

THE IMPACT OF LOGISTICS SERVICE QUALITY ON CUSTOMER
SATISFACTION AND RE-USE INTENTION: A COMPREHENSIVE ANALYSIS

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**THE IMPACT OF LOGISTICS SERVICE QUALITY ON CUSTOMER
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ABSTRACT

The role of logistics service quality has become vital in creating satisfied business partners that sustain long-term partnerships in today's highly competitive environment where new competitors enter the sector along with big companies trying to dominate it, particularly in the B2B market. Companies that use logistics service providers are relying on the quality of the service they're provided with in order to sustain operational efficiency and repeat businesses on their ends as well. Previous research in the field has explored service quality extensively, however focused research specifically on logistics service quality in the B2B context for creation of marketing insights was limited. Therefore, this study researches how the different logistics service quality dimensions are influencing customer satisfaction and re-use intention in the B2B environment. Data collection was conducted through the distribution of a structured questionnaire to the people who work in a company that used a logistics service provider. The results of the data analyses revealed that resource quality, reliability, assurance, responsiveness, ordering procedures, and personnel contact quality had a significant and positive effect on customer satisfaction. On the other hand, operational information sharing resulted with a negative impact, while operational quality, customization quality, and tangibility were found to have no significant effect on customer satisfaction. Customer satisfaction was found to have a very strong positive influence on re-use intention. This research provides valuable theoretical findings, along with results that may guide managers who may use the findings in defining their marketing strategies for attracting new customers while also building customer retention strategies. In addition, this study provides a marketing focused perspective on logistics service quality and stands as a foundation for further research that will be examining the logistics service quality dimensions in different contexts.

Keywords: Logistics Service Quality; Customer Satisfaction; Re-use Intention; B2B Marketing; Customer Retention

ÖZ

B2B pazarlar büyük şirketler tarafından domine edilmeye çalışılırken ve her geçen gün yeni rakiplerin sektöre girmesi ile beraber, lojistik hizmet kalitesinin rolü, şirketler arası uzun vadeli ortaklıkların sürdürülebilmesi açısından çok önemli hale gelmiştir. Lojistik şirketleri ile çalışan firmalar, operasyonel süreçlerinin sorunsuz ilerlemesini ve müşterilerinin memnuniyetini önemsedikleri için aldıkları lojistik hizmetinin kalitesine çok önem veriyorlar. Geçmiş çalışmalar hizmet kalitesini kapsamlı bir şekilde incelemiş olmaklup, pazarlama fikirleri oluşturmak amacıyla B2B bağlamında lojistik hizmet kalitesine özel olarak odaklanan çalışmalar kısıtlı kalmıştır. Bu nedenle bu çalışmada farklı lojistik hizmet kalitesi faktörlerinin, B2B pazarda müşteri memnuniyetini ve müşterilerin aynı lojistik şirketini yeniden tercih etme niyetini nasıl etkilediği araştırılmaktadır. Araştırmada kullanılan veriler, bir lojistik firmasından hizmet alan bir firmada çalışan kişiler olmak kaydı ile cevaplandırılabilir bir anket düzenlenerek elde edilmiştir. Analizler sonucunda lojistik şirketlerinin kaynak kalitesinin, istikrarlılığının, güvenilirliğinin, yanıt verilirliğinin, sipariş oluşturma sürecinin ve iletişim kurulan personellerinin kalitesinin müşteri memnuniyeti üzerinde anlamlı ve pozitif bir etkisi olduğu belirlenmiştir. Operasyonel bilgi paylaşımının müşteri memnuniyeti üzerinde olumsuz etkisi olduğu, operasyonel kalitenin, özelleştirme kalitesinin ve somutluk faktörünün ise müşteri memnuniyeti üzerinde anlamlı bir etkisi olmadığı saptanmıştır. Müşteri memnuniyetinin ise yeniden tercih etme niyeti üzerinde çok güçlü pozitif bir etkisi olduğu gözlemlenmiştir. Bu araştırmanın sonuçları, yeni müşteriler elde etmek için pazarlama stratejileri oluşturan isteyen firma yöneticilerine yol gösterebilecektir ve aynı zamanda değerli teorik bilgiler de sunacaktır. Buna ek olarak, bu araştırma pazarlama perspektifinden lojistik servis kalitesi üzerinde yapılmış olup, ileride farklı bağlamlarda yapılacak olan lojistik servis kalitesi araştırmalarına dayanak teşkil edecektir.

Anahtar Kelimeler: Lojistik Hizmet Kalitesi; Müşteri Memnuniyeti; Yeniden Kullanım İsteği; B2B Pazarlama; Müşteri Tutundurma

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LIST OF ABBREVIATIONS

A:	Assurance
CQ:	Customization Quality
CS:	Customer Satisfaction
OIS:	Operational Information Sharing
OP:	Ordering Procedures
OQ:	Operational Quality
PCQ:	Personnel Contact Quality
REL:	Reliability
RES:	Responsiveness
RI:	Reuse Intention
RQ:	Resource Quality
T:	Timeliness

INTRODUCTION

In today's rapidly growing world, items from all around the world are moving, being traded in a constant flow without ever stopping. Logistics services are happening day and night in a constant flow. Yet when there is a great market demanding for such service, the competition in the field is immense, and marketing research is constantly advancing in the field.

In the business to business (B2B) environment especially, retention of the customer company is drastically cheaper than to allocate funds to trying to acquire a new potential customer from scratch. Yet the retention of customers are not as easy as it may seem and require a lot of hard and calculated work behind the scenes, as the provided service must be marketing itself through its own excellence rather than just being performed.

Efficiency and quality of the services play a crucial role in creating customer satisfaction. Companies working with logistics service providers generally have very high standards due to their cargoes being either very valuable or urgent, and also due to having immense competition in the field and having the power to be able to switch to any other competitor logistics service provider at any point when they are not satisfied.

As the competition increase in the logistics services, understanding the factors that influence customer satisfaction and re-use intention has become a major concern for both service providers and the customer companies that utilize the services, as any action taken in one part of the supply chain and logistics services influences the end customer along with the other parties involved in the business cycle.

Customer satisfaction within the logistics services is possibly being shaped by various dimensions being personnel contact quality, ordering procedures, operational information sharing, operational quality, resource quality, customization quality, tangibility, reliability, assurance, and responsiveness. These dimensions are critical in understanding if the businesses will be continuing their partnerships with the logistics service providers that they've been working with, or seek alternatives and switch to a competitor logistics service provider.

The objective of this study is to dive into the logistics service quality dimensions that have a potential impact on customer satisfaction from the logistics services, and re-use intention of the services from the same logistics service provider in a B2B perspective. Understanding the nature of the key components that influence customer satisfaction and re-use intention is the key to efficiency. The findings of this study will serve as a valuable source of data for current logistics companies seeking to enhance their customer satisfaction and retain customers to create efficiency and longevity in their businesses, along with the marketing researchers that are willing to expand the studies made in the field.

1.1. Scope and Significance of the Study

This study focuses on the intention of B2B customers' re-using of the service that they acquire from the same logistics service provider that they work with by understanding the influence of customer satisfaction and its determinants. This study provides a more comprehensive perspective on logistics service quality by integrating various service quality frameworks in a unified model.

In order to understand the impact on customer satisfaction and re-use intention, the key components logistics service quality factors are analyzed in this research. Understanding their relationships are critical for the companies that are aiming to enhance their overall quality of service.

A key mindset adopted in this research is "Whoever the customer interacts with should be considered a salesperson" indicating that every point of contact matters, as even a tiny bit of interaction can influence the customer satisfaction and shape the decision of whether to re-use the company or not for their future logistics service inquiries.

The final insights acknowledged from this research will be highly valuable in real-life implementation. Companies will be able to refine their service strategies, optimize their interactions with their customers, and improve overall service performance. In addition, the findings can be a guide for companies in developing efficient sales strategies by

identifying the service attributes that influence customer satisfaction and re-use intention in B2B relationships.

1.2. Organization of the Dissertation

The following dissertation is organized to be presented in six chapters. Following the current chapter of Introduction, Chapter Two, which will be the information and the models review from the literature will be presented. In Chapter Three, the proposed research model will be presented along with the hypotheses development. Chapter Four will introduce research design and methodology. Chapter Five will be covering the data analyses and the results gathered from the analyses. Finally, Chapter Six presents a detailed conclusion of the study by summarizing the key findings and presenting theoretical and managerial implications along the way, finalizing the study with limitations and suggestions for future research.

LITERATURE REVIEW

2.1. Literature on Logistics Service Quality

This chapter reviews the literature on logistics service quality by identifying and explaining the constructs from previous academic research conducted in the field. These constructs are the key to understanding the influencing factors of logistics service quality, along with the influencing factors for customer satisfaction and re-use intention. A specific construct is discussed in every section, highlighting its theoretical background and relevance to the study.

2.1.1. Service Quality

The difference among the service that the customers have received and the expectations of them prior to the receiving of the service, is how service quality was defined in the past. (Gronroos, 2001). When a customer is only expecting for his shipment to arrive within the time that was foretold by the logistics service provider, and it arrives sooner than the expected, the perceived service quality is highly strengthened. Also, if a customer is waiting for a reply in a day and the logistics service provider replies within minutes, the service quality is perceived highly positive. This could be seen as a game of expectations and returns.

Later, according to Parasuraman et al., (1985), the comparison among the services that are currently being provided by the service provider and what they actually should be providing is told as the definition of perceived service quality. In the logistics sector, for example, a company providing brilliant warehousing, but not offering a short period of free warehouse time could be leading to a loss of a massive customer base. If their providing isn't what's actually needed by the customer, it is not possible for the logistics service providers' services to be perceived positively by the customers.

Service based on Gronroos (2000) was seen as a process that was consisting of a series of activities that were more or less intangible. These activities were normally taking place in interactions among the customers and employees (service sector), resources, possessions or systems of the service provider. In the Logistics sector this could be seen anywhere from the interactions with the personnel or the possessions of the logistics service provider such as its fleet of vehicles.

2.1.2. Personnel Contact Quality

The dimension of personnel contact quality is to evaluate the quality level of the interaction and communication among the logistics service provider's contact personnel and the customer. It is an essential dimension to evaluate because the interaction made among the contact personnel and the customer is significant when it comes to affecting customers' perceptions of expectations (Parasuraman et al., 1985). This dimension is to understand how well the staff is putting in effort to understand the customers needs and trying to provide effort to solve it to meet the customers needs during the delivery of service.

The customers would evaluate the quality of service they receive from the logistics service providers based on the three following factors which are physical quality, corporate quality and interactive quality. The main component among the three is the interactive quality and it is to show how the service quality provided is perceived by the customer based on the interaction with the contact employee (Lehtinen and Lehtinen, 1991). Personnel contact quality is one of the most important aspect that determine customer satisfaction in marketing. It wouldn't be wrong to consider a personnel who has a direct encounter with the customer can be considered a sales personnel, because that one encounter could be the moment of truth where the customer makes up their mind about the service (Harvey, 1998). It is found by (Stank et al., 2003) that the greater performance in the relations are showing higher positivity in terms of satisfaction.

In most service encounters, customers form a perception of the quality during the service delivery (Parasuraman, Zeithaml, andBerry 1985). These perceptions are often linked to

the quality of the personnel's contact quality in the service acquisition process, rather than the service outcome (Surprenant and Solomon, 1987).

The understanding and involving contacts personnels which are the first to encounter with the customers, tends to understand the customers' expectations from the service provider and find out their needs to act accordingly. Some of the most essential characteristics of a service personnel are to have experience on several cases, and understand their concerns, the ability to be involved in solving the problems that may occur in the shipment process and how they handle the interaction with the customers (Bitner et al., 1994; Mentzer et al., 2001).

2.1.3. Ordering Procedures

Ordering procedures is another dimension that is counted in the logistics service quality and it is to show the ease of use and the smoothness of the procedures set by the logistics service provider. Another definition is that the effectiveness and efficiency of the procedures of suppliers are ordering procedures (Bienstock, Mentzer, and Bird 1997; Mentzer, Flint, and Kent 1999; Mentzer, Gomes, and Krapfel 1989; Mentzer, Rutner, and Matsuno 1997; Rinehart, Cooper, and Wagenheim 1989). This applies both in pre-paid and collect shipments, or any other payment plan made by the parties that involve in the trade.

Ordering procedures is especially linked to ease of use, which is the scale of a customers thought of a specific system being free of effort to be used (Davis, 1989, p. 320). Another definition made by (Rahadi & Zaniel, 2015) is that ease of use is an individual's level of confidence on the belief that a information technology is not difficult to use, not difficult to understand and doesn't require special skills to be used. While Jogiyanto (2008: 152) suggests that indicators such as being easy to learn, control and to comprehend, being adaptable and easily applicable measures the ease of use of the ordering procedures.

2.1.4. Operational Information Sharing

Competence in logistics can not be seen in one level, but multiple levels of service quality and operational information sharing is another tool to enhance the service quality and the customer satisfaction to ensure the re-use of services.

Operational information sharing can be defined as the dimension that is showing the level of effectiveness of sharing the accurate and timely or real time information effectively and in a standardized manner. It is a system that is being used by all the modern logistics service providers because it is a system that enhances the customer satisfaction, due to the increased positive perception of service quality of the customers (Parasuraman et al., 1985). Backed up by (Spekman et al., 1998), a quality information sharing contributes positively to customer satisfaction.

The operational informational sharing can be divided into two as internal information sharing and external information sharing. The internal information sharing is the information exchange that is happening inside the service provider company, among the workforce. On the other hand, the external information sharing is the information sharing among the workforce with the external parties such as the customers. Even though the internal information sharing is a contribution to the service quality by indirectly enhancing the factors such as the timeliness and accuracy of the service being provided, the external information sharing is a much more direct factor to increase the positive perception of service quality by the customers because for the customers, the process is as important as the outcome of the service in terms of expectations (Parasuraman et al., 1985).

2.1.5. Operational Quality

The dimension that shows operational aspects, such as the accurate delivery of products; a handling service that includes storage capacity and handling of the trade documents without any issues occurring; and the overall efficiency of the logistics operations is identified as the operational quality.

Delivery is one of the key elements of the dimension of operational quality. According to Hedin, Jonsson, and Ljunggren (2006), because it is directly interacting with the customers the delivery dimension is named the driver of customer satisfaction.

Operational quality in the B2B environment is seen as a key driver of customer satisfaction. Companies depend heavily on the efficiency of their logistics service providers to maintain their own operational quality assurances to their customers. Even a single failure in the operational process may cause delivery problems and can lead to significant business disruptions and financial losses. Many shippers and related service providers have been damaged severely due to the operational problems caused in the product delivery (Ziaullah, Yi and Akhter (2014).

As Mentzer et al. (2001) suggests that the timely delivery of the shipment and solving of shipment related problems affects the satisfaction. The timely delivery is a crucial component that affects customer satisfaction (Bienstock et al., 1997; Mentzer et al., 2001).

2.1.6. Resource Quality

The perceived quality of the resources that used to provide and accomplish the logistics services by the logistics service provider which includes physical facilities, workforce, geographical reach, functional fleet at its disposal, and the perception of information technology of the logistics service provider by the customers, are showing the resource quality dimension. A very similar definition is made by (Gupta et al., 2022) as the availability of the constructs of adequate workforce, financial stability, geographical reach, adequate and maintained information technology infrastructure and the use of modern fleet. In addition it is highlighted that the resource quality is directly affecting customer satisfaction and thereby affecting customer loyalty, which is a relevant dimension with the re-use intention. Revised from (Thai, 2008) the equipment and facilities, financial stability, shipment track and trace capability, physical infrastructure were included in the resource related port service quality, on the research made for service quality in maritime transportation.

The geographical reach of the logistics service provider is one of the most important aspects of the dimension of resource quality. One of the factors that affect the geographical reach is location. According to (Kempny, 2001) the location of the logistics service providers are crucial since it affects the delivery time of the cargo, and could provide access to special labor. The variety of locations provide variety of specialty services, higher reach, and more flexibility, therefore a logistics service provider will have a stronger presence when a location of network can be created among different logistics facilities in different locations (Takata, 2016).

2.1.7. Customization Quality

Customization of service is defined as the changes or modifications made on the current configuration of a service and so the creation of a new service. And so the customers can express their actual needs and requirements of the service, for the marketer to understand and fulfill their needs by customizing the service (Wind and Rangaswamy, 2001).

Evidence for positive relationship among customization and customer satisfaction can be seen in a research based on the American Customer Satisfaction Index Model (Fornell et al., 1996). Ostrom and Lacobucci (1995), suggests that customization of services contribute to the customer satisfaction.

Explained by Wang et al. (2010), customization affects the customers' satisfaction positively and service providers must pay attention to figuring out customers' specific needs and act accordingly, customizing their services to meet their needs in the most optimal way possible.

2.1.8. Tangibility

Tangibility includes factors such as the condition of the vehicles or the quality and condition of the equipment the service provider possesses. The importance of such factors is that they reflect the value of the service provider company to their customers (Ramya,

Kowsalya, and Dharanipriya, 2019). The better tangibles the service provider has, the better service provided to the customers.

Lau et al. (2013) is stating that the physical facilities and equipment have a positive effect on customer satisfaction.

Tangibles are an attraction for physical facilities, equipment and materials used by organizations that is having an influence on customer satisfaction Melia (2016).

In the logistics service quality, the importance of visually appealing vehicles and equipment will be collectively shaping the customers' perceptions and contribute to their customer satisfaction (Parasuraman, Zeithaml, and Berry, 1988).

2.1.9. Reliability

Reliability is the ability of employees in a company or an organization to provide services in accordance with what is promised to the customer, accurately and reliably (Wang et al. (2004). Reliability includes dimensions such as the duration of the process and the waiting time of the freights delivery. Companies value reliable services especially if they have a regular shipment traffic to certain destinations.

Reliability is the employees' ability to serve in accordance with what has been promised to the customer appropriately, which includes the performance of the services being in accordance with the customers expectations. The services should be on time, the same service should be provided for all customers (Collier & Bienstock, 2006).

2.1.10. Assurance

A companys relationship with its customers are being enhanced to understand and meet their needs and expectations by logistics service quality and it is characterized primarily by assurance (Davis, 2006: 35). It involves the knowledge of the employees and the trustworthiness of the company which is the core of the assurance aspect of the logistics service quality.

Being one of the five dimensions of service quality according to Parasuraman, Zeithaml, and Berry (1988), It is defined as knowledge and courtesy of employees and their skill on how they are able to gain trust and confidence of customers.

2.1.11. Responsiveness

In direct correlation with our research, Robert & Wowor (2011) says that responsiveness can create customer satisfaction and repeat transactions. The reason behind that is that customers who acquire rapid service and responses from the service provider company tends to have greater satisfaction from the service they acquire and thereby tend to re-use the service from the same company.

However responsiveness is very dependent on the employees of the company. It is based on the personal responsibility of the organization. An employee who has a strong responsiveness level encourages the desire of treating customers fairly (Yousapronpaiboon, 2014). Organizations key to improving on the service environment is to have their existing employees create a commitment to the work they are doing, so that the quality of services provided can satisfy their customers (Khan & Fasih, 2014).

2.1.12. Customer Satisfaction

Customer encounters the service provided by the service provider and the value that they perceive positively based on the encounter results in the satisfaction of the customer (Hallowell, 1996). The greatest factor that contributes to the level of customer satisfaction directly is the perceived service quality, even more than the product. (Fornell, 1996) This shows the importance of service quality and its superiority in the field which can even exceed the value a product gives to a customer. As in the logistics sector, customer satisfaction is highly dependent on the service quality of the logistics service provider and thereby the logistics service provider has to be aware of the power of service quality and reinforce its dimensions. Yet according to (Athanasopoulos, 2000) customer satisfaction is truly based on what the customer paid for the service and what value they received in return. An example from air cargo is that airlines often have different services based on

exclusivity such as: Economy, Premium and Urgent. As the names suggest, economy is usually the least exclusive yet the most affordable among all of the different options that airlines offer. The customer can not make a refund inquiry in case of flight cancellations or delays and the shipment is often not guaranteed to fly on the desired flight of the customer. On the other hand, the Urgent cargo is asking for a higher monetary rate per kilo while guaranteeing the flight, ensuring priority and providing special benefits such as offering the privilege of the customer to ask for a great discount on the rate if the shipment doesn't depart on the desired flight that the customer have chosen.

If the customer finds the service they desire adequate or more than what they have expected, it will lead to customer satisfaction which is showing a positive relationship (Bagozzi, 1992).

The main purpose of service quality is customer satisfaction and the main purpose of customer satisfaction is to ensure the repurchase intentions of the customer, creating loyalty. Service quality and customer satisfaction are directly in correlation with repurchase intention (re-use intention) which is directly aiming to create loyalty among the customer and the service provider (Levesque & MC Dougall, 1996).

Customer satisfaction is a result of the perception of service and the value they are being offered by the service provider. As well, for the customer the value is determined by how they see the quality they receive for the price that they pay for the service they receive (Blanchard & Galloway, 1994). The value, by the customers are also being compared to their expectations of what they would receive from a competitor of the service provider if they have chosen them instead of the current service provider. Their expectations from players from the same market might elevate or lower the level of expectations and yet affect the satisfaction they receive from the current service provider (Zeithaml et al., 1990).

The actions that the service companies, such as the logistics service providers have increased dramatically regarding the customer satisfaction management in the past two decades (Honomichl, 1993). Such companies have switched their focus and started targeting customer satisfaction (Wall Street Journal 1998), after it was found in the 1990's that the customer satisfaction ratings were indicating customer retention which

directly contributes to the profit they make, since customer retention is a key for service provider companies success (Jones & Sasser 1995; Reichheld, 1996). This made many service companies to spend resources to gather information on how the customer satisfaction was connected to affecting customer retention (Bolton, 1998). This allocation of resources on this aim of companies that have to understand the relationship among the customer satisfaction and customer retention is justified by that it is accepted as a fact now that attracting a new customer is always higher in cost for a company to retaining one (Richheld, 1996).

2.1.13. Re-use Intention

It is important to have an idea on the factors that has a relationship with the re-use intention dimension. Recent related researchers especially in the field of marketing have also examined and contained re-use intention in their research. As in this study, it is predicted that it is a dimension linked to customer satisfaction and service quality.

Recently, the dimension of re-use intention has been a highly used topic by researchers, especially in the marketing. It is told by de Oña et al. (2015) that the positive customer satisfaction is directly affecting the customers re-use intention. Jen et al. (2011) has made a very valuable examination and has made a research on the relationship among the service quality, satisfaction, perceived value and re-use intention and the findings indicate that customer satisfaction is fulfilling a bridge role among service quality and re-use intention, just as in this thesis' research hypotheses.

2.2. Earlier Models from the Literature

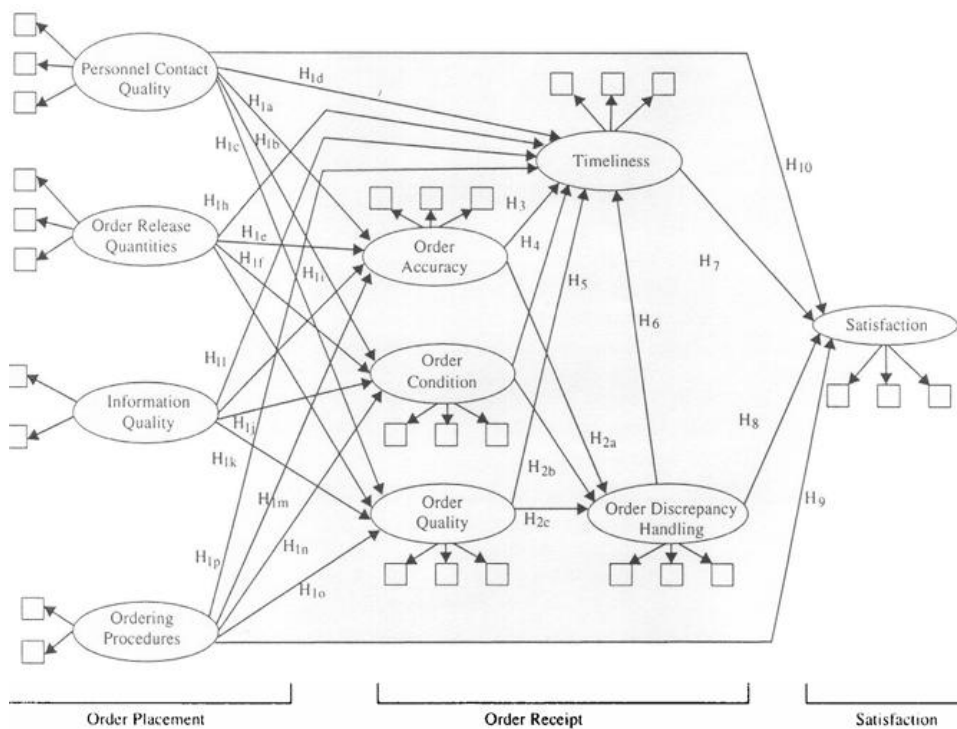
Logistics service quality, customer satisfaction and re-use intention are a cornerstone for effective marketing and customer relationship management for logistics companies who wants to improve their efficiency in the sector.

Reviewing and understanding the models from the literature is crucial to gain a wider perspective in effectively developing new research. By reviewing these models, the research will identify key variables that form the foundation of its framework.

2.2.1. Logistics Service Quality as a Segment-Customized Process

The first model demonstrated below is created by Mentzer et al. (2001), presents a thorough framework for logistics service quality by categorizing its components into three stages which are ‘Order Placement’, ‘Order Receipt’ and ‘Satisfaction’.

Figure 2.1. Proposed Research Model of Mentzer et al. (2001)



(Source: Mentzer et al. (2001). Logistics service quality as a segment-customized process.)

Order placement includes variables such as personnel contact quality, order release quantities, information quality and ordering procedures.

Order receipt includes variables such as order accuracy, order condition, order quality, timeliness and order discrepancy handling.

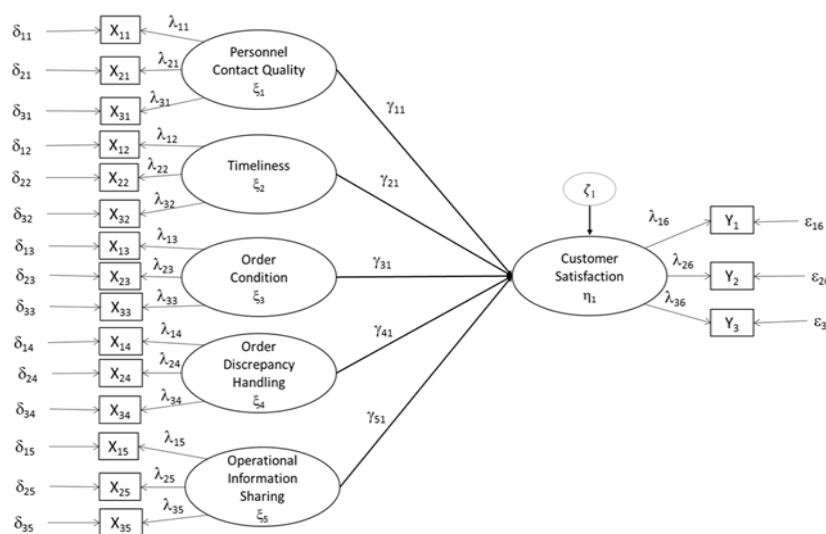
Satisfaction is the ultimate outcome as the dependent variable.

The key findings regarding the hypotheses of the research of Mentzer et al. (2001) is that only timeliness, order discrepancy handling, ordering procedures and personnel contact quality was hypothesized as affecting customer satisfaction, and yet only three being order discrepancy handling, ordering procedures and personnel contact quality were found to be significant and supported.

2.2.2. Importance of Logistics Service Quality in Customer Satisfaction

The second model demonstrated below is created by Uvet, H. (2020). The model is examining the impact of logistics service quality on customer satisfaction by using six key variables, five being personnel contact quality, timeliness, order condition, order discrepancy handling and operational information sharing hypothesized directly to influence the sixth variable which is customer satisfaction.

Figure 2.2. Proposed Research Model of Uvet, H. (2020)



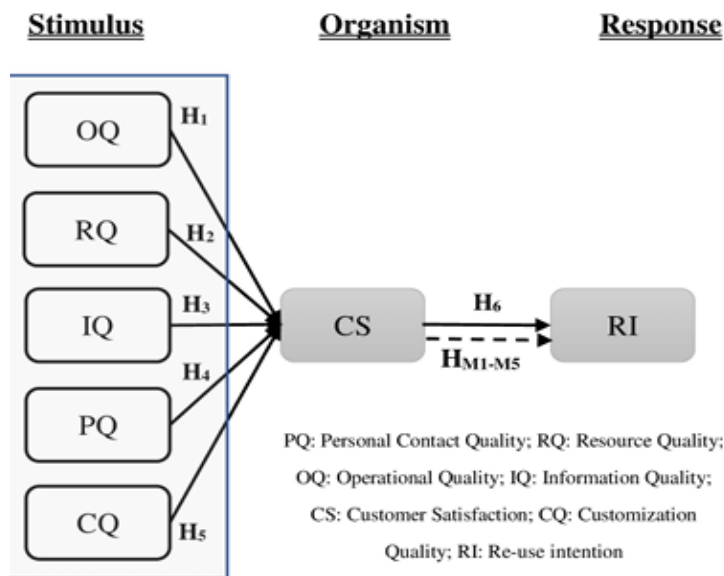
(Source: Uvet, H. (2020). *Importance of logistics service quality in customer satisfaction: An empirical study.*)

The findings were that all hypotheses were supported except order discrepancy handling which it did not have a significant impact on customer satisfaction.

2.2.3. Examining the Effect of Logistics Service Quality on Customer Satisfaction and Re-use Intention

The third model demonstrated below is created by (Lin et al., 2023). The model is using the stimulus-organism-response (SOR) framework to investigate the relationship among logistics service quality, customer satisfaction and re-use intention. The three components of the model hypothesized as stimulus (operational quality, resource quality, information quality and customization quality) affects the organism (customer satisfaction) which mediates the relationship between the stimulus and the response (re-use intention).

Figure 2.3. Proposed Research Model of Lin et al. (2023)



(Source: Lin et al. (2023) *Measuring service quality in the banking industry: a Hong Kong-based study.*)

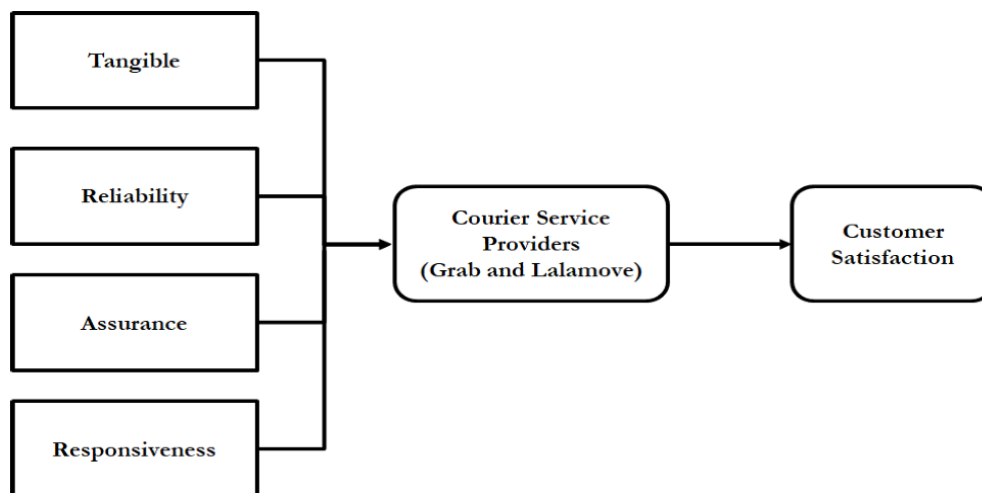
The findings were supporting all proposed hypotheses. However, the research was built on a single retailer's customers, limiting the generalizability of the research in the

marketing environment. This thesis broadens the research by including additional crucial variables that have a possible influence on customer satisfaction, and targets various different industries to collect data for a more generalizable results.

2.2.4. Service Quality Influence on Customer Satisfaction in Courier Services

The fourth model explained below is created by (Libo-on, 2021). The model explains how the four service quality dimensions, being tangibility, reliability, assurance and responsiveness, impact customer satisfaction in logistics services, especially the courier services on their specific research.

Figure 2.4. Proposed Research Model of Libo-on (2021)



(Source: Libo-on, J. T. (2021). *Service quality influence on customer satisfaction in courier services: A comparative study.*)

Hypotheses were formed as the variables which are tangibility, reliability, assurance and responsiveness do not significantly influence customer satisfaction.

The findings illustrate that all above hypotheses were rejected meaning the four key variables of service quality, influences customer satisfaction in courier services.

PROPOSED RESEARCH MODEL AND HYPOTHESES DEVELOPMENT

The Figure 3.1. below demonstrating the proposed model of this research is created in order to investigate and validate the service quality factors that may influence the success of a logistics service provider company through the increased customer satisfaction and possible increase on re-use intention of the logistics services from the same company by the satisfied customers.

Figure 3.1. Proposed Research Model



The model is created in order to research various factors that influence customer satisfaction which are: personnel contact quality, ordering procedures, operational information sharing, operational quality, resource quality, customization quality, tangibles, reliability, assurance and responsiveness. In addition to investigating the relationship of these logistics service quality variables with the customer satisfaction

variable, the relationship of customer satisfaction variable and re-use intention variable were also investigated.

This approach will enlighten researchers by enhancing the scope of the research by operating on both the company's internal perspective and the customers' external point of view, thereby leading to highly informative decision making strategies for logistics service provider companies.

3.1. Hypothesis Development for Personnel Contact Quality

In order to understand the relationship among personnel contact quality and customer satisfaction, the following hypothesis was formed:

H1: Personnel contact quality positively affects customer satisfaction.

The above hypothesis (H1) is indicating that the quality of the personnels contact with the customer is directly influencing the customers' perception of service quality. If the contacting personnels are actively putting in effort to understand and help the customers who are in need of assistance, if they are resolving problems and if they are applying the exceptional service knowledge they have, the overall service experience is being enhanced.

In addition, the positive interactions made by the contact personnel with the customers, create a sense of care and understanding in the customers' minds which makes them feel emphasised and it contributes to the overall customer satisfaction by contributing to the perception of service quality. The ability of contact employees to develop empathy and address customer needs creates a connection which is impacting the overall level of customer satisfaction with the logistics service provider.

3.2. Hypothesis Development for Ordering Procedures

Below hypothesis was formed in order to understand the relationship between ordering procedures and customer satisfaction:

H2: Ordering procedures positively affect customer satisfaction.

The hypothesis is suggesting that when orders are being placed efficiently and easily, its making the overall experience of the customer smoother and less effort consuming. If the customers find the ordering procedures to be effective and simple, they won't get overwhelmed. This simply influences their overall satisfaction from the service they're acquiring from the logistics service provider.

3.3. Hypothesis Development for Operational Information Sharing

To understand the relationship among operational information sharing and customer satisfaction, the following hypothesis was formed:

H3: Operational information sharing positively affects customer satisfaction.

The above hypothesis H3, is showing that the quality of sharing operational information is improving the smoothness level of the service delivery. Also, real-time information sharing with the customers are enhancing the overall service quality they perceive and therefore affecting the customer satisfaction positively.

The ability to share accurate information is generating transparency and therefore it is building trust in the logistics service provider. Customers very much value real-time information, so when the logistics service provider meets this expectation by providing real-time information regarding the case of customers, it is enhancing the customer satisfaction by fulfilling one step of their needs in the overall service they're acquiring from the logistics service provider.

3.4. Hypothesis Development for Operational Quality

To understand the connection between operational quality and customers' satisfaction, following hypothesis was formed:

H4: Operational quality positively affects customer satisfaction.

Above hypothesis H4 is suggesting that the operational quality, including delivering the right product, having adequate storage allowance and the effective handling of the trade documents is contributing to a reliable and consistent service experience. The timely and accurate delivery of service along with the effective handling of operational aspects is creating confidence in the customers. To be able to meet or exceed the expectations of the customers with the quality of operations as a logistics service provider, is enhancing overall level of satisfaction and the positive perception of the service, therefore increasing the customer satisfaction.

3.5. Hypothesis Development for Resource Quality

To examine the relationship between the perception of resource quality and customer satisfaction, the following hypothesis was formed.

H5: Resource quality positively affects customer satisfaction.

The above hypothesis is aiming to research that the availability of physical facilities, an adequate workforce, geographical reach and modern technology is positively contributing to the perception of logistics service quality. Because resource quality is one of the foundation aspect of service delivery and based on previous research, it is highly likely for such possessions of resources for logistics service providers to influence customer satisfaction.

3.6. Hypothesis Development for Customization Quality

In order to understand the relationship between customization quality and customer satisfaction, below hypothesis was formed:

H6: Perception of customization quality positively affects customer satisfaction.

The hypothesis is suggesting that the customization of logistics to meet specific customer needs, offering different options, and providing unique services to contribute to a personalized experience is enhancing the overall satisfaction with the logistics services, as customers perceive the logistics service provider interested in their services.

3.7. Hypothesis Development for Tangibility

In order to understand the relationship between tangibility and customer satisfaction, below hypothesis was formed:

H7: Tangibility positively affects customer satisfaction.

The hypothesis is suggesting that the physical representation of the service quality such as the well-maintained vehicles and equipments are directly enhancing the customers satisfaction level from the service acquired from the logistics service provider. Customers are tending to understand the quality of tangible assets with the capability and readiness of their logistics service provider to meet their needs effectively. This connection is boosting their overall satisfaction as they are feeling reassured that the logistics service provider that they are working with has invested in delivering great service through visible and tangible commitments.

3.8. Hypothesis Development for Reliability

In order to understand the relationship between reliability and customer satisfaction, below hypothesis was formed:

H8: Reliability positively affects customer satisfaction.

The above hypothesis is suggesting that the reliability dimension is a measurable expression of a service providers consistency and dependability in offering the promised services to their customers, and reliability is directly effecting the customer satisfaction. When customers receive the promised services from the service provier they work with without any delays or errors, their trust in the service provider increases. The consistency of the delivery of great services is generating a higher customer satisfaction because the consistency of great service is ensuring the customer that the service provider they work with is reliable and very likely to meet their expectations without any issues occurring most of the time. Customers are valuing the predictability of services they acquire, and a customer with a ongoing reliance is proving that they are satisfied with the service they obtain.

3.9. Hypothesis Development for Assurance

In order to understand the relationship between assurance and customer satisfaction, below hypothesis was formed:

H9: Assurance positively affects customer satisfaction.

The hypothesis is suggesting that assurance, which is encompassing the trustworthiness of the company and the competence of the company in being able to address solutions to customer needs makes the customers feel more secure in the service being provided to them. This security is translating into a greater customer satisfaction level as the customers are assured that the company is capable of effectively handling their needs and protecting their interests. The elements of trust, security and knowledge is the foundation of the assurance dimension and these elements are particularly crucial in logistics where customers are entrusting valuable goods and/or information to the logistics service provider they work with.

3.10. Hypothesis Development for Responsiveness

In order to understand the relationship between responsiveness and customer satisfaction, below hypothesis was formed:

H10: Responsiveness positively affects customer satisfaction.

The hypothesis is suggesting that the ability of service providers to react quickly and effectively to the service inquiries and problems that came from the customers is playing an important role in enhancing the satisfaction of customers. In addition, responsiveness is not only addressing the immediate needs of the customers but the company's commitment to the customer satisfaction and their ongoing relationships with them. The more responsive a service provider company is, the more they are likely to have customers who feel valued and understood, thereby increasing their satisfaction and the likelihood of them returning for future usages of the service.

3.11. Hypothesis Development for Customer Satisfaction

In order to understand the relationship among customer satisfaction and re-use intention, below hypothesis was formed:

H11: Customer satisfaction positively affects logistics service re-use intention.

The hypothesis is indicating that a high level of customer satisfaction is positively affecting the customers intention of re-using the logistics services from the same service provider. Because the satisfied customers are more likely to be loyal and show positivity towards the service provider company. That is indicating that customer satisfaction is a strong driving force behind the customers re-use intention of the logistics services due to the relationship and trust they have established among themselves as a customer and the logistics service provider.

3.12. Final Look of the Developed Hypotheses

H1: Personnel contact quality positively affects customer satisfaction.

H2: Ordering procedures positively affect customer satisfaction.

H3: Operational information sharing positively affects customer satisfaction.

H4: Operational quality positively affects customer satisfaction.

H5: Resource quality positively affects customer satisfaction.

H6: Customization quality positively affects customer satisfaction.

H7: Tangibility positively affects customer satisfaction.

H8: Reliability positively affects customer satisfaction.

H9: Assurance positively affects customer satisfaction.

H10: Responsiveness positively affects customer satisfaction.

H11: Customer satisfaction positively affects logistics service re-use intention.

RESEARCH DESIGN AND METHODOLOGY

This chapter delves into the designing and the methodology of this study. Firstly, the research objective will be detailed, followed by the research design. Next, operationalization of variables will be explained. Furthermore, questionnaire development and design, followed by the questionnaire administration and data collection methods will be addressed. Finally, sampling methods and data analysis techniques are going to be discussed.

4.1. Research Objective

The primary objective of this study is to investigate the determinants of logistics service quality and their effectiveness regarding customer satisfaction and re-use intention of the services acquired in a B2B environment.

The research aims to provide insights for the logistics service providers regarding improving their service quality and enhance client retention. The findings contribute to the field of marketing by offering a highly structured model for developing strategies specifically tailored for the B2B relationships which allows companies to optimize their services directly and maintain competitive advantage in the market.

4.2. Research Design

The study uses descriptive research design in order to evaluate the relationships among logistics service quality variables, customer satisfaction and re-use intention. The approach adopted was cross-sectional and collected data at a specific point in time by utilizing survey research as the data collection technique, adopting a quantitative methodology. This design approach was chosen as it was considered the most optimal approach as survey is advantageous to apply and efficient to extract reliable results if the amount of participants are high. By utilizing this approach the goal was to identify the

key drivers of influencing customer satisfaction and the effects on re-use intention within a B2B context in an efficient manner.

4.3. Operationalization of Variables

In this study, a multi-item scale approach is adopted due to single-item scales being criticized due to their generally low scores of reliability (Churchill, 1979). Likert scale of five responses ranging from strongly agree to strongly disagree was utilized.

In total, 12 variables were analyzed in the proposed model of the research, number of measured items for each variable were ranging from 2 to 6. The measurements were designed to investigate logistics service quality variables, customer satisfaction, and re-use intention.

In order to receive robust answers all variables were measured based on the survey participants' own perceptions, yet every statement were carefully constructed in order to be clear and avoid any misunderstandings. While most of the items were adapted from established scales in previous studies from the field, some were derived from the well-regarded source regarding marketing scales. Issues regarding the unidimensionality of variables were tried to be avoided.

By taking these measures, the goal of the research aimed to collect accurate data that reflects the participants true attitudes towards each construct, enlightening a meaningful bond among logistics service quality, customer satisfaction and re-use intention in a B2B context in order to create insights for the fields of marketing.

Following section will be covering how each variable was measured, along with the source that they were adapted from.

4.3.1. Personnel Contact Quality

A five-point Likert scale ranging from 1="strongly disagree" to 5="strongly agree" was used in order to measure this variable. This scale includes three items. Participants of the survey were asked to rate how strongly they agree or disagree with each statement

regarding their experiences with the logistics service provider that they have worked with. The items were adapted to this study from established scales from previous studies to ensure the reliability with the context of the research. To enhance clarity for the participants and relevance to the specific model, modifications were made. In the Table 4.1. a summary of the final statements and their source is provided.

Table 4.1. Operationalization of Personnel Contact Quality

Statement	Source
Contact employees of the logistics service provider make an effort to understand my situation.	Uvet, H. (2020)
Contact employees of the logistics service provider resolves my product or service-related issues.	
The service knowledge of the logistics service provider's contact employees meet my expectations.	

4.3.2. Ordering Procedures

A five-point Likert scale ranging from 1=“strongly disagree” to 5=“strongly agree” was used in order to measure this variable. This scale includes five items. Participants of the survey were asked to rate how strongly they agree or disagree with each statement regarding their experiences with the logistics service provider that they have worked with. The items were adapted to this study from established scales from previous studies to ensure the reliability with the context of the research. To enhance clarity for the participants and relevance to the specific model, modifications were made. In the Table 4.2. a summary of the final statements and their sources are provided.

Table 4.2. Operationalization of Ordering Procedures

Statement	Source
Requisitioning procedures are effective in facilitating a smooth ordering process.	Mentzer et al. (2001)
Requisitioning procedures are easy to navigate.	
Ordering procedures for logistics services took short time to complete.	Bruner (2008)
Ordering procedures for logistics services were simple.	
Ordering procedures for logistics services were clear.	

4.3.3. Operational Information Sharing

A five-point Likert scale ranging from 1=“strongly disagree” to 5=“strongly agree” was used in order to measure this variable. This scale includes four items. Participants of the survey were asked to rate how strongly they agree or disagree with each statement regarding their experiences with the logistics service provider that they have worked with. The items were adapted to this study from established scales from previous studies to ensure the reliability with the context of the research. To enhance clarity for the participants and relevance to the specific model, modifications were made. In the Table 4.3. a summary of the final statements and their source is provided.

Table 4.3. Operationalization of Operational Information Sharing

Statement	Source
Operational information is effectively shared with customers.	Uvet, H. (2020)
Services have the capability to share both standardized and customized information with customers.	
The information provided by the logistics service provider is accurate.	
Real-time information about shipping is accessible at any time.	

4.3.4. Operational Quality

A five-point Likert scale ranging from 1=“strongly disagree” to 5=“strongly agree” was used in order to measure this variable. This scale includes five items. Participants of the survey were asked to rate how strongly they agree or disagree with each statement regarding their experiences with the logistics service provider that they have worked with. The items were adapted to this study from established scales from previous studies to ensure the reliability with the context of the research. To enhance clarity for the participants and relevance to the specific model, modifications were made. In the Table 4.4. a summary of the final statements and their source is provided.

Table 4.4. Operationalization of Operational Quality

Statement	Source
The logistics service provider delivers the right product to the right place.	
The logistics service has a reliable storage capacity.	
The logistics service provider delivers promised services without failure.	Lin et al. (2023)
The logistics service provider delivers goods without loss or damage.	
The logistics service provider effectively handles trade documents.	

4.3.5. Resource Quality

A five-point Likert scale ranging from 1=“strongly disagree” to 5=“strongly agree” was used in order to measure this variable. This scale includes five items. Participants of the survey were asked to rate how strongly they agree or disagree with each statement regarding their experiences with the logistics service provider that they have worked with. The items were adapted to this study from established scales from previous studies to ensure the reliability with the context of the research. To enhance clarity for the

participants and relevance to the specific model, modifications were made. In the Table 4.5. a summary of the final statements and their source is provided.

Table 4.5. Operationalization of Resource Quality

Statement	Source
The logistics service provider has adequate physical facilities.	Lin et al. (2023)
The logistics service provider has a responsive workforce.	
The logistics service provider has extensive geographical reach.	
The fleet of the logistics service provider is functional.	
The information technology of the logistics service provider is adequately maintained and updated.	

4.3.6. Customization Quality

A five-point Likert scale ranging from 1=“strongly disagree” to 5=“strongly agree” was used in order to measure this variable. This scale includes five items. Participants of the survey were asked to rate how strongly they agree or disagree with each statement regarding their experiences with the logistics service provider that they have worked with. The items were adapted to this study from established scales from previous studies to ensure the reliability with the context of the research. To enhance clarity for the participants and relevance to the specific model, modifications were made. In the Table 4.6. a summary of the final statements and their source is provided.

Table 4.6. Operationalization of Customization Quality

Statement	Source
The logistics service provider offers services for customers' requests.	
The logistics service provider provides diverse options for logistics services.	
The logistics service provider offers services that fulfill my specific needs.	Lin et al. (2023)
The logistics service provider offers unique services not found in other logistics providers.	
If I changed between companies, I wouldn't obtain services as customized as I have now.	

4.3.7. Tangibility

A five-point Likert scale ranging from 1="strongly disagree" to 5="strongly agree" was used in order to measure this variable. This scale includes two items. Participants of the survey were asked to rate how strongly they agree or disagree with each statement regarding their experiences with the logistics service provider that they have worked with. The items were adapted to this study from established scales from previous studies to ensure the reliability with the context of the research. To enhance clarity for the participants and relevance to the specific model, modifications were made. In the Table 4.7. a summary of the final statements and their source is provided.

Table 4.7. Operationalization of Tangibility

Statement	Source
The vehicles used by the logistics service provider are in good condition.	Libo-on (2021)
The logistics service provider has modern-looking equipment.	

4.3.8. Reliability

A five-point Likert scale ranging from 1=“strongly disagree” to 5=“strongly agree” was used in order to measure this variable. This scale includes four items. Participants of the survey were asked to rate how strongly they agree or disagree with each statement regarding their experiences with the logistics service provider that they have worked with. The items were adapted to this study from established scales from previous studies to ensure the reliability with the context of the research. To enhance clarity for the participants and relevance to the specific model, modifications were made. In the Table 4.8. a summary of the final statements and their source is provided.

Table 4.8. Operationalization of Reliability

Statement	Source
The orders are delivered without damage.	
The delivery was prompt and reliable.	
The delivery’s waiting time is short.	Libo-on (2021)
The logistics service provider has provided the delivery service within the promised time.	

4.3.9. Assurance

A five-point Likert scale ranging from 1=“strongly disagree” to 5=“strongly agree” was used in order to measure this variable. This scale includes three items. Participants of the survey were asked to rate how strongly they agree or disagree with each statement regarding their experiences with the logistics service provider that they have worked with. The items were adapted to this study from established scales from previous studies to ensure the reliability with the context of the research. To enhance clarity for the participants and relevance to the specific model, modifications were made. In the Table 4.9. a summary of the final statements and their source is provided.

Table 4.9. Operationalization of Assurance

Statement	Source
I feel safe when making transactions with the logistics service provider.	
The logistics service provider is knowledgeable in answering all my concerns.	Libo-on (2021)
The logistics service provider is trustworthy.	

4.3.10. Responsiveness

A five-point Likert scale ranging from 1=“strongly disagree” to 5=“strongly agree” was used in order to measure this variable. This scale includes four items. Participants of the survey were asked to rate how strongly they agree or disagree with each statement regarding their experiences with the logistics service provider that they have worked with. The items were adapted to this study from established scales from previous studies to ensure the reliability with the context of the research. To enhance clarity for the participants and relevance to the specific model, modifications were made. In the Table 4.10. a summary of the final statements and their source is provided.

Table 4.10. Operationalization of Responsiveness

Statement	Source
The logistics service provider answered all my questions well enough.	
The logistics service provider can be easily contacted.	Libo-on (2021)
The logistics service provider gives prompt service.	
The logistics service provider has shown willingness to help the customer.	

4.3.11. Customer Satisfaction

A five-point Likert scale ranging from 1=“strongly disagree” to 5=“strongly agree” was used in order to measure this variable. This scale includes six items. Participants of the survey were asked to rate how strongly they agree or disagree with each statement regarding their experiences with the logistics service provider that they have worked with. The items were adapted to this study from established scales from previous studies to ensure the reliability with the context of the research. To enhance clarity for the participants and relevance to the specific model, modifications were made. In the Table 4.11. a summary of the final statements and their source is provided.

Table 4.11. Operationalization of Customer Satisfaction

Statement	Source
I am satisfied with the performance of my logistics service provider.	Lin et al. (2023)
The services offered by the logistics service provider meet my expectations.	
The services provided by the logistics service provider are of high quality.	
Overall, I am satisfied with my logistics service provider.	
My feelings towards the logistics service provider are positive.	
I feel good about choosing this logistics service provider for the services I am looking for.	

4.3.12. Re-use Intention

A five-point Likert scale ranging from 1=“strongly disagree” to 5=“strongly agree” was used in order to measure this variable. This scale includes five items. Participants of the survey were asked to rate how strongly they agree or disagree with each statement

regarding their experiences with the logistics service provider that they have worked with. The items were adapted to this study from established scales from previous studies to ensure the reliability with the context of the research. To enhance clarity for the participants and relevance to the specific model, modifications were made. In the Table 4.12. a summary of the final statements and their source is provided.

Table 4.12. Operationalization of Re-use Intention

Statement	Source
I am willing to use the logistics service provider for future needs.	Lin et al. (2023)
I will use this logistics service provider when I have another inquiry.	
I am willing to recommend the logistics service provider to others.	
I can explain the positive aspects of the logistics service provider to others.	
I will recommend the logistics service provider to people around me.	

4.4. Questionnaire Development and Design

Before developing and conducting the study’s questionnaire, the literature was examined in order to create a questionnaire that aligns with the study’s objectives. All participants were asked the same set of questions, including close-ended, fixed-alternative, and open-ended questions.

The questionnaire included three sections. The first section was introductory, starting by ensuring the eligibility of the participants, followed by demographic details such as their role in their workplace and information regarding their workplace. Participants selecting certain responses to the initial two questions or leaving the survey incomplete were not counted and were filtered out, along with the irrelevant answers on open-ended questions.

The second section included questions to measure the participants' perceptions regarding the logistics service provider that they've been working with. The items utilize a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) with 3 being (neither agree nor disagree). Participants were asked to fill the questionnaire by selecting their level of agreement with each statement, based on their experiences with the logistics service provider that they've been working with.

The third and final section collected demographic information including the respondents age, gender, their education level and their income bracket. Questions without pre-set (selectable) answers were presented with a text box to be filled manually by the participants in their own words.

The questionnaire was originally developed in English but translated into Turkish as the study was setting in Turkey. The finalized versions of the questionnaire in both Turkish and English are provided in Appendix B & C.

4.5. Questionnaire Administration and Data Collection

The data were collected through a structured questionnaire developed using a widely recognized survey platform. The main distribution channels of the survey were by email and messaging applications. At the start of the questionnaire, participants of the survey were informed that the survey aimed to evaluate their experiences with the service provided by the logistics service provider that their company has been working with. It was assured that their participation are voluntary and that they could withdraw at any time. It was also emphasized that no personal information of the participants would be collected and all responses will be confidential, serving only academic purposes.

The estimated time of completing the survey was approximately 7 minutes on average. E-mail address of the author was included on the survey for any inquiries or clarification regarding the questionnaire. General instructions were provided at the start of the survey.

The data collection process lasted for approximately three months. Participants were thanked upon completion of the survey, for their time and contributions.

4.6. Sampling

In this study, convenience sampling method was used. This method is a non-probability sampling method chosen for being practical and accessible, while also ensuring that the survey is reaching the target audience (Etikan et al., 2016).

In order to ensure the accuracy and relevancy of the responses, the survey began with a qualifying question to confirm that the participants were working in a company that is working a logistics service provider. Respondents who did not meet this criteria were excluded from the survey. Only individuals within the target group, being the employees of companies that work with logistics service providers were allowed to participate in the survey to ensure that the data collected were directly aligned with the objective of the research.

Considering the size of the sample, sufficiently large sample was targeted in order to enhance the validity and reliability of the statistical analysis of data. Out of 671 total responses, 303 were fully complete and correctly answered with no missing or invalid data among the retained 303 responses, forming the data set of data analysis in the subsequent sections.

DATA ANALYSES AND RESULTS

5.1. Descriptive Statistics for Demographic Variables

In the survey, participants were asked to answer several questions regarding their demographic information including their gender, age, education level, income, and the industry that they're operating in. The distribution of the responses received were summarized in the Table 5.1. below.

Table 5.1. Descriptive Statistics for Demographic Variables

		Frequency	Percent
Gender	Male	124	40.9
	Female	176	58.1
	Did not disclose	3	1.0
Age	18–25	55	18.2
	26–35	119	39.3
	36–50	105	34.7
	51–65	21	6.9
	66 and above	3	1.0
Education Level	High School	90	29.7
	University (Undergraduate)	174	57.4
	Master's / Doctorate	39	12.9
Income Level	20,000 TL and below	77	25.4
	20,001 – 35,000 TL	118	38.9
	35,001 – 50,000 TL	57	18.8
	50,001 – 80,000 TL	34	11.2
	80,001 TL and above	17	5.6
Industry	Logistics	53	17.5
	Retail	125	41.3
	Others	125	41.3

As shown in the table, the distribution was fairly balanced with 58.1% female and 40.9% male, the other 1% did not disclose their gender. The age group 26-35 was the largest among the respondents with 39.3%, followed by the age group 36-50 which is 34.7%. A smaller portion of the participants were in the age group of 18-25 having the 18.2% and 51.65 bracket with the 6.9%, while only having 1% of the responses responded by participants with the age of 66 and older.

The majority of respondents were university (undergraduate) graduates having the 57.4% share of the education level group, followed by highschool graduates which covers the 29.7% and master's or doctorate degree which covers the remaining 12.9% of the education level respondents.

Regarding the income levels, the most common range was 20,001-35,000TL with 38.9% and 20,000TL and below with 25.4%. Smaller portions of the participants were earning between 35,001-50,000TL with 18.8%, 50,001-80,000TL with 11.2%, and over 80,000TL with 5.6%.

Finally, the industries represented were mostly consisting on retail and others both compromising 41.3% of the total share each, followed by logistics sector making up the remaining 17.5%.

5.2. Data Analysis Method

Variety of statistical methods were used for analyzing the data of respondents of the survey. Descriptive analyses were conducted to examine the demographic profile of the participants and to understand their customer satisfaction and re-use intention related to the logistics service provider that they work with. Factor analyses and reliability analyses were conducted to identify the underlying factors and examine the consistency and reliability of the data.

Correlation analyses were performed in order to explore the relationships among the variables, while regression analyses were performed to determine which independent variables explain the dependent variables.

ANOVA and T-tests were made to evaluate the differences among the groups based on demographic characteristics and other factors of the participants of the survey.

The data analyses were carried out by using the SPSS software, by importing the data from the online survey platform into SPSS for analysis.

5.3. Factor Analyses

In this section, factor analysis results for each variable are presented. In order to confirm its internal consistency and dimensional validity, each variable was tested separately. The purpose of this analysis is to confirm that the survey items are reliably measuring the intended constructs.

5.3.1. Factor and Reliability Analysis for Personnel Contact Quality

The Kaiser-Meyer-Olkin (KMO), measure for sampling adequacy has yielded a result of 0.735 it is marked as satisfactory. The reason being that the result is meeting the general threshold of 0.50 and above, which is telling that the sample is adequate for conducting factor analysis. The Bartlett's test was also significant with the value of $\chi^2=479.436$ (df = 3, p = 0.000). The results for Bartlett's test is demonstrating that there is sufficient correlation among the items and factor analysis can be proceeded.

Table 5.2. KMO and Bartlett's Test Results for Personnel Contact Quality

KMO and Bartlett's Test		Result
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.735
	Approx. Chi-Square	479.436
Bartlett's Test of Sphericity	df	3
	Sig.	0.000

In order to assess the dimensionality of the construct ‘personnel contact quality’, factor analysis was conducted. The factor loadings for all the three items were above the threshold of 0.60 (Hair et al., 2010) which is confirming the validity of the construct. Especially the factor loadings ranging from 0.873 to 0.908 is indicating that the items are strongly related to the underlying factor. The total variance explained is found to be 80.365%. The factor analysis were suggesting that all the three items are highly related to measure a single construct.

Following the factor analysis, reliability analysis was made to analyze the internal consistency of the personnel contact quality construct. The result was the Cronbach’s Alpha value being 0.876, which is indicating a well above the minimum requirement threshold of 0.70 (Nunnally & Bernstein, 1994), proving strong reliability. The analysis result for reliability test is suggesting that the items are consistently measuring the same construct.

Table 5.3. Factor Analyses Results for Personnel Contact Quality

Factor Name	Factor Item	Factor Loading	% Variance	Cronbach's Alpha
Personnel Contact Quality	PCQ 1	0.908	80.365	0.876
	PCQ 2	0.907		
	PCQ 3	0.873		

Given the results of adequate KMO and Bartlett’s tests, along with the high reliability and valid factor loadings results, the personnel contact quality construct was successfully created for the further analyses.

5.3.2. Factor and Reliability Analysis for Ordering Procedures

The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy for ordering procedures has yielded a value of 0.877 which is indicating an excellent sampling adequacy and it’s suggesting that the data is suitable for factor analysis. In addition, Bartlett’s test was also

highly significant $\chi^2=823.060$ ($df = 10, p = 0.000$) which is indicating the presence of inter-item correlations necessary for factor extraction.

Table 5.4. KMO and Bartlett's Test Results for Ordering Procedures

KMO and Bartlett's Test		Result
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.877
	Approx. Chi-Square	823.06
Bartlett's Test of Sphericity	df	10
	Sig.	0.000

Next, factor analysis was conducted in order to assess the factor structure of the five items in it. The factor loadings for all the items are loaded and were above the recommended threshold of 0.60, ranging from 0.774 to 0.872, showing a strong correlation between the items and the identified factor. Total variance explained were found to be 69.658%. Data confirms that the items are measuring one dimension.

According to (Hair et al., 2010), factor loadings above 0.60 is considered acceptable, and the higher the value, the higher the indication of the items representing the underlying factor. In this case, since all of the items have significant loadings, it confirms the validity of the construct.

Reliability analysis for the ordering procedures was made and the result was Cronbach's Alpha value being 0.889, which is above the accepted threshold of 0.70 recommended. This is suggesting a very high internal consistency among the items within the construct of ordering procedures. The results are showing that the items are measuring the same concept in a reliable manner, which is making the construct suitable for further analyses.

Table 5.5. Factor Analyses Results for Ordering Procedures

Factor Name	Factor Item	Factor Loading	% Variance	Cronbach's Alpha
Ordering Procedures	OP 1	0.872	69.658	0.889
	OP 2	0.867		
	OP 3	0.841		
	OP 4	0.814		
	OP 5	0.774		

Since both the KMO and Bartlett's tests, factor loadings and reliability tests were satisfactory, the ordering procedures construct was created to be confidently used in subsequent analyses.

5.3.3. Factor and Reliability Analysis for Operational Information Sharing

The KMO measure of sampling adequacy for operational information sharing was 0.793, which is showing that there is good adequacy, as the value is above 0.7 and implies that there is a solid shared variance among the items. Bartlett's test results were also highly significant $\chi^2=531.437$ (df= 6, $p < 0.001$) and were suggesting strong correlations among the items.

Table 5.6. KMO and Bartlett's Test Results for Operational Information Sharing

KMO and Bartlett's Test	Result	
Kaiser-Meyer-Olkin Measure of Sampling Adequacy	0.793	
	Approx. Chi-Square	531.437
Bartlett's Test of Sphericity	df	6
	Sig.	<0.001

Factor analysis, was conducted in order to assess the structure of operational information sharing construct by examining the items of it. The component matrix yielded results that

were above the 0.60 threshold for factor loadings to be marked as satisfactory. Results was ranging from 0.812 to 0.871. The total variance was accounted as 69.487%. These results indicate that there is a strong relationship among the items and the factor, which suggests that all items are well aligned with the construct that they are intended to measure.

Reliability analysis for operational information sharing was conducted to evaluate the internal consistency of the construct by using Cronbach’s Alpha value. The result of Cronbach’s Alpha value was obtained as 0.851, indicating that it’s consistent among the four items, as it has exceeded the commonly accepted threshold of 0.70.

Table 5.7. Factor Analyses Results for Operational Information Sharing

Factor Name	Factor Item	Factor Loading	% Variance	Cronbach's Alpha
Operational Information Sharing	OIS 1	0.871	69.487	0.851
	OIS 2	0.836		
	OIS 3	0.814		
	OIS 4	0.812		

Since the results of both tests were validating, the grouping of items under one construct of operational information sharing was confidently created to be used in further analyses.

5.3.4. Factor and Reliability Analysis for Operational Quality

The KMO Measure of Sampling Adequacy test had a result of 0.869, indicating a commendable adequacy to conduct factor analysis, followed by a Bartlett’s Test yielding a result of $\chi^2=786.789$ (df = 10, p < 0.001), which were confirming that the correlation structure among the items were sufficient for the analysis.

Table 5.8. KMO and Bartlett's Test Results for Operational Quality

KMO and Bartlett's Test		Result
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.869
Bartlett's Test of Sphericity	Approx. Chi-Square	786.789
	df	10
	Sig.	<0.001

Factor analysis was first conducted for the items of operational quality. Strong item correlations within a single factor was found and approved, as the component matrix was fully loaded with every selected item and was ranging from 0.769 to 0.875. Since the loadings were aligning well under the factor, and supporting that the items were collectively measuring one single construct, which in this case is the construct of operational quality. A total variance of 68.635% was explained in the factor analysis results.

Next, reliability analysis was made and the results were Cronbach's Alpha being 0.885, which is exceeding the threshold of 0.70. This indicates a high level of internal consistency among the items, indicating that the items are reliable in assessing the construct of operational quality.

Table 5.9. Factor Analyses Results for Operational Quality

Factor Name	Factor Item	Factor Loading	% Variance	Cronbach's Alpha
Operational Quality	OQ 1	0.875	68.635	0.885
	OQ 2	0.843		
	OQ 3	0.833		
	OQ 4	0.818		
	OQ 5	0.769		

The constructs items have both showed that it is unidimensional and reliable, which means it will be creating valid construct for further analyses. With these findings, the construct of operational quality was confidently created for further analyses.

5.3.5. Factor and Reliability Analysis for Resource Quality

The KMO value for resource quality items had a value of 0.860, indicating a high level of sampling adequacy and suggesting strong correlation among the items. Bartlett’s Test had a result of $\chi^2=655.531$ (df = 10, p < 0.001), which is indicating to statistically significant correlations among the variables. The results were satisfying for further analyses.

Table 5.10. KMO and Bartlett’s Test Results for Resource Quality

KMO and Bartlett's Test		Result
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.860
Bartlett's Test of Sphericity	Approx. Chi-Square	655.531
	df	10
	Sig.	<0.001

Resource quality items were all loaded in the component matrix for factor analysis ranging 0.752 to 0.835. Each item on the component matrix table is showing high correlation with the factor, which is indicating that they can be represented a single construct which is resource quality. The factor analysis outcome for resource quality had a total variance explained of 64.744%

The reliability analysis that was made for resource quality was yielding a Cronbach’s Alpha of 0.862, which is above the threshold of 0.70, indicating a strong internal consistency among the items. The adequate score for reliability is supporting that the items are reliable indicators of a resource quality construct.

Table 5.11. Factor Analyses Results for Resource Quality

Factor Name	Factor Item	Factor Loading	% Variance	Cronbach's Alpha
Resource Quality	RQ 1	0.835	64.744	0.862
	RQ 2	0.832		
	RQ 3	0.824		
	RQ 4	0.776		
	RQ 5	0.752		

Based on the results of both analysis regarding the KMO and Bartlett's tests along with factor analysis and the reliability analysis, resource quality as a construct on its own can be confidently created, with a high internal consistency and reliability. Resource quality construct was created for further analyses.

5.3.6. Factor and Reliability Analysis for Customization Quality

First of all, customization quality items were assessed for factorability and sampling adequacy using KMO and Bartlett's test. The KMO value was 0.831 and was suggesting that there were commendable sampling adequacy and is suitable for constructing factor analysis (Hair et al., 2010). Bartlett test on the other hand, has yielded a significant result of $\chi^2=659.269$ (df = 10, $p < 0.001$) and was supporting the factor analysis' appropriateness because of the sufficient correlations among the items.

Table 5.12. KMO and Bartlett's Test Results for Customization Quality

KMO and Bartlett's Test	Result	
Kaiser-Meyer-Olkin Measure of Sampling Adequacy	0.831	
	Approx. Chi-Square	659.269
Bartlett's Test of Sphericity	df	10
	Sig.	<0.001

Component analysis was applied and the factor loadings were demonstrated, all five items were loaded successfully and were ranging from 0.767 to 0.824. The loadings were strong and were confirming that each item was contributing well to the construct's unidimensionality. The factor analysis confirmed that 64.184% of the total variance was explained.

Reliability analysis showed a Cronbach's alpha of 0.858, indicating a high level of internal consistency among the five items (Nunnally & Bernstein, 1994).

Table 5.13. Factor Analyses Results for Customization Quality

Factor Name	Factor Item	Factor Loading	% Variance	Cronbach's Alpha
Customization Quality	CQ 1	0.824	64.184	0.858
	CQ 2	0.807		
	CQ 3	0.804		
	CQ 4	0.802		
	CQ 5	0.767		

Given the satisfactory results for both KMO, Bartlett's test, factor loadings and reliability test the customization quality construct was created for further analyses.

5.3.7. Factor and Reliability Analysis for Tangibility

The KMO value for the items of tangibility had a value of 0.500, which is the minimum acceptable threshold of sampling adequacy and the data is still appropriate for factor analysis. Bartlett's Test had a result of $\chi^2=244.144$ (df = 1, $p < 0.001$), which is indicating to sufficiently significant correlations among the variables. The results were satisfying for further analyses.

Table 5.14. KMO and Bartlett's Test Results for Tangibility

KMO and Bartlett's Test		Result
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.500
Approx. Chi-Square		244.144
Bartlett's Test of Sphericity	df	1
	Sig.	<0.001

Factor analysis on the other hand has revealed a very high factor loading of 0.934 for both items. This result was supporting unidimensionality of the tangibility construct's items. A total variance of 87.291% was explained in the factor analysis results for tangibility.

The reliability analysis' Cronbach's alpha resulted 0.854 among the two items which was indicating a good internal consistency among the items (Nunnally & Bernstein, 1994).

Table 5.15. Factor Analyses Results for Tangibility

Factor Name	Factor Item	Factor Loading	% Variance	Cronbach's Alpha
Tangibility	T 1	0.934	87.291	0.854
	T 2	0.934		

Since all the analyses were adequate and satisfactory, tangibility construct was created for being well suited for further analyses.

5.3.8. Factor and Reliability Analysis for Reliability

The KMO value test was constructed and the result of 0.807 was found which is indicating a strong level of adequacy for the factor analysis to be performed. For the Bartlett's Test, the result was $\chi^2=567.541$ (df = 6, $p < 0.001$) thereby it could be said that this correlation structure is appropriate for the factor analysis.

Table 5.16. KMO and Bartlett's Test Results for Reliability

KMO and Bartlett's Test		Result
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.807
Approx. Chi-Square		567.541
Bartlett's Test of Sphericity	df	6
	Sig.	<0.001

Factor analysis' factor loadings results were ranging from 0.793 to 0.889, which shows strong correlation among each item. 70.826% of the total variance was explained.

On reliability analysis the Cronbach's alpha was calculated as 0.858 which shows a high level of internal consistency among the items of the construct of reliability.

Table 5.17. Factor Analyses Results for Reliability

Factor Name	Factor Item	Factor Loading	% Variance	Cronbach's Alpha
Reliability	REL 1	0.889	70.826	0.858
	REL 2	0.857		
	REL 3	0.824		
	REL 4	0.793		

Given the satisfactory results, the reliability construct was created for further analyses.

5.3.9. Factor and Reliability Analysis for Assurance

Firstly the KMO test was made and resulted as 0.740 meeting the required threshold for sampling adequacy in factor analysis. Next, the Bartlett's Test was made and resulted as $\chi^2=449.015$ (df = 3, p < 0.001), which was indicating a suitable correlation among the items.

Table 5.18. KMO and Bartlett's Test Results for Assurance

KMO and Bartlett's Test		Result
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.740
Approx. Chi-Square		449.015
Bartlett's Test of Sphericity	df	3
	Sig.	<0.001

Following the factor analysis, the factor loadings appeared to be strong, ranging from 0.884 to 0.900, supporting the unidimensionality of the construct by showing that all of the items were relating closely to the extracted factor. The factor analysis results for assurance have revealed a total variance explanation of 79.517%.

The reliability analysis has given a result with a Cronbach's alpha of 0.869, which was confirming a high level of internal consistency among the items and meeting the commonly accepted threshold of 0.70.

Table 5.19. Factor Analyses Results for Assurance

Factor Name	Factor Item	Factor Loading	% Variance	Cronbach's Alpha
	A 1	0.900		
Assurance	A 2	0.891	79.517	0.869
	A 3	0.884		

With strong factor loadings and satisfactory results found with the KMO and Bartlett's tests, along with a high Cronbach's alpha, the assurance construct was validated and thereby created for further analyses.

5.3.10. Factor and Reliability Analysis for Responsiveness

The KMO test was constructed and the result was 0.847 which was indicating a commendable sampling adequacy. The Bartlett's Test on the other hand had a result of $\chi^2=724.900$ (df = 6, $p < 0.001$) and was confirming correlation among the items.

Table 5.20. KMO and Bartlett's Test Results for Responsiveness

KMO and Bartlett's Test		Result
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.847
	Approx. Chi-Square	724.900
Bartlett's Test of Sphericity	df	6
	Sig.	<0.001

The factor analysis had high factor loadings ranging from 0.849 to 0.894 which were supporting unidimensionality of the construct as all items were in correlation with the extracted factor. Factor analysis result for total variance explained was found to be 76.733%.

Reliability analysis had a Cronbach's alpha of 0.898 which was indicating an excellent internal consistency among the items of the construct.

Table 5.21. Factor Analyses Results for Responsiveness

Factor Name	Factor Item	Factor Loading	% Variance	Cronbach's Alpha
Responsiveness	RES 1	0.894	76.733	0.898
	RES 2	0.882		
	RES 3	0.879		
	RES 4	0.848		

With all tests regarding factor and reliability being sound, the responsiveness construct was created for further analyses.

5.3.11. Factor and Reliability Analysis for Customer Satisfaction

The KMO test had a result of 0.898 indicating a very strong sampling adequacy for analysis. Bartlett’s Test had a result of $\chi^2=1495.556$ (df = 15, p < 0.001), showing that the correlation matrix are appropriate for factor analysis.

Table 5.22. KMO and Bartlett’s Test Results for Customer Satisfaction

KMO and Bartlett's Test		Result
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.898
Bartlett's Test of Sphericity	Approx. Chi-Square	1495.556
	df	15
	Sig.	<0.001

Factor analysis showed that each item demonstrated very strong factor loadings ranging from 0.846 to 0.887, supporting unidimensionality of the construct. Total variance explained was found to be 75.321%.

Reliability analysis has showed a Cronbach’s alpha of 0.932 which translates to a very strong internal consistency among the items since it far exceeds the required 0.70 threshold.

Given the excellent results of the factor and reliability analyses, the customer satisfaction construct was created for further analyses.

Table 5.23. Factor Analyses Results for Customer Satisfaction

Factor Name	Factor Item	Factor Loading	% Variance	Cronbach's Alpha
Customer Satisfaction	CS 1	0.887	75.321	0.932
	CS 2	0.886		
	CS 3	0.880		
	CS 4	0.856		
	CS 5	0.852		
	CS 6	0.846		

5.3.12. Factor and Reliability Analysis for Re-use Intention

KMO test had a strong sampling adequacy at 0.871. The Bartlett's Test produced a significant result of $\chi^2=1196.655$ (df = 10, p < 0.001) and were confirming that all of the items were in sufficient correlation for the factor analysis.

Table 5.24. KMO and Bartlett's Test Results for Re-use Intention

KMO and Bartlett's Test	Result	
Kaiser-Meyer-Olkin Measure of Sampling Adequacy	0.871	
Bartlett's Test of Sphericity	Approx. Chi-Square	1196.665
	df	10
	Sig.	<0.001

The factor analysis had strong factor loadings ranging from 0.848 to 0.896 which were indicating the unidimensionality of the construct. Total variance explained was found to be 77.709%.

The reliability analysis had a Cronbach's alpha of 0.928 showing excellent internal consistency among the items, and were indicating the items were reliably measuring the construct.

Table 5.25. Factor Analyses Results for Re-use Intention

Factor Name	Factor Item	Factor Loading	% Variance	Cronbach's Alpha
Re-use Intention	RI 1	0.896	77.709	0.928
	RI 2	0.896		
	RI 3	0.893		
	RI 4	0.874		
	RI 5	0.848		

With the satisfactory results from factor and reliability analyses, the re-use intention construct was created for further analyses.

5.4. Correlation Analyses

First, correlation analyses was conducted for the variables of logistics service quality and customer satisfaction to examine the relationships and ensure discriminant validity. According to Kline (2005), correlations shouldn't be exceeding the value of 0.85 to maintain discriminant validity. On the other hand, according to Hair et al. (2010) the correlations above 0.85 may still be acceptable if only it is supported by other analyses.

Table 5.26. Correlation Analysis Results for Logistics Service Quality Variables and Customer Satisfaction

	CS	PCQ	OP	OIS	OQ	RQ	CQ	T	REL	A	RES
CS	1										
PCQ	.682***	1									
OP	.675***	.524***	1								
OIS	.646***	.581***	.674***	1							
OQ	.742***	.520***	.678***	.710***	1						
RQ	.796***	.622***	.710***	.686***	.801***	1					
CQ	.739***	.620***	.583***	.659***	.650***	.705***	1				
T	.652***	.507***	.510***	.596***	.580***	.669***	.663***	1			
REL	.827***	.588***	.594***	.577***	.696***	.677***	.681***	.601***	1		
A	.803***	.605***	.607***	.612***	.699***	.702***	.675***	.612***	.780***	1	
RES	.847***	.658***	.587***	.674***	.738***	.771***	.714***	.596***	.780***	.785***	1

p < 0.001 = ***

p < 0.01 = **

p < 0.05 = *

As shown in Table 5.26. above, all correlations between the constructs were statistically significant as all values were $p < 0.001$. The correlation between CS and RES was the strongest with ($r = 0.847$) which is showing strong and positive relationship among the variables. T and PCQ being the weakest still had the value ($r=0.507$) which is considered moderate.

All correlations were below the critical threshold of 0.85, which is suggesting no immediate concerns for multicollinearity. Strong correlations are desirable yet they may pose a risk of multicollinearity especially when they are above the critical threshold of 0.85. The data will be assessed using the variance inflation factor (VIF) in the subsequent analyses to rule out multicollinearity.

The second correlation analysis was conducted to examine the relationship among CS and RI, demonstrated in the table below.

Table 5.27. Correlation Analysis Results for Customer Satisfaction and Re-use Intention

	RI	CS
RI	1	
CS	.875***	1

$p < 0.001 = ***$

$p < 0.01 = **$

$p < 0.05 = *$

As shown in Table 5.27., ($r=0.875$, $p < 0.001$) was observed which indicates a positive and strong relationship. The result is statistically significant and suggests that higher level of customer satisfaction leads to an increased level of re-use intention.

Since the correlation value is below the threshold of 0.85, it imposes no immediate concerns for multicollinearity. The data will be assessed using the VIF analysis in the subsequent analyses to rule out multicollinearity.

5.5. Regression Analyses

Regression analysis was conducted in order to analyze the effect of the independent variables on the dependent variables. Simple and multiple linear regression analyses were used for testing the hypotheses in the conceptual model. These results regarding the analyses are presented in the following sections.

5.5.1. Multiple Regression Analysis for Logistics Service Quality Variables and Customer Satisfaction

In order to examine the relationship between the logistics service quality variables which are the independent variables, and customer satisfaction, which is the dependent variable, a multiple regression analysis was conducted.

Table 5.28. presents the model summary results. The R value being 0.918^a indicates a strong correlation between the independent variables and customer satisfaction. The coefficient of determination (R^2) was found out to be 0.842, indicating that 84.2% of the variation in customer satisfaction is explained by the logistics service quality variables. Adjusted R^2 is 0.837, and indicates a more accurate measure of the model's explanatory power by adjusting it by the number of predictors included.

The standard error of the estimate is 0.27464, meaning a prediction error is relatively low. The results indicate that the regression model is effectively explaining a relatively significant proportion of the variance in customer satisfaction according to the logistics service quality dimensions.

Table 5.28. Model Summary of Regression Analysis Between Logistics Service Quality and Customer Satisfaction.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.918 ^a	0.842	0.837	0.27464

a. Predictors: (Constant), PCQ, OP, OIS, OQ, RQ, CQ, T, REL, A, RES

Analysis of variance, in other words ANOVA results are presented in the Table 5.29. below. ANOVA was used in order to understand whether the regression model is statistically significant or not Kalaycı, Ş. (2011).

The overall explanatory power of the model was found out to be 84.2% ($R = 0.918$, $R^2 = 0.842$, $F = 155.882$, $p < 0.001$), which is indicating that a strong relationship between the logistics service quality variables and customer satisfaction is present.

Table 5.29. ANOVA Results of Regression Analysis Between Logistics Service Quality and Customer Satisfaction.

Model	Sum of Squares	df	Mean Square	F	Sig
Regression	117.577	10	11.758	155.882	<0.001 ^b
1 Residual	22.025	292	0.075		
Total	139.601	302			

a. Dependent Variable: CS

b. Predictors: (Constant), PCQ, OP, OIS, OQ, RQ, CQ, T, REL, A, RES

The coefficients can be found in the Table 5.30. below. The B value stated in the table shows the tendency of variables, whereas the Beta value is used to show the importance of each independent variable which in this case the logistics service quality variables, on the dependent variable of customer satisfaction. A higher B value indicates the expectancy of an independent variable to have a higher impact on the dependent variable Kalaycı, Ş. (2011). On the other hand, the t-value is explaining the significance of each variable where a result below the level of 0.05 is considered statistically significant Kalaycı, Ş. (2011).

RES ($\beta = 0.272$), REL ($\beta = 0.255$), RQ ($\beta = 0.150$), A ($\beta = 0.118$), OP ($\beta = 0.108$), PCQ ($\beta = 0.101$), and OIS ($\beta = -0.077$) were found to be statistically significant in influencing the dependent variable of customer satisfaction, as the sig values were below 0.05.

Table 5.30. Coefficients of Regression Analysis Between Logistics Service Quality and Customer Satisfaction.

Model	Unstandardized		Std.	t	Sig.	Collinearity	
	Coefficients		Coefficients			Statistics	
1	B	Std. Error	Beta			Tolerance	VIF
(Constant)	0.072	0.116		0.621	0.535		
PCQ	0.087	0.029	0.101	3.003	0.003	0.479	2.090
OP	0.113	0.038	0.108	2.931	0.004	0.399	2.505
OIS	-0.078	0.039	-0.077	-1.974	0.049	0.353	2.835
OQ	0.018	0.043	0.019	0.429	0.668	0.265	3.770
RQ	0.155	0.051	0.150	3.040	0.003	0.222	4.505
CQ	0.059	0.034	0.068	1.712	0.088	0.348	2.877
T	0.042	0.030	0.048	1.394	0.164	0.448	2.233
REL	0.240	0.041	0.255	5.866	<0.001	0.287	3.487
A	0.115	0.042	0.118	2.706	0.007	0.285	3.509
RES	0.246	0.045	0.272	5.519	<0.001	0.223	4.480

a. Dependent Variable: CS

Additionally, collinearity diagnostics were performed in order to make sure that there is no concern arising regarding multicollinearity in the results. Variance Inflation Factor (VIF) were below the commonly accepted threshold of 10 (Hair et al., 2010), with the highest among the values being 4.505 still being under 5. The tolerance values were all above 0.2 where multicollinearity is not a significant concern in this case. These results are confirming that each independent variable is contributing uniquely to the regression analysis without creating excessive amount of interdependence.

The analysis was to investigate logistics service quality variables affecting customer satisfaction, which is to name whether H1 to H10 is supported or not. The results show that H1, H2, H5, H8, H9, H10 were supported, and H3, H4, H6, H7 were rejected. Responsiveness was found out to be the most influential factor affecting customer

satisfaction, followed by reliability and resource quality. Assurance, ordering procedures and personnel contact quality also had a positive impact on customer satisfaction.

5.5.2. Simple Regression Analysis for Customer Satisfaction and Re-use Intention

Simple regression analysis was conducted in order to assess the impact of customer satisfaction on the independent variable of re-use intention. Table 5.31. below is presenting the results of the model summary. The result for the R value was found out to be 0.875, which is indicating that a strong positive correlation among customer satisfaction and re-use intention is present. The coefficient of determination (R^2) was found out to be 0.766, therefore indicating that 76.7% of the variation in re-use intention is able to be explained by customer satisfaction.

Furthermore, the adjusted R^2 was found to be 0.765, and therefore issues regarding robustness about the explanatory power of the model can be ruled out. The standard error of the estimate was found out to be 0.35564, therefore a prediction error occurring is very low. Based on the results, customer satisfaction plays an important role when it comes to influencing re-use intention for logistics services.

Table 5.31. Model Summary of Regression Analysis Between Customer Satisfaction and Re-use Intention.

Model	R	R^2	Adjusted R^2	Std. Error of the Estimate
1	0.875 ^a	0.766	0.765	0.35564

a. Predictors: (Constant), CS

In the table 5.32. the results for ANOVA are presented. The overall explanatory power of the model was found out to be 76.6% ($R = 0.875$, $R^2 = 0.766$, $F = 983.309$, $p < 0.001$), indicating a statistically significant relationship between customer satisfaction and re-use intention.

Table 5.32. ANOVA Results of Regression Analysis Between Customer Satisfaction and Re-use Intention.

Model	Sum of Squares	df	Mean Square	F	Sig
Regression	124.367	1	124.367	983.309	<0.001 ^b
1 Residual	38.070	301	0.126		
Total	162.437	302			

a. Dependent Variable: RI

b. Predictors: (Constant), CS

Table 5.33. Coefficients of Regression Analysis Between Customer Satisfaction and Re-use Intention.

Model	Unstandardized Coefficients		Std. Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	0.219	0.125		1757	0.080		
CS	0.944	0.030	0.875	31.358	<0.001	1.000	1.000

a. Dependent Variable: RI

The Table 5.33. above represents the regression coefficients. The unstandardized coefficient (B) for customer satisfaction was found to be 0.944 ($p < 0.001$), which indicates that customer satisfaction has a strong positive impact on re-use intention. In addition, the standardized coefficient (Beta) was 0.875, indicating that the strength of the relationship is strong. The VIF was found out to be 1.000, affirming no multicollinearity concerns.

The findings suggest that customer satisfaction has a significant positive impact on re-use intention ($B = 0.944$, $\beta = 0.875$, $p < 0.001$). Therefore, H11 is supported.

5.6. Analysis of Variance

Analysis of variance (ANOVA) is a statistical analysis method that is commonly used to determining whether there are significant difference between three or more independent groups. In this study, the ANOVA test was used to understand if there are significant difference in the demograpic profiles of education level, income, age and industry for customer satisfaction and re-use intention.

One-way ANOVA tests two competing hypotheses which are the null hypothesis which is assuming that all of the groups means are equal, and the alternative hypothesis suggesting that at least one of the groups are differing significantly from one another (Singh et al., 2021). The p-value determines the significance results, as if $p < 0.05$, the null hypothesis is rejected (Roberts et al., 1999).

5.6.1. One-way ANOVA for Education Level and Customer Satisfaction

One-way ANOVA was conducted to understand whether the customer satisfaction levels vary across different groups of education levels. The results were indicating that there was no statistically significant difference between the groups ($F = 2.725$, $p = 0.067$), due to the significance level being above the threshold of 0.05, suggesting that customer satisfaction does not vary significantly based on the respondents' education levels. The mean scores for customer satisfaction across different education levels are presented in the Table 5.34. below.

Table 5.34. One-way ANOVA for Education Level and Customer Satisfaction

Customer Satisfaction	N	Mean	F	Sig.
Highschool	90	4.1815	2725	0.067
University (Undergraduate)	174	4.0728		
Masters / Doctorate	39	3.8803		

5.6.2. One-way ANOVA for Education Level and Re-use Intention

The one-way ANOVA test for education level and logistics services re-use intention provided a statistically significant result of ($F = 3.505$, $p = 0.031$), meaning that re-use intention levels vary across different education levels. The mean scores for re-use intention were 4.2067 for the highschool graduates, 4.0494 for the university (undergraduate), and 3.8462 for the participants with a masters or a doctorate degree.

Post hoc analysis was made using Tukey, Scheffe and Bonferroni tests. The Table 5.35. presented below is using Tukey's test as a representative result.

Table 5.35. One-way ANOVA for Education Level and Re-use Intention

Re-use Intention	N	Mean	F	Sig.
Highschool	90	4.2067	3505	0.031
University (Undergraduate)	174	4.0494		
Masters / Doctorate	39	3.8462		

Post-Hoc		Mean Difference	Std. Error	Sig.
Highschool	University (Undergraduate)	0.15724	0.9444	0.220
	Masters / Doctorate	0.36051*	0.13945	0.027
University (Undergraduate)	Highschool	-1.5424	0.09444	0.220
	Masters / Doctorate	0.20327	0.12887	0.257
Masters / Doctorate	Highschool	-0.36051*	0.13945	0.027
	University (Undergraduate)	-0.20327	0.12887	0.257

The results indicate a significant difference between the highschool graduates and masters or doctorate degree holding individuals ($p = 0.027$), suggesting that the individuals who are highschool graduates had higher levels of re-use intention than those with masters or doctorate degrees. However, no significant differences were observed between highschool graduates and undergraduate groups ($p = 0.220$) or between undergraduate and masters or doctorate groups ($p = 0.257$).

Education levels are an influencer of re-use intention mainly driven by the difference from the groups of highschool graduates and masters or doctorate degree groups.

5.6.3. One-way ANOVA for Income and Customer Satisfaction

The one-way ANOVA result for income levels and customer satisfaction results were stated in the Table 5.36. below, which is indicating that income levels of the employees who are working in a company that works with a logistics service provider does not significantly impact customer satisfaction ($F = 2.098$, $p = 0.081$). Even though the mean customer satisfaction scores are varying across the income groups, these differences were not statistically significant.

Table 5.36. One-way ANOVA for Income and Customer Satisfaction

Customer Satisfaction	N	Mean	F	Sig.
20,000 tl and below	77	3.9026	2.098	0.081
20,001 - 35,000 tl	118	4.1540		
35,001 - 50,000 tl	57	4.1082		
50,001 - 80,000 tl	34	4.0784		
80,001 tl and more	17	4.2843		

5.6.4. One-way ANOVA for Income and Re-use Intention

The one-way ANOVA result for income levels and re-use intention results were stated in the Table 5.37. below, which is indicating that income levels of the employees who are working in a company that works with a logistics service provider does not significantly impact re-use intention ($F = 1.406$, $p = 0.232$). Even though the mean re-use intention scores are varying across the income groups, these differences were not statistically significant.

Table 5.37. One-way ANOVA for Income and Re-use Intention

Re-use Intention	N	Mean	F	Sig.
20,000 tl and below	77	3.9377	1.406	0.232
20,001 - 35,000 tl	118	4.1220		
35,001 - 50,000 tl	57	4.1123		
50,001 - 80,000 tl	34	3.9941		
80,001 tl and more	17	4.3176		

5.6.5. One-way ANOVA for Age and Customer Satisfaction

The one-way ANOVA result for age and customer satisfaction results were stated in the Table 5.38. below, which is indicating that age does not significantly impact customer satisfaction ($F = 1.965$, $p = 0.100$). While the mean customer satisfaction scores are varying across the age groups, the differences are not statistically significant.

Table 5.38. One-way ANOVA for Age and Customer Satisfaction

Customer Satisfaction	N	Mean	F	Sig.
18 - 25	55	4.2364	1.965	0.100
26 - 35	119	4.0700		
36 - 50	105	3.9667		
51 - 65	21	4.2778		
66 and above	3	4.2222		

5.6.6. One-way ANOVA for Age and Re-use Intention

The one-way ANOVA result for age and re-use intention results were stated in the Table 5.39. below, which is indicating that age does not significantly impact re-use intention ($F = 1.547$, $p = 0.188$). While the mean re-use intention scores are varying across the age groups, the differences are not statistically significant.

Table 5.39. One-way ANOVA for Age and Re-use Intention

Re-use Intention	N	Mean	F	Sig.
18 - 25	55	4.2291	1.547	0.188
26 - 35	119	4.0790		
36 - 50	105	3.9486		
51 - 65	21	4.1905		
66 and above	3	4.2000		

5.6.7. One-way ANOVA for Industry and Customer Satisfaction

One-way ANOVA test for industry and customer satisfaction provided a statistically significant result of ($F = 6.408$, $p = 0.002$), meaning that customer satisfaction levels vary across different industries. The mean scores for customer satisfaction were 4.2173 for the retail industry, 4.1352 for the logistics industry, and 3.9200 for the other remaining industries in general.

Post hoc analysis was conducted using Tukey, Scheffe and Bonferroni tests. The Table 5.40. presented below is using Tukey's test as a representative result. The results indicate a significant difference between the retail industry and the industries in the others category ($p = 0.001$), suggesting that the retail industry reported higher levels of customer satisfaction than the other industries. However no significant differences were observed between logistics and retail ($p = 0.734$) or between logistics and other industries ($p = 0.123$).

Table 5.40. One-way ANOVA for Industry and Customer Satisfaction

Customer Satisfaction		N	Mean	F	Sig.
Logistics		53	4.1352	6408	0.002
Retail		125	4.2173		
Others		125	3.9200		

Post-Hoc		Mean Difference	Std. Error	Sig.
Logistics	Retail	-0.08211	0.10950	0.734
	Others	0.21522	0.10950	0.123
Retail	Logistics	0.08211	0.10950	0.734
	Others	0.29733*	0.8450	0.001
Others	Logistics	-0.21522	0.10950	0.123
	Retail	-0.29733*	0.8450	0.001

The final results are indicating that retail industry yields the highest levels of customer satisfaction from the logistics service provider that they have been working with, while the others category yielding the lowest customer satisfaction level.

5.6.8. One-way ANOVA for Industry and Re-use Intention

One-way ANOVA test for industry and re-use intention yielded a statistically significant result of ($F = 7.237$, $p = 0.001$), meaning that re-use intention levels vary across different industries. The mean scores for re-use intention were 4.2400 for the retail industry, 4.0830 for the logistics industry, and 3.8944 for the other remaining industries in general.

Post hoc analysis was conducted using Tukey, Scheffe and Bonferroni tests. The Table 5.41. presented below is using Tukey’s test as a representative result.

Table 5.41. One-way ANOVA for Industry and Re-use Intention

Re-use Intention	N	Mean	F	Sig.
Logistics	53	4.0830	7237	<0.001
Retail	125	4.2400		
Others	125	3.8944		

Post-Hoc		Mean Difference	Std. Error	Sig.
Logistics	Retail	-0.15698	0.11781	0.378
	Others	0.18862	0.11781	0.247
Retail	Logistics	0.15698	0.11781	0.378
	Others	0.34560*	0.09091	<0.001
Others	Logistics	-0.18862	0.11781	0.247
	Retail	-0.34560*	0.09091	<0.001

A significant difference is present between the retail industry and the industries in the others category ($p = 0.001$), suggesting that the retail industry reported higher levels of re-use intention than the other industries. However, no significant differences were observed between logistics and retail ($p = 0.378$) or between logistics and other industries ($p = 0.247$).

Based on the results, it is visible that the industry type plays a role in the willingness of re-using a service from the same logistics service provider, with the retail sector demonstrating the highest level of willingness to re-use the services.

5.7. Independent Sample T-Test

Independent sample t-test is a statistical method that is used in order to determine if there is a significant difference between the means of two independent groups (Field, 2013). In this study, customer satisfaction and re-use intention were the two dependent variables compared between male and female participants of the survey. The purpose of this analysis is to understand whether gender plays a role in shaping the levels of customer satisfaction or the intention of re-using the services from the same logistics service provider that the participants' companies have been working with.

5.7.1. Independent Sample T-test on the Influence of Gender in Customer Satisfaction and Re-use Intention

In order to determine whether there are statistically significant differences in customer satisfaction and re-use intention based on gender, an independent sample t-test was performed.

The results were indicating that both the customer satisfaction and re-use intention variables did not significantly differ between the male and female participants.

Customer satisfaction results for males being ($M = 4.0874$, $SD = 0.66377$) and females being ($M = 4.0672$, $SD = 0.69515$), $t(298) = 0.252$, $p = 0.802$.

Re-use intention results for males being (M = 4.0403, SD = 0.69375) and females being (M = 4.0795, SD = 0.76228), $t(298) = -0.455$, $p = 0.649$.

The p-values were above the threshold of 0.05, indicating that gender does not have a statistically significant effect on neither the customer satisfaction levels nor the re-use intention of the services from the same logistics provider.

Table 5.42. Independent Sample T-test on the Influence of Gender in Customer Satisfaction and Re-use Intention

	Gender	N	Mean	Std. Deviation	t	df	Sig. (2-tailed)	Mean Difference
Customer Satisfaction	Male	124	4.0874	0.66377	0.252	298	0.802	0.02013
	Female	176	4.0672	0.69515				
Re-use Intention	Male	124	4.0403	0.69375	-0.455	298	0.649	-0.03922
	Female	176	4.0795	0.76228				

5.8. Summary of Hypotheses Results

The results of the hypotheses based on the results of the regression and correlation analyses indicate that out of 11 hypotheses declared, 7 were supported. Specifically, the hypotheses related to personnel contact quality, ordering procedures, resource quality, reliability, assurance, responsiveness positively affecting customer satisfaction, and customer satisfaction positively affecting re-use intention, making H1, H2, H5, H8, H9, H10, and H11 supported. On the other hand, operational information sharing was found to have a negative influence on customer satisfaction, followed by operational quality, customization quality, and tangibility not having a statistically significant impact on customer satisfaction, making H3, H4, H6, and H7 rejected.

Table 5.43. Summary of Hypotheses Results

Hypotheses	Results
H1: Personnel contact quality positively affects customer satisfaction.	Supported
H2: Ordering procedures positively affects customer satisfaction.	Supported
H3: Operational information sharing positively affects customer satisfaction.	Rejected
H4: Operational quality positively affects customer satisfaction.	Rejected
H5: Resource quality positively affects customer satisfaction.	Supported
H6: Customization quality positively affects customer satisfaction.	Rejected
H7: Tangibility positively affects customer satisfaction.	Rejected
H8: Reliability positively affects customer satisfaction.	Supported
H9: Assurance positively affects customer satisfaction.	Supported
H10: Responsiveness positively affects customer satisfaction.	Supported
H11: Customer satisfaction positively affects logistics service re-use intention.	Supported

CONCLUSION

This final chapter of conclusion, evaluates and summarizes the research findings and presents a detailed conclusion based on the study's results by discussing their broader implications. The conclusion chapter begins by presenting the key findings that evaluate results gathered from the comprehensive analyses made along with insights from existing literature. Followed by theoretical and managerial implications that could be applied in real life cases. Lastly, the conclusion chapter addresses the limitations of this study and offers suggestions for future research that may be done on the literature.

6.1. Key Findings

The reason behind this study being conducted was to investigate how various logistics service quality variables influence customer satisfaction, as well as examine the development of re-use intention in a B2B setting. From the marketing perspective, B2B interactions are considerably more likely to maintain a long term partnership and be willing to operate with the same company that they have worked with, if only they are satisfied with the quality of service they had been presented with by the service provider company.

Resource quality was found to be the most influential force on shaping customer satisfaction in B2B logistics service acquisitions. Therefore it can be confidently stated that the availability of physical facilities and information technologies is a highly critical factor, along with the knowledgeable staff. The results align with the findings of Lin et al. (2023).

Following closely as the second most influential factor, reliability is found out to be one of the most critical aspects in determining customer satisfaction. Customers expect the logistics service provider to complete the delivery in the promised time, and also in a short time. Achieving a reliable delivery is a determinant of customer satisfaction. The

findings confirm the results of Libo-on (2021), therefore its further validating the SERVQUAL model in a B2B logistics service quality context.

Another dimension that was found to be having a significant and positive effect on customer satisfaction is assurance. Especially in the B2B environment assurance plays a similar role as a risk mitigation for companies. The findings are in agreement with the research of Libo-on (2021).

The ability of the logistics service provider to answer professionally to customers' questions along with being available upon the customers request of contact, is referred to as responsiveness. In service marketing, responsiveness is often associated with perceived value and customer satisfaction, especially in time-sensitive sectors such as logistics. The findings support that responsiveness has a significant and positive effect on customer satisfaction, further confirming Libo-on (2021).

Ordering procedures, described as having a non time consuming, clear, and easy to navigate ordering setting available for the customers, is another dimension that has a positive and significant relationship with customer satisfaction. The findings incorporate with Mentzer et al. (2001), due to both studies reporting that ordering procedures is a dimension that must be valued in order to create greater customer satisfaction.

Based on the analyses, personnel contact quality had a statistically significant and positive effect on customer satisfaction. Therefore it can be stated that the role of human connection in B2B marketing where personal engagement is present, it contributes directly to customer satisfaction, supporting customer retention theories. The findings were aligning with prior research from Uvet, H. (2020).

The results show that customer satisfaction was confirmed to have very strong positive and significant relationship with re-use intention. This relationship further reinforces the marketing principle that one of the key precursors of repeat purchases is customer satisfaction through service quality.

In contrast, the operational information sharing dimension was found to have a statistically significant but negative effect on customer satisfaction. The scales items had high average scores but when examined in combination with the rest of the variables, the

contribution was found to be counterproductive or redundant. If we were to interpret, it could be that operational information sharing if done excessively could lead the customers to have lower satisfaction from the service. This study's result regarding operational information sharing diverges from the results of Uvet (2020) which presented operational information sharing having a positive and significant relationship with customer satisfaction.

Despite being significant and positive, therefore important components in Lin et al. (2023) and Libo-on (2021), the remaining variables which are operational quality, customization quality, and tangibility did not have a statistically significant drive on customer satisfaction. The reason that these factors could not be standing out could be due to a possible overlapping with the stronger constructs or the expectations in the industries could be differing. For instance, some sectors may value customization quality while others don't value it. Another reason could be that the insignificant constructs could actually be less important in influencing customer satisfaction, and therefore insignificant.

6.2. Theoretical Implications

This research contributes to the marketing literature by presenting well established results on logistics service quality's influence on customer satisfaction and re-use intention in a B2B setting, unlike traditional research that focuses directly on the end consumer. This underlines the contribution of this research by highlighting the importance of B2B relationships in creating a sustainable repeat transaction chain. In doing so, this study examines logistics focused service quality research from a marketing perspective.

The theoretical model incorporates various logistics service quality constructs to evaluate their level of effectiveness on influencing customer satisfaction, followed by evaluating the customer satisfaction's mediating role on re-use intention. This approach unites various constructs from related models and apply them in a common context focused on understanding the value of each construct.

The integration of both logistics-oriented constructs and the dimensions that were adapted from the SERVQUAL model arises a valuable implication. As an example, while reliability demonstrated a strong effect, tangibility did not show significance. This may be interpreted as the acceptability of certain SERVQUAL elements could be dependent on the context and therefore a more industry specific theoretical refinement could be needed.

Moreover, operational information sharing being statistically significant but having a negative effect on customer satisfaction opens up a new space for theoretical discussion. It suggests that beyond a threshold, information sharing could be reducing efficiency or could be leading to increased complexity in B2B service interactions. This distinctive insight is a challenger to the assumption of more communication always leads to higher satisfaction, therefore opens up a new door for further theoretical exploration of the operational information sharing construct and customer satisfaction.

The positively strong and significant relationship among customer satisfaction and re-use intention stands as a strong reinforcement for the existing marketing theory that is about customer satisfaction being a key driver of repeat purchasing and loyalty. In the B2B environment and logistics context, this study validates that greater service quality leads to greater customer satisfaction and therefore encourages future use, aligning with the core relationship marketing principles and contributes greatly to the understanding of the ways of customer retention.

6.3. Managerial Implications

The findings of this study provide valuable data for the logistics service provider companies to generate new marketing strategies and allocate their resources wisely. In the B2B environment, companies rarely switch between different service providers and tend to stick to one service provider, as sharing their data with various service providers are not something they would want. Another reason is that, once a systemic business starts to work as both parties adapt to it, it is smooth and less complicated than working with a new service provider that has never seen your product and never done a shipment for your

company. The reason is to generate repeat revenue, which is beneficial for both parties, along with reducing the complexity of the work. Therefore understanding what drives customer satisfaction in logistics services in B2B environment is a highly important subject for logistics service provider companies to retain their customers and lead them to repeat use of their services. Service quality areas that logistics service provider companies may put greater focus on to strengthen their customer relationships and enhance their marketing strategies will be highlighted by the results of this study.

Based on the results, retail sector has the greatest customer satisfaction and re-use intention results, therefore this may suggest that logistics service providers that are targeting the retail sector should be emphasizing on retention strategies.

The strongest factor that influences customer satisfaction was resource quality, therefore can be perceived as one of the most actionable dimension that managers should take into account. Managers should be ensuring availability of physical facilities, even if the company doesn't have its own, they have to be versatile enough that they can outsource physical facilities like warehouses, never leading to downtime on the logistics service process. Information technology should be up to date, such as using the artificial intelligence on addressing customers' questions. But a crucial point to be considered that it should be further researched and discussed as the customer companies might not want to be dealing with an artificial intelligence to answer to their questions and would rather speak to a staff that is capable of addressing customer needs. Therefore, knowledgeable staff is another vastly important factor in determining the success of a greater resource quality.

A logistics service provider company must consider reliability construct as it is a key aspect of not only creating customer satisfaction but to possibly lead to repeat use of their services and create a repeat business cycle. Reliable business transactions equals to reliable monetary gains, therefore valuing reliability by delivering the right product to the right place at the right time is the key to sustain repeat transactions via satisfied business partners.

Vital operations take place in the service process, therefore the logistics service provider companies that can assure the success is getting ahead of the curve in the competition. It

must be held into account that making promises that you can't fulfill as a service provider would damage your business critically. Transactions, especially in terms of payment, are another highly valuable aspect of being assured, thereby satisfied. Marketing efforts that is focused on enhancing the perceived professionalism, assures the company therefore creates a satisfied business partner, indicating to the important role of assurance in creating marketing strategies for B2B logistics transactions.

Responsiveness which is defined as the ability of the logistics service provider to answer customers questions well enough along with being easy to get connected to is shown to positively influence customer satisfaction. Therefore, managers should ensure that they possess a responsive system, meaning that the clients shall be able to contact the company anytime especially upon urgency. In the logistics sector, a company must be able to be reached outside of business hours, this is crucial, no great company works with a logistics service provider that vanishes at 6 pm.

Another highly important construct for managers to improve is ordering procedures. The procedures a logistics service provider asks from its client company must be simple and clear. It must always be remembered that it is not the client company that reads the requisitioning procedures but their employee. This means that the employee may be new, or inexperienced, and assuming that they know everything about a complex requisitioning procedures such as requesting the HS code from a personnel from the clients company that has no idea about it. Therefore, upon seeing such a case, the logistics service provider company must be understanding and polite by clearly explaining what a HS code is, why is it required and how can they obtain it. This applies to many other similar cases, such as assuming that a client company's employee knows about incoterms, or IATA codes for airports. Generally, a simple ordering procedure is achieved by letting the client provide only the essential information and do the least amount of work. In exports, example for essential information are declaring the dimensions, quantity and the nature of the products. After receiving the essential information, the logistics service provider company provides their client with a quote, and upon agreement, the shipment process begins.

The interaction among the service provider's personnel and the customer is one of the most important touchpoints. Therefore, companies should be investing in training programs that trains the personnel to be more customer oriented, as the analyses confirms that for the clients, the relationship abilities of logistics service providers personnel is a significant driver of satisfaction.

In logistics services, customer satisfaction is not only an endpoint but a bridge for further repeat purchases of the service. From a managerial perspective, this statement implies that upon improving the customer satisfaction metrics through enhancement on ordering procedures, operational performance, personnel contact performance and other service quality areas such as assurance, reliability, and resource quality is not only a quality goal but rather a growth strategy. As the customer satisfaction increases, the likelihood of companies returning for further service inquiries, creating a retained and sustainable business cycle of high value B2B customers over time.

6.4. Limitations and Suggestions for Future Research

The replies were solely collected from Turkish respondents, therefore it is limited in cross country generalizability. While the study demonstrates remarkable results, it must be kept in mind that it is possible that different regions could be having different service expectations and different perceptions. For future studies to build on this model, exploration on cultural and geographic factors that may influence the perceptions of logistics service quality, customer satisfaction and re-use intention could be made and results from different countries could be compared.

This study had a broader view on industry and therefore generalizable. However, isolating specific sectors for better understanding the influencing factors of the constructs on that specific industry alone could be a highly beneficial tool for logistics service providers' managers and especially their marketing teams as they can prepare their sales strategies accordingly. Further research that is built on specific sectors could provide a directly focused understanding on that sector alone, especially on understanding which of the dimensions matter the most in different B2B contexts.

The data collection questionnaire for this study collected data about the position of the respondents in their company, however, this data was excluded from the analyses due to complex variability and to preserve the focus on service perception. However this approach limits the possibility of knowing whether different positions in the organizational hierarchy have different perceptions of logistics service quality, customer satisfaction and re-use intention. Therefore future studies could investigate whether managers and non-managers have different perceptions about the constructs.

The study measures the intention for re-using the services, however not actual repeated behavior. Even though the intention is a very strong predictor based on the marketing theory, it might not actually lead to the action of re-use. This is a limitation to the ability to confirm if customer satisfaction actually leads to actual logistics service re-use. Future research could include longitudinal designs that is able to follow up with the same respondents to determine if they actually took action on their intention of re-use.

REFERENCES

- Athanassopoulos, A. D., (2000). Customer satisfaction cues to support market segmentation & explain switching behavior. *Journal of Business Research*, 47, 191-207.
- Bagozzi, R. (1992). The self-regulation of attitudes, intentions, and behavior. *Social Psychology Quarterly*, 55, 178-204.
- Barnes, D. C., Mesmer-Magnus, J., Scribner, L. L., Krallman, A., & Guidice, R. M. (2020). Customer delight during a crisis: understanding delight through the lens of transformative service research. *Journal of Service Management*, 32(1), 129-141. <https://doi.org/10.1108/josm-05-2020-0146>
- Bienstock, C. C., Mentzer, J. T., & Bird, M. M. (1997). Measuring physical distribution service quality. *Journal of the Academy of Marketing Science*, 25, 31-44.
- Bitner, M. J., Booms, B. H., & Mohr, L. A. (1994). Critical service encounters: The employee's viewpoint. *Journal of Marketing*, 58(4), 95-106.
- Bitner, M. J., Booms, B. H., & Tetreault, M. S. (1990). The service encounter: Diagnosing favorable and unfavorable incidents. *Journal of marketing*, 54(1), 71-84.
- Bitner, M. J. (1990) Evaluating service encounters; the effects of physical surrounding and employee responses. *Journal of Marketing*. 54, 69-81.
- Blanchard, R. F., & Galloway, R. L., (1994). Quality in retail banking. *International Journal of Service Industry Management*, 5, 5-23
- Bolton, R. N., (1998). A dynamic model of the duration of the customer's relationship with a continuous service provider: The role of satisfaction. *Marketing Science*, 17, 45-65.

- Bruner, G. C., & Bruner II, G. C. (2009). *Marketing Scales Handbook: A compilation of multi-item measures for consumer behavior & advertising research*. (Vol. 5). GCBII Productions.
- Churchill, G.A. (1979). A paradigm for developing better measures of marketing constructs. *Journal of Marketing Research*, 16(1), 64–73.
- Collier, J. E., & Bienstock, C. C., Measuring service quality in etailing. *Journal of Service Research*, 8(3) (2006) 260-275.
- Davis E.R. (2006). The role of logistics service quality in creating customer loyalty. [Unpublished doctoral dissertation]. University of Tennessee.
- Davis, F.D., 1989. Perceived usefulness, perceived ease of use and user acceptance of information technology. *MIS Quarterly* 13, 319–339.
- de Oña, J., & de Oña, R. (2015). Quality of service in public trans- port based on customer satisfaction surveys: A review and assessment of methodological approaches. *Transportation Science*, 49, 605–622.
- DeCarlo, Thomas E. and Thomas W. Leigh (1996). Impact of salesperson attraction on sales managers: Attributions and feedback. *Journal of Marketing*, 60, 47-66.
- Etikan, I., Musa, S. A., & Alkassim, R. S. (2016). Comparison of convenience sampling and purposive sampling. *American Journal of Theoretical and Applied Statistics*, 5(1), 1-4. <https://doi.org/10.11648/j.ajtas.20160501.11>
- Field, A. (2013). *Discovering statistics using IBM SPSS statistics* (4th ed.). Sage Publications.
- Fornell, C., Johnson, M., Anderson, E., Cha, J., & Bryant, B. (1996). The American Customer Satisfaction Index: Nature, purpose and findings. *Journal of Marketing*, 60, 7-18.
- Gronroos, C. (2000). *Service management and marketing: A customer relationship management approach* (2nd ed). John Wiley & Sons, Ltd.

- Grönroos, C. (1982). *Strategic management and marketing in the service sector*. Swedish School of Economics and Business Administration.
- Grönroos, C., (2001). The perceived service quality concept – a mistake? *Managing Service Quality*, 11, 150-152
- Gupta, A., Singh, R. K., Mathiyazhagan, K., Suri, P. K., & Dwivedi, Y. K. (2022). Exploring relationships between service quality dimensions and customers satisfaction: empirical study in context to Indian logistics service providers. *The international Journal of Logistics Management*, 34(6), 1858-1889. <https://doi.org/10.1108/ijlm-02-2022-0084>
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E., (2010). *Multivariate data analysis* (7th ed.). Pearson Prentice Hall.
- Hallowell, R., (1996). The relationships of customer satisfaction, customer loyalty, and profitability: An empirical study. *International Journal of Service Industry Management*, 7, 27-42.
- Handoko, L. P. (2016). The effect of product quality and delivery service on online-customer satisfaction in zalora indonesia. *Jurnal EMBA: Jurnal Riset Ekonomi, Manajemen, Bisnis dan Akuntansi*, 4(1).
- Hartline, Michael D. & O.C. Ferrell (1996). The Management of Customer Contact Service Employees: An Empirical Investigation. *Journal of Marketing*, 69, 52-70.
- Harvey, J. (1998). Service quality: a tutorial. *Journal of Operations Management*, 16(5), 583-597.
- Hedin, J., M. Jonsson, & J. Ljunggren. (2006). *Delivery performance - How to define & measure delivery performance in a triadic relationship* [Unpublished Master Thesis]. School of Management and Economics.
- Honomichl, J., (1993). Spending on Customer Satisfaction Continues to Rise. *Marketing News*, 12, 17-18.

- Jen, W., Tu, R., & Lu, T. (2011). Managing passenger behavioral intention: An integrated framework for service quality, satisfaction, perceived value, and switching barriers. *Transportation*, 38, 321–342.
- Jogiyanto. (2008). *Sistem Informasi Keperilakuan* (Edisi Revi). Andi Offset.
- Jones, T. O., & Sasser Jr., W. E., (1995). Why satisfied customer defect. *Harvard Business Review*, 73, 88-99.
- Kalaycı, Ş. (2011). *SPSS uygulamalı çok değişkenli istatistik teknikleri*. Asil Yayınevi.
- Kempny, D. (2001), *Logistics Customer Service*. Wydawnictwo PWE.
- Khan, M. M., & Fasih, M., Impact of service quality on customer satisfaction and customer loyalty: Evidence from the banking sector. *Pakistan Journal of Commerce and Social Sciences*, 8(2) (2014) 331-354.
- Kline, R. B. (2005). *Principles and practice of structure equation modeling* (2nd ed.). Guilford Press.
- Lau, M. M., Cheung, R., Lam, A. Y., & Chu, Y. T., Measuring service quality in the banking industry: A Hong Kong-based study. *Contemporary Management Research*, 9(3) (2013) 263-282.
- Lehtinen, U., & Lehtinen, J. R. (1991). Two approaches to service quality dimensions. *Service Industries Journal*, 11(3), 287-303.
- Levesque, T. J., & McDougall, G. H. G., (1996). Determinants of customer satisfaction in retail banking. *International Journal of Bank Marketing*, 14, 12-20.
- Libo-on, J. T. (2021). Service quality influence on customer satisfaction in courier services: A comparative study. *American International Journal of Business Management*, 4(3), 51-63.
- Lin, X., Mamun, A. A., Yang, Q., & Masukujjaman, M. (2023). Examining the effect of logistics service quality on customer satisfaction and re-use intention. *Plos One*, 18(5), e0286382. <https://doi.org/10.1371/journal.pone.0286382>

- Melia, Y., The impact of service quality dimensions on customer satisfaction: Workshop insurance partner in Padang City, Indonesia. *International Academic Journal of Economics*, 3(7) (2016) 69-79.
- Mentzer, J. T., Flint, D. J., & Hult, G. T. M. (2001). Logistics service quality as a segment-customized process. *Journal of Marketing*, 65(4), 82-104.
- Nunnally, J. C., & Bernstein, I. H., (1994). *Psychometric theory* (3rd ed.). McGraw-Hill.
- Ostrom, A. and Iacobucci, D. (1995). Consumer tradeoffs and evaluation of services. *Journal of Marketing*, 59(1), 17-28.
- Paech, N. (2007). Directional Certainty in sustainability-oriented innovation management. In M. Lehmann-Waffenschmidt (Ed.), *Innovations towards sustainability* (pp. 121-139). Physica-Verlag HD.
- Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988). SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality. *Journal of Retailing*, 64(1), 12–40.
- Parasuraman, A., Zeithaml, V.A., & Berry, L. L., (1985). A conceptual model of service quality and its implications for future research. *Journal of Marketing*, 49, 41-50.
- Rahadi, D. R., & Zaniat. (2015). Analisis technology acceptance model pada industri perbankan. *Jurnal Sistem Informasi*, 7(2), 2355–4614.
- Ramya, N., Kowsalya, A., & Dharanipriya, K. (2019). Service quality and its dimensions. *EPRA International Journal of Research & Development*, 4(2), 38-41.
- Reichheld, F. F. (1996). *The loyalty effect: The hidden force behind growth, profits, and lasting value*. Harvard Business Press.
- Robert, A. B., & Wowor, C. P., The influence of service quality on customer satisfaction and service (Empirical study at Celebrity Fitness Jakarta). *Journal of Business Strategy and Execution*, 3(2) (2011) 154-175.
- Roberts, M.J., & Russo, R. (1999). *A student's guide to analysis of variance*. Routledge.

- Shen, W., Xiao, W., & Wang, X. (2016). Passenger satisfaction evaluation model for Urban rail transit: A structural equation modeling based on partial least squares. *Transport Policy*, 46, 20–31.
- Singh, R., Kumar, D., & Sagar, B. B. (2021, September). Valuation of significant difference between various agile methods using one way ANOVA. In *2021 9th International Conference on Reliability, Infocom Technologies and Optimization (Trends and Future Directions)(ICRITO)* (pp. 1-5). IEEE. <https://doi.org/10.1109/ICRITO51393.2021.9596099>
- Spekman, R. E., Kamauff, J. W., & Myhr, N. (1998, June). An empirical investigation into supply chain management: a perspective on partnerships. *Supply Chain Management: An International Journal*, 3(2), 53–67. <https://doi.org/10.1108/13598549810215379>
- Stank, T.P., Goldsby, T.J., Vickery, S.K. & Savitskie, K. (2003). Logistics service performance: estimating its influence on market share. *Journal of Business Logistics*, 24(1), 27-55.
- Surprenant, C. F., & Solomon, M. R. (1987). Predictability and personalization in the service encounter. *Journal of Marketing*, 51(2), 86-96.
- Takata, H. (2016). Effects of industry forces, market orientation, and marketing capabilities on business performance: An empirical analysis of Japanese manufacturers from 2009 to 2011. *Journal of Business Research*, 69(12), 5611-5619.
- Thai, V. V. (2008). Service quality in maritime transport: conceptual model and empirical evidence. *Asia Pacific Journal of Marketing and Logistics*, 20(4), 493-518.
- Uvet, H. (2020). Importance of logistics service quality in customer satisfaction: An empirical study. *Operations and Supply Chain Management: An International Journal*, 13(1), 1-10. <https://doi.org/10.31387/oscm0400248>
- Wall Street Journal. (1998, January 19). Business plan. *Wall Street Journal*, p. R18.

- Wang, G., Wang, J., Ma, X., & Qiu, R.G. 2010. The Effect of Standardization and Customization on Service Satisfaction. *Journal of Service Science*, 2(1), 1-23.
- Wang, Y., Lo, H. P., & Yang, Y., An integrated framework for service quality, customer value, satisfaction: Evidence from China's telecommunication industry. *Information Systems Frontiers*, 6(4) (2004) 325-340.
- Wind, J., & Rangaswamy, A., 2001. Customerization: the next revolution in mass customization. *J. Interact. Mark.* 15(1), 12-32.
- Yousapronpaiboon, K. (2014). SERVQUAL: Measuring higher education service quality in Thailand. *Procedia-Social and Behavioral Sciences*, 116, 1088-1095.
- Yu, W. H., Chiu, S. K., & Tung, C. M. (2019). The Study of Evolution Among Logistic Service Quality, Service Compensation and Long-Term Cooperation Commitment. *Procedia Manufacturing*, 39, 1493–1500. <https://doi.org/10.1016/j.promfg.2020.01.299>
- Zeithaml, V. A., Parasuraman, A., & Berry, L. L., (1990). *Delivering quality service*. The Free Press.
- Ziaullah, M., Feng, Y., & Akhter, S. N. (2014). E-Loyalty: The influence of product quality and delivery services on e-trust and e-satisfaction in China. *International Journal of Advancements in Research & Technology*, 3(10), 20-31.

APPENDICES

Appendix A. Result of the Evaluation by the Ethics Committee

Result of the Evaluation by the Ethics Committee is available in the printed version of this dissertation.

Appendix B. Questionnaire in Turkish

Lojistik Hizmetleri Deneyimi

Sayın Katılımcı,

Takip eden sayfalarda, taşımalarınızı yaptırdığımız lojistik şirketinden aldığımız hizmetlerdeki deneyimlerinizi ölçmeyi amaçlayan çeşitli konularda görüşleriniz sorulacaktır. Bazı sorular birbirine benzer ya da aynı görünebilir ancak her sorunun bir amacı bulunmaktadır. Soruların doğru veya yanlış cevapları yoktur. Bu çalışmaya katılımınız tamamen isteğe bağlıdır; katılmayabilirsiniz veya herhangi bir noktada bırakabilirsiniz. Bu anket kapsamında kişisel bilgileriniz talep edilmeyecektir.

Cevaplarınız tamamen bilimsel amaçlarla kullanılacaktır. Anketin doldurulması yaklaşık 6 dakikanızı alacaktır. Sorularınız olursa adresinden bizimle temasa geçebilirsiniz.

1. Katılımınız için şimdiden teşekkür ederiz.

Evet, 18 yaşından büyüğüm ve bu çalışmaya katılmayı onaylıyorum.

Hayır, bu çalışmaya katılmak istemiyorum

2. Çalıştığınız firma, bir lojistik şirketi vasıtası ile taşıma yaptırıyor mu?

Evet

Hayır

3. Çalıştığınız firma kaç yıllık bir firma?

4. Çalıştığınız firma hangi sektörde?

5. Hangi pozisyonda çalışmaktasınız?

6. Lütfen aşağıdaki ifadeleri taşımalarınızı yaptırdığınız lojistik şirketini düşünerek katılım düzeyinizi belirtiniz.

	Kesinlikle katılıyorum	Katılıyorum	Ne katılıyorum ne katılmıyorum	Katılmıyorum	Kesinlikle katılmıyorum
Lojistik şirketinin çalışanları, durumumu anlamak için çaba gösterirler.	*	*	*	*	*
Lojistik şirketinin çalışanları, verilen hizmetle ilgili sorunlarımı çözerler.	*	*	*	*	*
Lojistik şirketinin çalışanlarının hizmet bilgisi, beklentilerimi karşılar.	*	*	*	*	*

7. Lütfen aşağıdaki ifadeleri taşımalarınızı yaptırdığınız lojistik şirketini düşünerek katılım düzeyinizi belirtiniz.

	Kesinlikle katılıyorum	Katılıyorum	Ne katılıyorum ne katılmıyorum	Katılmıyorum	Kesinlikle katılmıyorum
Sipariş oluştururken gerçekleştirilen işlemler, sipariş sürecinin kolay ilerlemesini sağlar.	*	*	*	*	*

Sipariş oluşturmak karmaşık değildir.	*	*	*	*	*
Taşıma hizmeti için sipariş işlemlerinin tamamlanması kısa sürer.	*	*	*	*	*
Taşıma hizmeti için sipariş işlemleri basittir.	*	*	*	*	*
Taşıma işlemi için sipariş işlemleri anlaşılırdır.	*	*	*	*	*

8. Lütfen aşağıdaki ifadeleri taşımalarınızı yaptırdığınız lojistik şirketini düşünerek katılım düzeyinizi belirtiniz.

	Kesinlikle katılıyorum	Katılıyorum	Ne katılıyorum ne katılmıyorum	Katılmıyorum	Kesinlikle katılmıyorum
Teslimat süreci ile ilgili bilgiler müşterilerle etkili bir şekilde paylaşılır.	*	*	*	*	*
Hizmetler, hem standart hem de özelleştirilmiş bilgileri müşterilerle paylaşma kapasitesine sahiptir.	*	*	*	*	*

Lojistik şirketi tarafından verilen bilgiler doğrudur.	*	*	*	*	*
Taşıma ile ilgili gerçek zamanlı bilgilere istendiği zaman erişilebilir.	*	*	*	*	*

9. Lütfen aşağıdaki ifadeleri taşımalarınızı yaptırdığınız lojistik şirketini düşünerek katılım düzeyinizi belirtiniz.

	Kesinlikle katılıyorum	Katılıyorum	Ne katılıyorum ne katılmıyorum	Katılmıyorum	Kesinlikle katılmıyorum
Lojistik şirketi, doğru ürünü doğru yere teslim eder.	*	*	*	*	*
Lojistik şirketi depolama kapasitesiyle ilgili bir problem yaşatmaz.	*	*	*	*	*
Lojistik şirketi, malları kayıp veya hasar olmadan teslim eder.	*	*	*	*	*
Lojistik şirketi, ticari belgeleri etkili bir şekilde yönetir.	*	*	*	*	*

10. Lütfen aşağıdaki ifadeleri taşımacılarınızı yaptırdığımız lojistik şirketini düşünerek katılım düzeyinizi belirtiniz.

	Kesinlikle katılıyorum	Katılıyorum	Ne katılıyorum ne katılmıyorum	Katılmıyorum	Kesinlikle katılmıyorum
Lojistik şirketinin fiziksel tesisleri her zaman kullanılabilir durumdadır.	*	*	*	*	*
Lojistik şirketinin personeli, benim taleplerimi karşılayacak yetenekte.	*	*	*	*	*
Lojistik şirketi, gönderilerimi talebim üzerine bir çok farklı lokasyona teslim etme imkanına sahiptir.	*	*	*	*	*
Lojistik şirketinin filosu ve tesisleri, bakımlı gözükmetedir.	*	*	*	*	*
Lojistik şirketinin bilgi teknolojisi günceldir ve teslimat için ihtiyaçlarımı karşılar.	*	*	*	*	*

11. Lütfen aşağıdaki ifadeleri taşımalarınızı yaptırdığımız lojistik şirketini düşünerek katılım düzeyinizi belirtiniz.

	Kesinlikle katılıyorum	Katılıyorum	Ne katılıyorum ne katılmıyorum	Katılmıyorum	Kesinlikle katılmıyorum
Lojistik şirketi, müşterilerin taleplerine yönelik hizmetler sunar.	*	*	*	*	*
Lojistik şirketi, taşıma için farklı seçenekler sunar.	*	*	*	*	*
Lojistik şirketi, özel ihtiyaçlarımı karşılayan hizmetler sunar.	*	*	*	*	*
Lojistik şirketi, diğer lojistik şirketlerinde bulunmayan benzersiz hizmetler sunar.	*	*	*	*	*
Farklı bir lojistik şirketi kullanırsam, şu an aldığım kadar özelleştirilmiş hizmet alamam.	*	*	*	*	*

12. Lütfen aşağıdaki ifadeleri taşımalarınızı yaptırdığınız lojistik şirketini düşünerek katılım düzeyinizi belirtiniz.

	Kesinlikle katılıyorum	Katılıyorum	Ne katılıyorum ne katılmıyorum	Katılmıyorum	Kesinlikle katılmıyorum
Lojistik şirketi tarafından taşıma için kullanılan araçlar iyi kondisyondadır.	*	*	*	*	*
Lojistik şirketinin ekipmanları modern gözükmetedir.	*	*	*	*	*

13. Lütfen aşağıdaki ifadeleri taşımalarınızı yaptırdığınız lojistik şirketini düşünerek katılım düzeyinizi belirtiniz.

	Kesinlikle katılıyorum	Katılıyorum	Ne katılıyorum ne katılmıyorum	Katılmıyorum	Kesinlikle katılmıyorum
Teslimatlar hasar görmüyor.	*	*	*	*	*
Lojistik şirketi, teslimatları zamanında ve istikrarlı şekilde yapar.	*	*	*	*	*
Teslimatın bekleme süresi kısadır.	*	*	*	*	*
Lojistik şirketi, teslimat hizmetini vaad edilen süre içinde sağlamıştır.	*	*	*	*	*

14. Lütfen aşağıdaki ifadeleri taşımalarınızı yaptırdığımız lojistik şirketini düşünerek katılım düzeyinizi belirtiniz.

	Kesinlikle katılıyorum	Katılıyorum	Ne katılıyorum ne katılmıyorum	Katılmıyorum	Kesinlikle katılmıyorum
Lojistik şirketiyle işlem yaparken kendimi güvende hissediyorum.	*	*	*	*	*
Lojistik şirketi, tüm sorularıma cevap verme bilgisine sahiptir.	*	*	*	*	*
Lojistik şirketi güvenilirdir.	*	*	*	*	*

15. Lütfen aşağıdaki ifadeleri taşımalarınızı yaptırdığımız lojistik şirketini düşünerek katılım düzeyinizi belirtiniz.

	Kesinlikle katılıyorum	Katılıyorum	Ne katılıyorum ne katılmıyorum	Katılmıyorum	Kesinlikle katılmıyorum
Lojistik şirketi, tüm sorularımı yeterince iyi yanıtlar.	*	*	*	*	*
Lojistik şirketi ile kolayca iletişim kurulabilir.	*	*	*	*	*
Lojistik şirketi hızlı hizmet veriyor.	*	*	*	*	*

Lojistik
şirketi,
müşterilerine
yardım etme
konusunda
istekli
gözüküyor.

* * * * *

16. Lütfen aşağıdaki ifadeleri taşımalarınızı yaptırdığımız lojistik şirketini düşünerek katılım düzeyinizi belirtiniz.

	Kesinlikle katılıyorum	Katılıyorum	Ne katılıyorum ne katılmıyorum	Katılmıyorum	Kesinlikle katılmıyorum
Lojistik şirketinin performansından memnunum.	*	*	*	*	*
Lojistik şirketi tarafından sunulan hizmetler, beklentilerimi karşılar.	*	*	*	*	*
Lojistik şirketi tarafından sunulan hizmetler yüksek kalitededir.	*	*	*	*	*
Genel olarak, taşıma yaptırdığım lojistik şirketinden memnunum.	*	*	*	*	*
Lojistik şirkete karşı duygularım olumludur.	*	*	*	*	*
Aradığım hizmetler için bu lojistik şirketini seçmekten memnunum.	*	*	*	*	*

17. Lütfen aşağıdaki ifadeleri taşımalarınızı yaptırdığımız lojistik şirketini düşünerek katılım düzeyinizi belirtiniz.

	Kesinlikle katılıyorum	Katılıyorum	Ne katılıyorum ne katılmıyorum	Katılmıyorum	Kesinlikle katılmıyorum
Gelecekteki yüklemelerim için bu lojistik şirketini kullanmaya istekliyim.	*	*	*	*	*
İhtiyacım olduğunda bu lojistik şirketini tercih ederim.	*	*	*	*	*
Lojistik şirketini başkalarına önermeye istekliyim.	*	*	*	*	*
Lojistik şirketinin olumlu yönlerini başkalarına açıklayabilirim.	*	*	*	*	*
Çevremdeki insanlara bu lojistik şirketini tavsiye edeceğim.	*	*	*	*	*

18. Lütfen cinsiyetinizi belirtiniz.

19. Lütfen eğitim seviyenizi belirtiniz

Lise

Üniversite (Lisans)

Yüksek Lisans / Doktora

20. Lütfen yaşınızı belirtiniz.

18-25

26-35

36-50

51-65

66 ve üstü

21. Lütfen gelir seviyenizi belirtiniz.

20.000 tl ve altı

20.001 tl – 35.000 tl

35.001 tl – 50.000 tl

50.001 – 80.000 tl

80.001 tl ve üstü

Appendix C. Questionnaire in English

Logistics Service Experience

Dear Respondent,

In the following pages, several different questions regarding the logistics service provider your company is working with will be asked to evaluate your experience in doing business with them. Some questions may look alike, but every question has a unique contribution to the survey results. There are no right or wrong answers. Entering this survey is totally optional; you might not enter it or you may quit at any point. No personal information will be asked in this survey.

Answers to this survey will only be used for scientific purposes. Completing the survey will take approximately 6 minutes. Sorularınız olursa adresinden bizimle temasa geçebilirsiniz.

1. Thank you for your contribution to this survey.

Yes, I am older than 18 years old, and I am willing to enter this survey.

No, I do not want to enter this survey.

2. Is the company you are working in, is using a logistics service provider?

Yes

No

3. How old is your company?

4. In which industry is your company operating in?

5. What is your position in the company?

6. Please indicate to what extent you agree with the following statements regarding the logistics service provider company your company is working with.

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
Contact employees of the logistics service provider make an effort to understand my situation.	*	*	*	*	*
Contact employees of the logistics service provider resolves my product or service-related issues.	*	*	*	*	*
The service knowledge of the logistics service provider's contact employees meet my expectations.	*	*	*	*	*

7. Please indicate to what extent you agree with the following statements regarding the logistics service provider company your company is working with.

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
Requisitioning procedures are effective in facilitating a smooth ordering process.	*	*	*	*	*
Requisitioning procedures are easy to navigate.	*	*	*	*	*
Ordering procedures for logistics services took short time to complete.	*	*	*	*	*
Ordering procedures for logistics services were simple.	*	*	*	*	*
Ordering procedures for logistics services were clear.	*	*	*	*	*

8. Please indicate to what extent you agree with the following statements regarding the logistics service provider company your company is working with.

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
Operational information is effectively shared with customers.	*	*	*	*	*
Services have the capability to share both standardized and customized information with customers.	*	*	*	*	*
The information provided by the logistics service provider is accurate.	*	*	*	*	*
Real-time information about shipping is accessible at any time.	*	*	*	*	*

9. Please indicate to what extent you agree with the following statements regarding the logistics service provider company your company is working with.

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
The logistics service provider delivers the right product	*	*	*	*	*

to the right place.						
The logistics service has a reliable storage capacity.	*	*	*	*	*	*
The logistics service provider delivers goods without loss or damage.	*	*	*	*	*	*
The logistics service provider effectively handles trade documents.	*	*	*	*	*	*

10. Please indicate to what extent you agree with the following statements regarding the logistics service provider company your company is working with.

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
The logistics service provider always has available physical facilities.	*	*	*	*	*
The logistics service provider has a responsive workforce.	*	*	*	*	*
The logistics service provider has extensive	*	*	*	*	*

geographical reach.					
The fleet of the logistics service provider are functional.	*	*	*	*	*
The information technology of the logistics service provider is adequately maintained and updated.	*	*	*	*	*

11. Please indicate to what extent you agree with the following statements regarding the logistics service provider company your company is working with.

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
The logistics service provider offers services for customers' requests.	*	*	*	*	*
The logistics service provider provides diverse options for logistics services.	*	*	*	*	*
The logistics service provider offers services that fulfills my	*	*	*	*	*

specific needs.					
The logistics service provider offers unique services not found in other logistics providers.	*	*	*	*	*
If I changed between companies, I wouldn't obtain services as customized as I have now.	*	*	*	*	*

12. Please indicate to what extent you agree with the following statements regarding the logistics service provider company your company is working with.

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
The vehicles used by the logistics service provider are in good condition.	*	*	*	*	*
The logistics service provider has modern-looking equipment.	*	*	*	*	*

13. Please indicate to what extent you agree with the following statements regarding the logistics service provider company your company is working with.

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
The orders are delivered without damage.	*	*	*	*	*
The delivery was prompt and reliable.	*	*	*	*	*
The waiting time for deliveries are short.	*	*	*	*	*
The logistics service provider has provided the delivery service within the promised time.	*	*	*	*	*

14. Please indicate to what extent you agree with the following statements regarding the logistics service provider company your company is working with.

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
I feel safe when making transactions with the logistics service provider.	*	*	*	*	*
The logistics service provider is knowledgeable in answering	*	*	*	*	*

all my concerns.

The logistics service provider is trustworthy.	*	*	*	*	*
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15. Please indicate to what extent you agree with the following statements regarding the logistics service provider company your company is working with.

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
The logistics service provider answered all my questions well enough.	*	*	*	*	*
The logistics service provider can be easily contacted.	*	*	*	*	*
The logistics service provider gives prompt service.	*	*	*	*	*
The logistics service provider has shown willingness to help the customer.	*	*	*	*	*

16. Please indicate to what extent you agree with the following statements regarding the logistics service provider company your company is working with.

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
I am satisfied with the performance of my logistics service provider.	*	*	*	*	*
The services offered by the logistics service provider meets my expectations.	*	*	*	*	*
The services provided by the logistics service provider are of high quality.	*	*	*	*	*
Overall, I am satisfied with my logistics service provider.	*	*	*	*	*
My feelings towards the logistics service provider are positive.	*	*	*	*	*
I feel good about choosing this logistics service provider for the services I am looking for.	*	*	*	*	*

17. Please indicate to what extent you agree with the following statements regarding the logistics service provider company your company is working with.

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
I am willing to use the logistics service provider for future needs.	*	*	*	*	*
I choose logistics service providers when relevant information is needed.	*	*	*	*	*
I am willing to recommend the logistics service provider to others.	*	*	*	*	*
I can explain the positive aspects of the logistics service provider to others.	*	*	*	*	*
I will recommend the logistics service provider to people around me.	*	*	*	*	*

18. Please fill in your gender.

19. Please select your education level.

Highschool

University (Undergraduate)

Masters / Doctorate

20. Please select your age.

18-25

26-35

36-50

51-65

66 and above

21. Please select your income level.

20.000 tl and below

20.001 tl – 35.000 tl

35.001 tl – 50.000 tl

50.001 – 80.000 tl

80.001 tl and above