable reasons such as increased control and increased efficiency (speeding up delivery times, reducing costs, better customer experience, data collection and analysis), and standing out in competition, as well as perhaps due to the inability of cargo companies to solve these problems. It should be noted that cargo companies also make efforts to solve customer complaints. For example, in response to a complaint from a customer at home that the shipment could not be delivered because the customer could not be found at the address (Şikayetvar.com, 2024), solutions have been produced such as proving that the courier has arrived at the address through tracking systems and establishing systems that prevent the customer's phone from being seen outside the main terminal to prevent the courier who arrives at the home from communicating with the customer by phone after delivery. On the other hand, cargo companies mainly operate in the service sector. E. Jerome McCarthy conceptualized the marketing mix concept (product, price, distribution, promotion) as 4P, and by adding new P's to the marketing mix in terms of the service sector, the concept of service marketing has transformed into 7P with people, physical facilities/evidence and transaction/process management (Magrath, 1986: 44). In these examples, the innovations and problem-solving methods mentioned by cargo companies are generally in the form of making improvements in processes through technological developments. Considering the complaints made about cargo companies, it may be advisable to make improvements in the human mix, especially in the couriers who carry out the distribution in the last

mile. In this context, the employment of graduates in logistics departments and improvement in wages can improve human resources. In addition, measures such as designing a more formal uniform with a tie for employees who deliver cargo to the customer provided that they are comfortable, and paying attention to the appearance of employees can also improve physical evidence. On the other hand, these recommendations will be negatively received by the customer as they will increase the costs of both the sender and the receiver. For this reason, at least the existing staff can be trained. In addition, the motivation of successful employees can be increased with rewards and incentives.

4.1. Limitations and Future Research Directions

The main limitations of the study are; the research was determined with the convenience sampling method due to time and cost constraints and was conducted on university students. The number of participants in the survey consisted of 200 people and the regional scope of the survey was limited to Afyon Kocatepe University. Although primary data is obtained through the survey method, the scope is narrowed down because obstacles such as time, sampling, transportation and cost may arise (Özkan & Kaya, 2015). In addition, there may be problems originating from the participant, such as the participant not cooperating with the interviewer regarding answering the survey, avoiding questions about his/her personality, and the participant not being competent to answer the questions (Tokol, 2010: 45). The preference of convenience sampling among the sampling methods weakens the ability of the participants to represent the research population (Churchill, 1991: 539; Malhotra, 2004: 321; Nakip, 2006: 204; Gegez, 2010: 217). Therefore, the results of this research should be seen only as information from the participants of the survey.

In order to obtain much more accurate results, it is necessary to have a larger pool of participants. Therefore, it is recommended that future studies be conducted in more universities with a larger sample. In addition, in order to obtain better and more comprehensive results, studies can be conducted with consumer groups other than university students to see whether there is a significant relationship between the service performance of cargo companies in Türkiye and the preferences of the relevant groups. In addition, the findings obtained from studies on different consumer groups can be compared.

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