

Impact of Logistics Activities on The Intention to Re-Purchase from E-Commerce Perspective

E-Ticaret Perspektifinden Lojistik Faaliyetlerin Tekrar Satın Alma Niyetine Etkisi

Abstract

The increasingly competitive nature of globalization has directly affected the production and promotion processes of businesses. In the light of these developments, the commercial activities of the businesses have faced with the concept of 'E-Commerce'. Logistics activities become the most important factor in this method developed by businesses to increase customer satisfaction. Logistic activities help to reduce the costs of businesses and ensure that products are delivered to customers in a quick and reliable manner. In the same time, logistics activities are also directly related to customers' repurchase intentions. In this study, 159 students who have attended the E-Commerce course in Istanbul Gelisim University have participated in the survey on re-purchase perception in January, February and March and the data was analyzed and interpreted by SPSS program. The aim of the research is to determine the role of logistics activities in e-commerce and to measure customer satisfaction. According to the important findings of our research, it was examined that the choice of cargo, the ease of payment, the right product delivery and the sufficient customer service had a direct impact on the customer's intention to repurchase.

Öz

Küreselleşmenin etkisi ile giderek artış gösteren rekabet olgusu, işletmelerin üretim ve tutundurma süreçlerini doğrudan etkilemiş bulunmaktadır. Yaşanan bu gelişmeler ışığında işletmelerin ticari faaliyetlerine 'E-Ticaret' kavramını kazandırmıştır. İşletmelerin müşteri memnuniyetini artırmak için geliştirdikleri bu yöntemde en önemli unsur lojistik faaliyetler olmaktadır. Lojistik faaliyetler, işletmelerin maliyetlerini azaltmaya yardım ederek, ürünlerin hızlı ve güvenilir bir şekilde müşterilere ulaştırılmasını sağlamaktadır. Aynı zamanda lojistik faaliyetler, müşterilerin tekrar satın alma niyetleri ile de doğrudan ilişkilidir. Bu çalışmada İstanbul Gelişim Üniversitesi E-ticaret dersi alan 159 öğrenci Ocak, Şubat ve Mart aylarında anket yoluyla tekrar satın alma algısı ölçülerek, SPSS programı aracılığıyla veriler analiz edilmiş ve yorumlanmıştır. Araştırmanın amacı, e-ticarette lojistik faaliyetlerin rolünü belirlemek ve müşteri tatminini ölçümlemeye çalışmaktır. Araştırmamızda elde ettiğimiz önemli bulgularda, kargo seçimi, ödeme kolaylığı, doğru ürün teslimi ve müşteri hizmetlerinin yeterli olması müşterinin tekrar satın alma niyetini doğrudan etkilediği görülmüştür.

Introduction

Developing technology is constantly adding new concepts to our life. "Electronic commerce" is at the forefront of these concepts. Electronic commerce can be defined as execution of all commercial activities in electronic environment and through electronic communication and computer systems. In its simplest explanation, E-Commerce is any kind of commercial business activity in which parties communicate electronically without having to make a physical connection for distribution.

The businesses that successfully conduct e-commerce activities are in a more advantageous position than competitors. E-commerce helps businesses increase their awareness through promoting their goods or services. E-commerce is the most important force that contributes to the increase of the number of customers, not only in local markets but also in global markets. In businesses that engage in e-commerce, absence of store rentals and the decrease in personnel requirements reduce costs and increase profitability.



Seren Kaya

Öğr. Gör., İstanbul Gelişim
Üniversitesi, MYO, Lojistik Programı,
skaya@gelisim.edu.tr



Muhammed Turğut

Öğr. Gör., İstanbul Gelişim
Üniversitesi, MYO, Hava Lojistiği
Programı,
mturгут@gelisim.edu.tr

Article Type/ Makale Türü

Research Article / Araştırma Makalesi

Anahtar Kelimeler

E-ticaret, Lojistik, Tekrar satın alma

Keywords

E-commerce, Logistics, Repurchase

JEL: L81, L91

Submitted: 01 / 06 / 2018

Revised: 29 / 08 / 2018

Accepted: 31 / 08 / 2018

In the globalizing world, logistics activities are the most important factor in the realization of increasing e-commerce activities. Logistics activities used during e-commerce determine customer satisfaction and directly affect customers' re-purchase intentions. Distribution, customer service, inventory management, order process and recycling activities are logistics activities affecting customer perception in e-commerce. As a result of the intense competition in the market, e-commerce sites try to make a difference for their customers by increasing the quality of their logistics activities in their services. These efforts include the realization of the order process, which is the beginning of the logistics processes in an effective manner, and the increase of the order quality, realization of the delivery and return process in a short time, and the improvement of the customer service quality.

The increasing use of the Internet has resulted with a rapid increase in the number of e-commerce transactions. In line with this increase, the commercial habits of customers and businesses are in a constant change. Businesses try to make a difference for the customers by increasing the quality of services in order to maintain sustainable competitiveness and competitive advantage. Logistics activities play an important role in achieving this diversity. Logistics activities provided by the businesses for customers within the scope of the services they receive are order process, distribution, customer service, stock management and recycling. The aim of this study is to determine the role of logistics activities in e-commerce and to measure customer satisfaction.

The study highlights the impact of re-purchasing of logistics activities in e-commerce transactions conducted by students who attended E-commerce courses at Istanbul Gelisim University. The effect of logistics activities related to the intention of re-purchasing among the individuals who use e-commerce websites was investigated and attempts were made to determine the re-purchase perception in the perspective of e-commerce and logistics activities.

1. E-Commerce

In its simplest sense; e-commerce can be defined as all kinds of commercial business activities that parties communicate electronically without having to establish a physical connection in distribution (Çeştepe, 2003).

According to the World Trade Organization (WTO); E-Commerce refers to the production, sales and distribution of goods and services via communication networks. According to a definition made by the Organization for Economic Co-operation and Development (OECD), "E-Commerce is a process that involves the use of individuals and institutions, based on the transfer of digital data (Ito, 2006)

E-Commerce has a widespread use in the literature, and it is synonymously used with concepts such as virtual marketing, online marketing, electronic marketing, web marketing, cyber marketing and interactive marketing. But there are some differences between e-commerce and virtual marketing. E-Commerce is defined as sharing business information and managing business relationships through communication tools. Virtual marketing, on the other hand, has a more strategic structure. In this regard, virtual marketing is a strategic process involving product presentation, distribution, pricing and promotion for the target consumers within the virtual structure of the internet (Pride and O.C, 2000).

Electronic commerce, which is constantly evolving, also causes many changes. The most important of these are the changes that take place in the market and marketplace concept. The most important thing about the commercial aspect of the Internet is the new perspective it brings for direct marketing applications. What does it mean to use the electronic medium created by connecting networks and PCs as a virtual marketplace? This concept describes the achievement of marketing goals using the power of online networks and PC communications and the power of digital interactive environments. Indeed, Internet is considered by the economists as the latest example of the free market. The fact that the market develops from local to a more global scale creates new opportunities for SMEs with different difficulties in entering the market because of the reduced barriers. (Erbaşlar and Dokur, 2008)

E-Commerce is a recent phenomenon with its full speed and attractiveness and a new article, comment or statistics is published everyday and will affect all aspects of the future economy (Çürgücü, 2000).

2. Logistic Activities

Logistic activities that add value to businesses have become a very important; not only because of achieving customer satisfaction but also in achieving business success by increasing efficiency of business activities realized. Achieving a high level of performance of business activities is largely dependent on logistics activities. Logistics activities have become business dynamics which are vital for all businesses, regardless of scale. The scope of these activities is considerably high for all national or international businesses. (Kayabaşı, 2010) Especially in today's global competitive environment, it is necessary to make logistic activities efficient in order to enable businesses to gain competitive advantage and to increase their profitability (Çakaloz & Tuna, 2013).

Logistics is a process that contains various activities. It is the whole of the activities for products between the production to the consumption. These logistic activities are; (Çancı and Erdal, 2003);

- "Customer Services,
- Demand Planning,
- Order Management,
- Material and Inventory Management,
- Packaging,
- After Sales Services,
- Purchasing and Supply,
- Transportation and Distribution,
- Storage,
- Handling,
- and Traffic management."

The concept of customer service is the most important part of logistics activities. It covers the services that started before the sales and that continue after the sale. The level of the customer relationship of business directly affects the share of that business in the market along with its quality and its profitability.

When planning a demand in a business, multiple factors should be considered. The most important stage in that planning is "demand forecasting". Demand forecasts determine the long-term demand for products. It will not be wise for any company to make any attempt without foreseeing the amount to be produced. When these estimates are made, data such as spare parts, raw materials, machinery, human power are used. Demand forecasting has a guiding position during the determination of such data (Kobu, 1998).

The main point of successful logistics activities today is to deliver the customers' orders in the right place and time and in a way that will satisfy the customers. Therefore, the perfect management of orders is of vital importance for businesses (Koban and Yıldırım, 2007).

Order management has a direct impact on customer services. It is one of the keys that will make the business succeed. Establishing communication with customers and suppliers is one of the most influential aspects of order management (Orhan, 2003).

Material management is a complex process that must be conducted by the managers in the logistics sector. Therefore, all stages starting from including the required raw materials and products for production activities to processing into a final product to meet the demands of customers constitute the activities within it (Vatansever, 2005).

Packaging is all protective products used in a chain between the producer to the consumer, in order to ensure a safe transportation under appropriate conditions without any damage. Packaging is regarded as a stage that preserves the product and makes it ready for consumption (Türker, 2010).

It is an important point of logistics operations in after-sales services. Logistics companies are responsible to transport raw materials and final products, and to execute other activities. The logistics departments of businesses are not only responsible with delivery. Logistics management should also provide after-sales support for parts. Spare parts service is vital for customer satisfaction. The damaged products have to be replaced with new ones. From this perspective, after-sales services seem to be based on customer-related logistics (Stock and Lambert, 2001).

Generally, purchase and supply are used interchangeably in logistics, but they are different words in terms of meaning and scope. It is necessary to distinguish between the concepts of purchase and supply. Purchase covers the procurement of the required product from the suppliers; supply is a more detailed and comprehensive process (Stock and Lambert, 2001).

Transport and distribution are very important in logistic activities. Transportation can also be expressed by different words such as shipping and freight in general. In logistic operations, transportation is the physical movements of the products from their centers of production to the places of consumption. This operational process includes all stages including the transfer of raw materials to the factory, transfer of the product made in the factory to the warehouse and the transfer from the warehouse to the customers. The transportation process occurs when human power, vehicles and facilities are integrated. Transportation is also a fundamental activity in the marketing process (Bamyacı, 2008).

Today, it is important to implement storage activities under faster and more suitable conditions. In order to achieve this, technologically it is necessary to have equipment suitable for the conditions. By this, the stocks can be kept under control and they will be transported quickly and accurately through handling. In order for warehouses to provide advantages for consumers; warehouses, retail locations, production sites, customs docks and various transport networks should be considered. Choosing the right and proper warehouse is the most important issue (Bamyacı, 2008).

It is the transportation of short-distance products. Handling includes transportation of the raw materials from the warehouses, stacking and loading them on the vehicles for transportation. Handling stage includes activities such as material unloading, material acceptance, careful sorting, delivery, opening packages, sorting, stacking, placing, changing the location of goods, cleaning, collecting, packing and loading (<http://www.lojistik.org>).

Traffic management is also one of the basic components of logistics activities. Traffic management are the collection of activities between the raw material stage and the consumption stage of all the products and collection of returned products. In this process, national, international and regional rules and regulations must be observed (Stock and Lambert, 2001).

3. Literature

According to the study conducted by Aydın and Ögüt (2008), parallel to the growth of trade volume in the world, the competition has become very tough. This caused various changes in marketing strategies and different policies have been followed to increase profitability. All this have led to a number of changes in the types of work and business processes. These differences have indicated that services should be very cost effective, fast, integrated, and economical in scale economics. All of these logistical activities and service areas that have emerged to achieve this have played an important role in trade.

Karacan & Kaya (2011) define logistics activities as including designing, controlling and regulating the flow of information and materials between the business processes. They include relations with employees, companies and the customers. In a broad sense, the task of logistics is to guarantee the delivery of a product or service to a specific place, at a certain time and in the desired quality. In a narrow sense, the duty of logistics is to carry, store and sort.

Cakaloz & Tuna (2013) have conducted their study on logistics activities efficient at the beginning of the efforts to increase the profitability and to provide the cost advantage of the businesses especially in the global competitive environment.

One of the earliest examples of this is the "quality of service model" by Grönroos (1988) and it measures the perceptions of customers about service quality.

Jun Yu (2006) states that the rate of Internet penetration in China has increased rapidly, and it resulted with a huge increase in the number of people using Internet.

Mentzer et.al. (1999) state that the SERVQUAL scale is not suitable for all service sectors and subsequently created 9 dimensions in order to determine the quality of the logistic service.

Han and Baek (2004) state that customer satisfaction and loyalty are crucial factors for businesses seeking to gain competitive advantage in the market. The high quality of service means that customer attitudes are determined positively.

Bolton and Drew (1991) point out that customer satisfaction will reveal the quality of service and it is accepted that service quality is an important concept in customer satisfaction.

Jaiswal (2008) defined customer satisfaction as "an assessment of the service offered to meet the customer's needs and expectations". The demands of customers change in accordance with their needs and the environment they are in.

In a study on Iran, Farinnia (2011) addressed consumers' online purchasing trends. According to the results of the study, the most important factors affecting the customers' shopping behaviour on Internet are determined as defects in after-sales service, product deliveries not realized on time, and exaggerated pictures of the product on website. These factors negatively affect the customer's tendency towards Internet shopping.

Karadeniz and Isık (2014) have concluded that the relationship between logistic service quality and customer satisfaction was addressed in the studies on e-commerce and logistics, however logistic activities determining the quality of logistic service were not included in this association. In this study, the direct relation between electronic commerce and logistics activities will be covered and this gap in the literature will be filled.

4. Impact Of Logistics Activities On The Intention To Re-Purchase From E-Commerce Perspective

4.1. Research Methodology

This section of the study will provide information about the purpose, hypothesis, methodology and findings of the research conducted to measure the effect of the students attending e-commerce course at İstanbul Gelisim University on the intention of re-purchasing logistics activities in the e-commerce perspective. This study, which aims to determine the effect of logistics activities on the students who attend e-commerce course in terms of their intention to re-purchase, and it is a quantitative based general screening and relational screening model. In the same time, an evaluation will be made whether the results obtained in the research are statistically meaningful and whether the hypothesis has been verified will be tested.

4.2. Method and Sampling of the Study

The main purpose of the study is to examine the impact of logistics activities on the intent to re-purchase from e-commerce perspective. Questionnaire technique is used for data gathering in the study. The sample of the research are the students who attend e-commerce course at İstanbul Gelisim University. According to data of January-March 2018, 272 students have attended e-commerce course. Since it takes a long time and cost to reach all of the students, the study is conducted through a sample that will represent the main mass. Taking into consideration the sample size ($\alpha = 0.05$) graph prepared to determine the sample size, the size was determined as 0.05 sample error $p = 0,5$ and $q = 0,5$ confidence interval. It was considered that a sample group consisting of a person ($n = 159$) of ($\alpha = 272$) as a result of the examinations could represent at a level of 0.05 significance and 5 % tolerance (Altunışık et al., 2010: 135). Sampling method was preferred to determine the students to be included in the survey. The main principle in convenience sampling is to include each respondent into sampling (Altunışık et al., 2010).

From an e-commerce perspective, logistics activities questionnaires were created by scanning the relevant field literature. In a Five Point Likert scale, 5 is I strongly agree and 1 is I strongly disagree. After expert opinions are obtained, exploratory factor analysis was conducted on the questionnaires. Pilot implementation was carried out on 100 students. The Kaiser-Meyer-Olkin sample measurement capability was .817. This suggests that the data set is suitable for conducting

factor analysis (Kalayci et al., 2010; Karagöz, 2016) Barlett test indicated that 1761,136 degrees of freedom of the Chi-Square value was significant at $276 p < 0.01$. This suggests that the data set very suitable for factor analysis (Alpar, 2011; Aksu and Eser, 2017). Value statistics $\lambda_1=6,500$ explain 27,08 % of total variance, $\lambda_2= 4,291$ explain 17,88 % of total variance, $\lambda_3=3,421$ explain 14,25 % of total variance, $\lambda_4=2,118$ explain 8,82 % of total variance and $\lambda_5=1,423$ explain 5,93 % of total variance. The cumulative percentage table indicates that 73.98 % of the total variance is explained by five factors. Providing the stated variance ratio of $p \geq 2 / 3$ or $p \geq 0.66$ conditions is considered as an important basic component (Büyüköztürk, 2005). The 0.74 value obtained in the analysis results for the data set indicate that five important factors to be derived would be sufficient. The factor loads range between .624 and .919. The factor load value is 0.45 or higher, which is a good measure to prefer (Büyüköztürk, 2005). In order to explain the structure, factor loads between 0.30 and 0.40 can be defined as acceptable loads with minimum levels; loads with 0.50 and above are defined as significant loads and loads above 0.70 are loads that can best describe the structure (Alpar, 2011). This means that factor loads are high for the scale. Scale internal consistency analysis results are; Cronbach (α)= .960 for the order process dimension, Cronbach (α)= .901 for the distribution dimension, Cronbach (α)= .960 for the customer service dimension, Cronbach (α)= .854 for inventory management dimension, Cronbach (α) = .845 for recycling dimension and Cronbach (α) = .771 for the general scale. Spearman Brown and Guttman Split Half technique is used for the two half-test reliability of the scale. The two half-test reliability calculated using the Spearman Brown formula was .778, and the two half-test reliability calculated using the Guttman Split-Half technique was .768. The reliability coefficient is generally considered as sufficient for the test scores of 0.70 and above (Kalaycı, 2010: 405, Büyüköztürk, 2005). These results indicate that the internal consistency of the scale and the reliability of the two half-tests are high.

Re-purchase intention questionnaires were created by reviewing the relevant literature. The questionnaire is a Five Point Likert scale, 5 is I strongly agree and 1 is I strongly disagree. After expert opinions are obtained, exploratory factor analysis was conducted on the questionnaires. Pilot implementation was carried out on 100 students. The Kaiser-Meyer-Olkin sample measurement capability was .919. This suggests that the data set is suitable for conducting factor analysis (Kalayci et al., 2010; ; Karagöz, 2016:) The Barlett test indicated that approximately 692,048 degrees of freedom of the Chi-Square value was significant at $36 p < 0.01$ level. This suggests that the data set very suitable for factor analysis (Alpar, 2011; Aksu and Eser, 2017). The self-explanatory statistic $\lambda_1 = 6,123$ accounts for 68,035 % of the total variance. It is understood that the scale is explained by single factor. Providing the stated variance ratio of $p \geq 2 / 3$ or $p \geq 0.66$ conditions is considered as an important basic component (Büyüköztürk, 2005). The 0.68 value obtained in the analysis results for the data set indicate that one important factor to be derived would be sufficient. The factor loads range between .740 and .881. The factor load value is 0.45 or higher, which is a good measure to prefer (Büyüköztürk, 2005). In order to explain the structure, factor loads between 0.30 and 0.40 can be defined as acceptable loads with minimum levels; loads with 0.50 and above are defined as significant loads and loads above 0.70 are loads that can best describe the structure (Alpar, 2011). This means that factor loads are high for the scale. Scale internal consistency analysis results was Cronbach (α) = .941 for the scale in general. Spearman Brown and Guttman Split Half technique is used for the two half-test reliability of the scale. The two half-test reliability calculated using the Spearman Brown formula was .875, and the two half-test reliability calculated using the Guttman Split-Half technique was .864. The reliability coefficient is generally considered as sufficient for the test scores of 0.70 and above (Kalaycı, 2010, Büyüköztürk, 2005). These results indicate that the internal consistency of the scale and the reliability of the two half-tests are high.

Kolmogorov Simirnow test was performed to test the distributions of the data. According to the test results, the measurement data (KS Test Statistic: 0.62, $p = .200$) are normally distributed according to the reverse hypothesis ($p > .05$). In order to avoid Type I and Type II errors in analysis date, parametric analyses were conducted for the data. For the analysis of the data, Friedman two-way Anova test, Cronbach's Alfa reliability test, descriptive statistics, simple linear regression analysis and Pearson moment multiplication correlation was used. And for the comparison of both

groups, independent samples T Test and for the comparison of multiple groups; one-way variance analysis Anova is used. The level of significance of the study was taken as $p < 0,05$. The findings obtained as a result of the analysis were interpreted by converting into graphs in accordance with research hypotheses.

4.3. Hypotheses of Research

The basic hypothesis and sub-hypotheses of this study, which examines the impact of logistics activities on the re-purchase intentions of students who attend e-commerce courses from e-commerce perspective, are;

Basic Hypothesis: From e-commerce perspective, logistics activities have a significant impact on the intention to re-purchase ($\hat{Y} = b_0 + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + \epsilon$).

Sub Hypothesis 1: Perception of logistic and perception of intention to repurchase averages are different among the students who attend e-commerce course on a gender basis ($\mu_1 - \mu_2 \neq 0$).

Sub Hypothesis 2: Perception of logistic and perception of intention to repurchase averages are different among the students who attend e-commerce course on educational level basis ($\mu_1 - \mu_2 \neq 0$).

Sub Hypothesis 3: Perception of logistic and perception of intention to repurchase averages are different among the students who attend e-commerce course on age basis ($\mu_1 - \mu_2 \neq 0$).

Sub Hypothesis 4: Perception of logistic and perception of intention to repurchase averages are different among the students who attend e-commerce course depending on income level ($\mu_1 - \mu_2 \neq 0$).

Sub Hypothesis 5: Perception of logistic and perception of intention to repurchase averages are different among the students who attend e-commerce course on the basis of expenditure amount ($\mu_1 - \mu_2 \neq 0$).

Sub Hypothesis 6: Perception of logistic and perception of intention to repurchase averages are different among the students who attend e-commerce course on the basis of expenditure area ($\mu_1 - \mu_2 \neq 0$).

5. Findings of the Study

This section includes findings of the study and the interpretation of these findings.

5.1. Demographic Characteristics of Sample

In this part of the study, demographic characteristics related to sampling will be evaluated.

Tablo 1. Demographic Characteristics

Demographic Characteristics	Number	Percentage	
Gender	Male	85	53.5
	Female	74	46.5
Age	18 and below	30	18.9
	19 -25 years	75	47.2
	26 and Above	54	34.0
Education Level	Associate Degree	102	64.2
	Undergraduate	57	35.8
Status of Income	500-1000 TL	49	30.8
	1001-1500 TL	52	32.7
	1501 TL and above	58	36.5
E-Commerce Expenditure Amount	100-200 TL	44	27.7
	201-300 TL	42	26.4
	301-400 TL	32	20.1
	401 TL and above	41	25.8
E-Commerce Expenditure Area	Electronics	32	20.1
	Clothes	60	37.7
	Food	30	18.9
	Book/ CD	37	23.3

As seen in Table 1, 53.5 % of the students who participated in the survey were male and 46.5 % were female. 18,9 % of the age range is under 18 years old and 47,2 % is 19-25 years old and 34,0 % is 25 years old and over. 64.2 % of the level of education is the associate degree and 35.8 % is the undergraduate degree. 30.8 % of participants had an income level between 500-1000 TL and 32.7 % had 1001-1500 TL as 36.5 % had 1501 TL and a higher income. 27.7 % of the total amount of trade

expenditures is between 100-200 TL, 26.4 % is between 201-300 TL, 20.1 % is between 301-400 TL, 25.8 % is 401 TL and the amount of expenditure is over. 20.1 % of trade spending is made up of electronic 37.7 %, clothing 18.9 % food and 23.3 % book / cd expenditure.

5.2. Logistic Activity Propositions from E-Commerce Perspective

Within the scope of study, in order to determine the logistic activity perceptions of participants, the items in Table 2 are asked by Five Point Likert Scale. The results of analysis are below.

Tablo 2. Order Process Propositions

	Arithmetic Average	Standard Deviation
Order transactions are easily carried out on e-commerce website.	3.75	1.12
The e-commerce site has a price policy and a customer-focused operating system that can compete in global markets.	3.75	1.12
Customers will be provided by easy terms of payments for the transactions.	3.90	1.11
The user is presented with preferences for cargo selection on the e-commerce website.	4.00	1.15
Total	3.85	1.12

Notes: (i) n = 159 (ii) Crombach's Alfa = .888 (iii) Scale 1 = Strongly Disagree and 5 = Strongly agree iv) Results are statistically significant according to Friedman two-way Anova test $\chi^2 = 10.015$, p = .018.

When Table 2 is examined, it is seen that order process perception is high for all items. In other words, participants have provided responses as follows: Order transactions are easily carried out on e-commerce website (3.75), The e-commerce site has a price policy and a customer-focused operating system that can compete in global markets (3,75), Customers will be provided by easy terms of payments for the transactions (3.90) and The user is presented with preferences for cargo selection on the e-commerce website (4.00) and this indicates that they have high level of perceptions during the order process.

Within the scope of study, in order to determine the distribution perceptions of participants, the items in Table 3 are asked by Five Point Likert Scale. The results of analysis are below.

Tablo 3. Distribution Propositions

	Arithmetic Average	Standard Deviation
The e-commerce site delivers the right product to the customer.	3.80	1.04
E-commerce site delivers products to customers in the right amount.	3.70	1.33
Products purchased through the e-commerce site are delivered to the customer under accurate conditions.	3.40	1.42
Products purchased through the e-commerce site are delivered to the customer at the right place.	3.25	1.18
Products purchased through the e-commerce site are delivered on time.	2.60	1.15
Products purchased through the e-commerce site are delivered to the correct customer.	2.75	1.38
Products purchased through the e-commerce site are delivered with the correct price.	3.75	0.99
Total	3.32	1.21

Notes: (i) n = 159 (ii) Crombach's Alfa = .831 (iii) Scale 1 = Strongly Disagree and 5 = Strongly agree iv) Results are statistically significant according to Friedman two-way Anova test $\chi^2 = 136.643$, p = .000.

When Table 3 is examined, it is seen that distribution perception is at medium and high levels for all items. In other words, participants have provided responses as follows: The e-commerce site delivers the right product to the customer (3.80), E-commerce site delivers products to customers in the right amount (3.70), Products purchased through the e-commerce site are delivered to the customer under accurate conditions (3.40), Products purchased through the e-commerce site are

delivered with the correct price (3.40) indicate that their level of perception is high. Regarding the prepositions; Products purchased through the e-commerce site are delivered to the customer at the right place (3.25), Products purchased through the e-commerce site are delivered on time (2.60), Products purchased through the e-commerce site are delivered to the correct customer (2.75) indicate that their level of perception is at a medium.

Within the scope of study, in order to determine the customer service perceptions of participants, the items in Table 4 are asked by Five Point Likert Scale. The results of analysis are below.

Tablo 4. Customer Services Prepositions

	Arithmetic Average	Standard Deviation
E-commerce site considers the complaints of customer.	2.85	1.14
E-commerce site notifies the customer about the status of orders.	2.75	1.09
There is company contact information that customers can contact.	3.60	1.06
The e-commerce site offers customer service representatives to contact when requested.	3.40	1.35
The e-commerce site's customer services representative has adequate information to answer the questions of customers.	3.65	1.15
Total	3.25	1.16

Notes: (i) n = 159 (ii) Crombach's Alfa = .813 (iii) Scale 1 = Strongly Disagree and 5 = Strongly agree iv) Results are statistically significant according to Friedman two-way Anova test $\chi^2 = 79.544, p = .000$.

When Table 4 is examined, it is seen that customer services perception is at medium and high levels for all items. In other words, participants have provided responses as follows: There is company contact information that customers can contact (3.60), The e-commerce site offers customer service representatives to contact when requested (3.40), The e-commerce site's customer services representative has adequate information to answer the questions of customers (3.65) indicate that their level of perception is high. Looking to other prepositions; E-commerce site considers the complaints of customer (2.85) and E-commerce site notifies the customer about the status of orders (2.75) indicate that customer services perceptions are in medium level.

Within the scope of study, in order to determine the stock management perceptions of participants, the items in Table 5 are asked by Five Point Likert Scale. The results of analysis are below.

Tablo 5. Stock Management Prepositions

	Arithmetic Average	Standard Deviation
The product supply duration of e-commerce site is short.	2.80	1.28
The products sold by e-commerce site are present in its inventory.	2.90	1.32
Products in the inventory of e-commerce site are valid. (shelf life, actuality)	3.55	1.29
E-commerce site sells products which are not in its inventory.	3.80	1.32
Total	3.26	1.30

Notes: (i) n = 159 (ii) Crombach's Alfa = .889 (iii) Scale 1 = Strongly Disagree and 5 = Strongly agree iv) Results are statistically significant according to Friedman two-way Anova test $\chi^2 = 107.924, p = .000$.

When Table 5 is examined, it is seen that stock management perception is at medium and high levels for all items. In other words, participants have provided responses as follows: The product supply duration of e-commerce site is short (2.80), The products sold by e-commerce site are present in its inventory (2.90) indicate that stock management perception of participants is at a medium level. Regarding the prepositions; Products in the inventory of e-commerce site are valid (shelf life, actuality) (3.55), E-commerce site sells products which are not in its inventory (3.80) indicate that they have high levels on stock management.

Within the scope of study, in order to determine the return perceptions of participants, the items in Table 6 are asked by Five Point Likert Scale. The results of analysis are below.

Tablo 6. Return Propositions

	Arithmetic Average	Standard Deviation
E-commerce site uses surveys to measure the customer expectations and service quality.	2.60	1.15
E-commerce site implements product return and change transactions in a short time.	2.75	1.38
E-commerce site rapidly replies to product return and change transactions.	2.80	1.28
E-commerce site offers suitable options to customers for product return and change transactions.	2.60	1.15
Total	2.69	1.24

Notes: (i) n = 159 (ii) Crombach's Alfa = .834 (iii) Scale 1 = Strongly Disagree and 5 = Strongly agree iv) Results are statistically significant according to Friedman two-way Anova test $\chi^2 = 14.721$, p = .002.

When Table 6 is examined, it is seen that return perception is medium for all items. In other words, participants have provided responses as follows: E-commerce site uses surveys to measure the customer expectations and service quality (2.60), E-commerce site implements product return and change transactions in a short time (2.75), E-commerce site rapidly replies to product return and change transactions (2.80), E-commerce site offers suitable options to customers for product return and change transactions (2.60), and the return perceptions are at medium level.

5.3. Intention to Repurchase Propositions

Within the scope of study, in order to determine the intention to repurchase perceptions of participants, the items in Table 7 are asked by Five Point Likert Scale. The results of analysis are below.

Tablo 7. Intention to Repurchase Propositions

	Arithmetic Average	Standard Deviation
I prefer e-commerce sites for shopping.	4.10	0.98
I always prefer e-commerce site for shopping.	3.65	0.90
I visit different e-commerce sites during shopping for a change.	3.90	0.98
I always conduct shopping from an e-commerce site I am satisfied with.	3.90	0.94
I head for e-commerce sites whenever I need something	3.60	0.83
I consider myself as a loyal customer of an e-commerce site	3.30	1.03
I will use e-commerce sites for my future shopping	3.85	0.94
As long as the service quality of the e-commerce sites does not change, I will continue to do shopping	4.20	1.22
I think that I have made a right decision by shopping from e-commerce sites	4.15	0.91
Total	3.85	0.97

Notes: (i) n = 159 (ii) Crombach's Alfa = .749 (iii) Scale 1 = Strongly Disagree and 5 = Strongly agree iv) Results are statistically significant according to Friedman two-way Anova test $\chi^2 = 163.325$, p = .018.

When Table 7 is examined, it is seen that order intention for repurchase perception is high for all items. In other words, participants have provided responses as follows: I prefer e-commerce sites for shopping (4.10), I always prefer e-commerce site for shopping (3.65), I visit different e-commerce sites during shopping for a change (3.90), I always conduct shopping from an e-commerce site I am satisfied with (3.90), I head for e-commerce sites whenever I need something (3.60), I will use e-commerce sites for my future shopping (3.85), As long as the service quality of the e-commerce sites does not change, I will continue to do shopping (4.20), I think that I have made a right decision by shopping from e-commerce sites (4.15) have indicated that intention to repurchase have high

perception levels. I consider myself as a loyal customer of an e-commerce site (3.30) preposition indicate that intention to repurchase is at medium level.

The main purpose of the study is to examine "the impact of logistics activities on the intent to re-purchase". In this context, the relationship between the perception of logistics activity and the intention to re-purchase in the context of e-commerce will be examined by the Pearson moments correlation and the effect of logistic activities on the intention of re-purchase in e-commerce perspective by simple linear regression analysis. The results are below.

Tablo 8. Relation Between Logistic Activities and Intention to Repurchase from E-Commerce Perspective

	Y ₁	Y ₂
Measurement Data for Logistic Activities from E-Commerce Perspective (Y ₁)	1	
Measurement Data for Intent to Repurchase (Y ₂)	.306* (p<0.01)	1

Note: * Pearson's correlation coefficient, significance level p <0.01

As indicated in the correlation matrix on Table 8, there is a statistically significant and positive (p <0.01) relationship between the levels of "logistics activities and re-purchasing intentions" from e-commerce perspective. Following the determination of correlation, in order to determine the impact of logistics activities on the intent to re-purchase;

Intention to Repurchase (\hat{Y}) = b₀+b₁ Order Process + b₂ Distribution + b₃ Customer Service + b₄ Inventory Management + b₅ Return + ε model was proposed and multiple regression analysis was conducted. Regression analysis results are indicated on Table 9.

Tablo 9. Multiple Linear Regression Model

Dependent Variable	ΔR ²	Independent Variable	B	Standard Fault	t	F
Intention to Repurchase (\hat{Y})	.302	Fixed Term	.113	.055	2,053*	14.673*
		Order Process (X ₁)	.189	.064	2.945*	
		Distribution (X ₂)	.210	.072	2.921*	
		Customer Services (X ₃)	.205	.065	3.140*	
		Inventory Management (X ₄)	.126	.042	3.023*	
		Return (X ₅)	.140	.066	2.126*	

Notes: i) * p <.05 is significant in relationship level. (ii) The mean of the waste is zero, the data have normal and linear distribution (iii) Multilinear connection V.I.F 1,256 Tolerance, 796 CI 23,990 (iv) Independence and Autocorrelation Durbin Watson 1,499

The proposed model is statistically significant. According to the results of the regression analysis, ΔR²(percentage of variance explained) and F (significance level of regression model) indicate that e-commerce perspective logistics activities can be explained by intention to repurchase is 30.2 %. In this context, when Table 9 and the analysis results of Table 9 are considered together, it is seen that the hypothesis that the logistic activities have a significant impact on the intention to repurchase from e-commerce perspective is supported (Main Hypothesis $\hat{Y} = b_0 + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + \epsilon$, p<.05 Acceptance).

$\hat{Y} = .113 + .189$ Order Process + .210 Distribution Process + .205 Customer Service + .126 Inventory Management + .140 Return + ε (1)

In the above equation (1) an increase of 1 unit in the order process of students 'e-commerce perspective logistic activity perception levels, students' intention to re-purchase increases by 0,19 points; 1 unit increase in distribution, students' intention to re-purchase increases by 0.21 points; 1 unit increase in customer service, students' intention to re-purchase by 0.21 points; 1 unit increase in stock management, students' re-purchase intentin increase by 0.13 points; 1 unit increase in return increases students' re-purchase intentions by 0.14 points. The most effective impact on the students' intentions for repurchase is in stock management, and distribution has the least impact.

It has been examined whether there are any differences between logistics activities and intentions to repurchase of participants from e-commerce perspective according to gender variable. Analysis results are indicated on Table 10.

Table 10. Logistics Activities and Perceptions of Intention for Repurchase by Gender Variable from E-Commerce Perspective

	Male (n=85)		Female (n=74)		t Test	
	Arithmetic Average	Standard Deviation	Arithmetic Average	Standard Deviation	t	p
Logistic Activities from E-Commerce Perspective	3.26	.41	3.30	.45	.651	.006
Intention to Repurchase	3.95	.46	3.74	.64	2.30	.026

Notes: i) * $p < .05$ is significant in relationship level. (ii) Data is homogeneously distributed for male and female groups.

As seen in Table 10, students' logistics activities and re-purchase intentions from the e-commerce perspective show a statistically significant difference in the gender variable compared to the results of independent samples t test (H1 Acceptance $\mu_1 - \mu_2 \neq 0$, $p < .05$). When descriptive statistics are examined, there is an increase among the female students in the perception of logistics activities in the e-commerce perspective and among male students in the sense of intention to repurchase.

It has been examined whether there are any differences between logistics activities and intentions to repurchase of participants from e-commerce perspective according to education status variable. Analysis results are indicated on Table 11.

Table 11. Logistics Activities and Perceptions of Intention for Repurchase by Education Status Variable from E-Commerce Perspective

	Associate Degree (n=102)		Undergraduate Degree (n=57)		t Test	
	Arithmetic Average	Standard Deviation	Arithmetic Average	Standard Deviation	t	p
Logistic Activities from E-Commerce Perspective	3.32	.46	3.21	.36	1.38	.017
Intention to Repurchase	3.90	.50	3.76	.64	1.44	.015

Notes: i) * $p < .05$ is significant in relationship level. (ii) Data is homogeneously distributed for associate degree and undergraduate degree groups.

As seen in Table 11, students' logistics activities and re-purchase intentions from the e-commerce perspective show a statistically significant difference in the education level variable compared to the results of independent samples t test (H2 Acceptance $\mu_1 - \mu_2 \neq 0$, $p < .05$). When descriptive statistics are examined, there is an increase among the associate degree students in the perception of logistics activities in the e-commerce perspective and in sense of intention to repurchase.

It has been examined whether there are any differences between logistics activities and intentions to repurchase of participants from e-commerce perspective according to age variable. Analysis results are indicated on Table 12.

Table 12. Logistics Activities and Perceptions of Intention for Repurchase by Age Variable from E-Commerce Perspective

	Below 18 (n=30)		19-25 years (n=75)		26 and above (n=54)		Anova Test	
	Average	St. Dev.	Average	St. Dev.	Average	St. Dev.	F	p
Logistic Activities from E-Commerce Perspective	3.74	.44	3.22	.33	3.09	.34	32.590	.000
Intention to Repurchase	4.02	.44	3.96	.41	3.59	.69	9.696	.000

Notes: i) * $p < .05$ is significant in relationship level. (ii) Data is homogeneously distributed for age groups.

As seen in Table 12, students' logistics activities and re-purchase intentions from the e-commerce perspective show a statistically significant difference in the age variable compared to the results of independent samples t test (H3 Acceptance $\mu_1 - \mu_2 \neq 0$, $p < .05$). According to the results of the Tukey in order to determine the groups significant difference originates from; in terms of e-commerce, logistic activities are measured by the students under the age of 18 and the group of students with 25 years and over; it was determined that the intention to re-purchase was based on the group of students under 18 years of age and the group of students over 25 years of age. When descriptive statistics are examined, there is an increase among the students with ages 18 or below in the perception of logistics activities in the e-commerce perspective and in the sense of intention to repurchase.

It has been examined whether there are any differences between logistics activities and intentions to repurchase of participants from e-commerce perspective according to income status variable. Analysis results are indicated on Table 13.

Tablo 13. Logistics Activities and Perceptions of Intention for Repurchase by Income Status Variable from E-Commerce Perspective

	500-1000 TL (n=49)		1001-1500 TL (n=52)		1501 TL and above (n=58)		Anova Test	
	Average	St. Dev.	Average	St. Dev.	Average	St. Dev.	F	p
Logistic Activities from E-Commerce Perspective	3.26	.38	3.40	.47	3.18	.40	3.800	.024
Intention to Repurchase	3.95	.50	3.72	.62	3.87	.53	2.346	.009

Notes: i) * $p < .05$ is significant in relationship level. (ii) Data is homogeneously distributed for income groups.

As seen in Table 13, students' logistics activities and re-purchase intentions from the e-commerce perspective show a statistically significant difference in the income status variable compared to the results of independent samples t test (H4 Acceptance $\mu_1 - \mu_2 \neq 0$, $p < .05$). According to the results of the Tukey in order to determine the groups significant difference originates from; in terms of e-commerce, logistic activities are measured by the students with income level between 500-1000 TL and above 1501 TL; it was determined that the intention to re-purchase was based on the group of students with income level between 500-1000 TL and 1001-1500 TL. When descriptive statistics are examined, there is an increase among the students with income status between 1501-2000 TL in the perception of logistics activities and among the students with income status between 500-1000 TL in the e-commerce perspective and in the sense of intention to repurchase.

It has been examined whether there are any differences between logistics activities and intentions to repurchase of participants from e-commerce perspective according to e-commerce expenditure amount variable. Analysis results are indicated on Table 14.

Tablo 14. Logistics Activities and Perceptions of Intention for Repurchase by E-Commerce Expenditure Amount Variable from E-Commerce Perspective

	100-200 TL (n=44)		201-300 TL (n=42)		301-400 TL (n=32)		401 TL and above (n=41)		Anova Test	
	Average	St. Dev.	Average	St. Dev.	Average	St. Dev.	Average	St. Dev.	F	p
Logistic Activities from E-Commerce Perspective	3.18	.36	3.15	.30	3.05	.28	3.68	.44	24.816	.000
Intention to Repurchase	3.79	.60	3.75	.56	3.82	.60	4.02	.46	1.817	.000

Notes: i) * $p < .05$ is significant in relationship level. (ii) Data is homogeneously distributed for expenditure amount groups.

As seen in Table 14, students' logistics activities and re-purchase intentions from the e-commerce perspective show a statistically significant difference in the e-commerce expenditure amount variable compared to the results of independent samples t test (H5 Acceptance $\mu_1 - \mu_2 \neq 0$, $p < .05$). According to the results of the Tukey in order to determine the groups significant difference originates from; in terms of e-commerce, logistic activities are measured by the students with expenditure level between 301-400 TL and above 401 TL; it was determined that the intention to re-purchase was based on the group of students with expenditure level between 301-400 TL and above 401 TL. When descriptive statistics are examined, there is an increase among the students with e-commerce expenditure amount of 401 TL and above, in the perception of logistics activities and among the students with e-commerce expenditure above 401 TL in the e-commerce perspective and in the sense of intention to repurchase.

It has been examined whether there are any differences between logistics activities and intentions to repurchase of participants from e-commerce perspective according to e-commerce expenditure area variable. Analysis results are indicated on Table 15.

Tablo 15. Logistics Activities and Perceptions of Intention for Repurchase by E-Commerce Expenditure Area Variable from E-Commerce Perspective

	Electronics (n=32)		Clothing (n=60)		Food (n=30)		Book/CD (n=37)		Anova Test	
	Average	St. Dev.	Average	St. Dev.	Average	St. Dev.	Average	St. Dev.	F	p
Logistic Activities from E-Commerce Perspective	3.24	.32	3.12	.35	3.03	.17	3.76	.38	36.216	.000
Intention to Repurchase	4.05	.32	3.58	.65	3.93	.47	4.02	.46	8.150	.000

Notes: i) * $p < .05$ is significant in relationship level. (ii) Data is homogeneously distributed for expenditure area groups.

As seen in Table 15, students' logistics activities and re-purchase intentions from the e-commerce perspective show a statistically significant difference in the e-commerce expenditure area variable compared to the results of independent samples t test (H6 Acceptance $\mu_1 - \mu_2 \neq 0$, $p < .05$). According to the results of the Tukey in order to determine the groups significant difference originates from; in terms of e-commerce, logistic activities are measured by the students with expenditure areas in food and Book/CD; it was determined that the intention to re-purchase was based on the group of students with expenditure areas in electronics and clothing. When descriptive statistics are examined, there is an increase among the students with e-commerce expenditure area as Book/CD, in the perception of logistics activities and among the students with e-commerce expenditure area in electronics in the e-commerce perspective and in the sense of intention to repurchase.

Conclusion and Evaluation

In the globalizing world, logistics activities are the most important factor in the realization of increasing e-commerce activities. Logistics activities used during e-commerce determine customer satisfaction and directly affect customers' re-purchase intentions. Distribution, customer service, inventory management, order process and recycling activities are logistics activities affecting customer perception in e-commerce. As a result of the intense competition in the market, e-commerce sites try to make a difference for their customers by increasing the quality of their logistics activities in their services. These efforts include the realization of the order process, which is the beginning of the logistics processes in an effective manner, and the increase of the order quality, realization of the delivery and return process in a short time, and the improvement of the customer service quality.

When examining other studies conducted in this area, no other studies were seen in the literature on the effect of the relationship between e-commerce and logistics activities on the intention to repurchase. This study is significant because it is the first study in the literature conducted in this field.

When the study was conducted, the perception of students who have attended the e-commerce courses was measured. The questions that have been tested with statistical techniques. In order to emphasize the importance of logistics activities in terms of e-commerce sites, this study will guide the businesses.

In a study on Iran, Farinnia (2011) addressed consumers' online purchasing trends. According to the results of the study, the most important factors affecting the customers' shopping behaviour on Internet are determined as defects in after-sales service, product deliveries not realized on time, and exaggerated pictures of the product on website. These factors negatively affect the customer's tendency towards Internet shopping. In the study, it has been determined that the results are in parallel with our study and that the logistics activities have an impact on intention of repurchase for customers.

Karadeniz and Isik (2014) have concluded that the relationship between logistic service quality and customer satisfaction was addressed in the studies on e-commerce and logistics, however logistic activities determining the quality of logistic service were not included in this association. The impact of logistics activities on customer satisfaction has been taken into account in our work we have realized.

In this study, it was attempted to indicate how the students who attended the e-commerce course worked in the field survey conducted to determine the effect of logistic activities on the intention of re-purchase in the e-commerce perspective.

In the survey, students' perception of logistics activity and e-commerce intention to re-purchase was high.

In this context, as seen in the correlation matrix proposed in the main objective of the research, in the e-commerce perspective, the relationship between logistics activities and intention to re-purchase is significant. The regression analysis indicated that t and F values were significant. According to the results of the regression analysis, R²(percentage of variance explained) and F (significance level of regression model) indicate that e-commerce perspective logistics activities can be explained by intention to repurchase.

The perceptions of logistics activities and intention to re-purchase from e-commerce perspective of the students were statistically significant in terms of gender variable according to independent samples t test results. In this context, H1 hypothesis "Perception of logistic and perception of intention to repurchase averages are different among the students who attend e-commerce course on a gender basis ($\mu_1 - \mu_2 \neq 0$)" is accepted.

Logistics activities and intention to re-purchase from e-commerce perspective of the students is statistically significant for independent variables according to t test results for the educational status variable. In this context, H2 hypothesis "Perception of logistic and perception of intention to repurchase averages are different among the students who attend e-commerce course depending on income level ($\mu_1 - \mu_2 \neq 0$)" is accepted.

The perceptions of logistics activities and intention to re-purchase from e-commerce perspective of the students were statistically significant in terms of age variable according to independent samples t test results. In this context, H3 hypothesis "Perception of logistic and perception of intention to repurchase averages are different among the students who attend e-commerce course on age basis ($\mu_1 - \mu_2 \neq 0$)" is accepted.

Logistics activities and intention to re-purchase from e-commerce perspective of the students is statistically significant for independent variables according to t test results for the income status variable. In this context, H4 hypothesis "Perception of logistic and perception of intention to repurchase averages are different among the students who attend e-commerce course depending on income level ($\mu_1 - \mu_2 \neq 0$)" is accepted.

Logistics activities and intention to re-purchase from e-commerce perspective of the students is statistically significant for independent variables according to t test results for the e-commerce expenditure amount variable. In this context, H5 hypothesis "Perception of logistic and perception of intention to repurchase averages are different among the students who attend e-commerce course on the basis of expenditure amount ($\mu_1 - \mu_2 \neq 0$)" is accepted.

Logistics activities and intention to re-purchase from e-commerce perspective of the students is statistically significant for independent variables according to t test results for the e-commerce expenditure area variable. In this context, H6 hypothesis "Perception of logistic and perception of intention to repurchase averages are different among the students who attend e-commerce course on the basis of expenditure area ($\mu_1 - \mu_2 \neq 0$)" is accepted.

The suggestions regarding the descriptive and inferential statistical results of the research are as follows:

- Information should be provided to the businesses engaged in e-commerce about the information of logistic activities.
- A new study conducted that will cover the whole Turkey.
- This study can be conducted in other universities other than Istanbul Gelişim University.
- A qualitative study of the impact of logistics activities on the intention to repurchase in e-commerce can be explored in depth with experts.
- Awareness should be raised across the country for the emerging e-commerce sector.
- In e-commerce activities, ability to compete with international markets at the level of customer satisfaction should be provided.
- The scale used in the research can be developed and tested on different samples.

References

- Aksu, G., & Eser, M. T. (2017), Açıklayıcı ve Doğrulayıcı Faktör Analizi. Ankara: Detay Yayıncılık
- Alpar, R. (2011), Çok Değişkenli İstatistiksel Yöntemler. Ankara: Detay Yayıncılık.
- Altunışık, R., Çoşkun, R., Bayraktaroğlu, S., & Yıldırım, E. (2010), Sosyal Bilimlerde Araştırma Yöntemleri. Sakarya: Sakarya Yayıncılık.
- Bamyacı, M. (2008), Modern Lojistik Yönetimi: Organize Lojistik Bölgeleri İçin Bir Yer Seçim Modeli. Doktora Tezi, İstanbul Üniversitesi Fen Bilimleri Enstitüsü: İstanbul.
- Büyüköztürk, Ş. (2005), Sosyal Bilimler İçin Veri Analizi El Kitabı. Ankara: PegemA Yayıncılık.
- Çakaloz, B., Tuna, O. (2013), Lojistik Yönetiminde Simülasyon Temelli Eğitim Yaklaşımları. P. S. Meral içinde, Lojistikte Güncel Konular Kavramlar ve Uygulamalar (s. 2-28). İstanbul: Beykoz Lojistik Meslek Yüksekokulu Yayınları.
- Çancı, M., Erdal, M. (2003), Lojistik Yönetimi, Utikad Yayınları: İstanbul.
- Gazanfer, E., Şükrü, D. (2008), Elektronik Ticaret, Nobel Yayın Dağıtım, Ankara, s.16
- Hamza, Ç. (2003), E-ticaretin Ticari ve Mali Etkileri: Dünya ve Türkiye Üzerine Bir Değerlendirme, Uludağ Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi, C.22, S.1, Bursa, s.50.
- Ito, (2006), Bilgi Ekonomisinde E-ticaret, s.76.
- Kalaycı, Ş., Albayrak, A. S., Eroğlu, A., Küçüksille, E., Ak, B., Karaatlı, M., et al. (2010), SPSS Uygulamalı Çok Değişkenli İstatistik Teknikleri. Ankara: Asil Yayın Dağıtım.
- Karagöz, Y. (2016), SPSS ve AMOS 23 Uygulamaları. Ankara: Nobel Yayıncılık.
- Kayabaşı, A. (2010), Rekabet Gücü Perspektifinde Lojistik Faaliyetlerde Performans Geliştirme. İstanbul: İstanbul Ticaret Odası Yayınları.
- Koban, E., Keser, H. Y. (2007), Dış Ticarete Lojistik, Ekin Kitabevi : Bursa.
- Kobu, B. (1998), Üretim Yönetimi, İstanbul Üniversitesi İşletme Fakültesi Yayını, No:4: İstanbul.
- Orhan, O. Z., (2003), Dünya'da ve Türkiye'de Lojistik Sektörünün Gelişimi, İstanbul Ticaret Odası Yayınları : İstanbul.
- Vatansever, K. (2005), Lojistik İşletmelerin Hizmet Kalitesi Ölçümü Üzerine Bir Araştırma, Yayınlanmamış Yüksek Lisans Tezi, Sosyal Bilimler Enstitüsü: Kütahya.
- William P., Ferrell O.C. (2000), Marketing: Concepts and Strategies, Houghton Mifflin Comp., Boston, s. 98.
- Zeynep, Ç. (2000), Ekonomik, Toplumsal, Teknik ve Yasal Yönleriyle E-ticaret, İktisat Dergisi, Sayı.407, s.92.

-
- Türker, T. (2010), *Lojistik Gayrimenkullerin Yer Seçim Kriterleri İstanbul Örneği*, Yayınlanmamış Yüksek Lisans Tezi, İstanbul Teknik Üniversitesi Fen Bilimleri Enstitüsü: İstanbul.
- Stock, J. R., & Lambert, D. M. (2001), *Strategic logistics Management* (4. b.). New York: McGraw-Hill.
- www.logistics.org. Erişim Tarihi: 21.04.2017.