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DETERMINANTS FACTORS OF SERVICE QUALITY IN A COURIER SERVICE

By



AWADH FAISAL

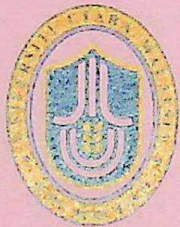


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in Partial Fulfilment of the Requirement for the Master of Supply Chain Management

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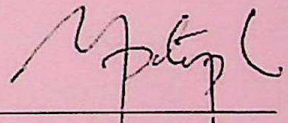
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Abstract (English version)

This study embarked on an in-depth exploration into the influence of service quality dimensions on the efficacy of service quality at Ninja Van UUM (NVU), directly addressing the persistent service quality challenges and evolving customer expectations outlined in the problem statement. Adopting a descriptive research design, the investigation scrutinized the impacts of timeliness, order accuracy, price fairness, information quality, and personnel quality on customer perceptions of service quality. Amidst the burgeoning e-commerce landscape and the essential role of courier services in the modern supply chain, this research highlights NVU's efforts to meet these critical customer service expectations. A comprehensive survey, garnering 141 valid responses, provided a robust empirical foundation for the study. Analysis, conducted using SPSS v27, applied both descriptive and inferential statistical techniques to unearth significant insights. The findings underscored that timeliness, information quality, and personnel quality significantly and positively influence service quality, emphasizing their essential role in enhancing customer satisfaction. In contrast, order accuracy and price fairness did not emerge as significant influencers, revealing a complex perception landscape among NVU's customers. This research enriches the corpus of knowledge on service quality, offering nuanced insights and practical recommendations for courier services, particularly NVU. It identifies strategic areas for operational improvement to elevate customer satisfaction and service efficiency, thereby enhancing overall service quality in the competitive courier service arena. By delving into the factors impacting service quality, this study illuminates key areas for development and strategic focus, aiming to foster a culture of excellence and the service quality at Ninja Van UUM.

Keywords, Service Quality, Courier Service, Service Quality Dimensions, Ninja Van

Abstrak (Malay version)

Kajian ini memulakan penerokaan yang mendalam tentang pengaruh dimensi kepuasan kualiti perkhidmatan terhadap keberkesanan kualiti perkhidmatan di Ninja Van UUM (NVU), secara langsung untuk menangani cabaran kualiti perkhidmatan yang berterusan dan jangkaan pelanggan yang berubah-ubah yang digariskan dalam pernyataan masalah. Dalam kajian ini, penyelidik mengguna kaedah reka bentuk penyelidikan deskriptif, penyiasatan meneliti kesan ketepatan masa, ketepatan pesanan, kesaksamaan harga, kualiti maklumat dan kualiti kakitangan berkaitan dengan persepsi pelanggan terhadap kualiti perkhidmatan. Dalam kepesatan landskap e-dagang yang semakin berkembang dan peranan penting perkhidmatan kurier dalam rangkaian bekalan moden, penyelidikan ini membantu usaha NVU untuk memenuhi jangkaan perkhidmatan pelanggan yang kritikal ini. Tinjauan komprehensif, memperoleh 141 jawapan yang sah, menyediakan asas empirikal yang kukuh untuk kajian itu. Analisis, yang dijalankan menggunakan kaedah SPSS v27 iaitu menggunakan kedua-dua teknik statistik deskriptif dan inferensi untuk meninjau pandangan yang sahih. Dalam kajian ini mendapati bahawa ketepatan masa, kualiti maklumat dan kualiti kakitangan secara signifikan dan positif mempengaruhi kualiti perkhidmatan, menekankan peranan penting mereka dalam meningkatkan kepuasan pelanggan. Sebaliknya, ketepatan pesanan dan harga tidak muncul sebagai pengaruh yang ketara dengan mendedahkan landskap persepsi yang kompleks dalam kalangan pelanggan NVU. Tujuan penyelidikan ini untuk menambahkan pengetahuan tentang kualiti perkhidmatan, menawarkan pandangan yang berbeza dan cadangan praktikal untuk perkhidmatan kurier, khususnya NVU. Dalam kajian ini juga untuk mengenal pasti kawasan strategik untuk penambahbaikan operasi dalam meningkatkan kepuasan pelanggan dan kecekapan perkhidmatan, sekali gus meningkatkan kualiti perkhidmatan keseluruhan dalam bidang perkhidmatan kurier yang lebih kompetitif. Dengan menyelidiki faktor-faktor yang mempengaruhi kualiti perkhidmatan, kajian ini menerangkan bidang utama untuk pembangunan dan tumpuan strategik dengan tujuan untuk memupuk budaya kecemerlangan dan kualiti perkhidmatan di Ninja Van UUM.

Kata kunci: Kualiti Perkhidmatan, Perkhidmatan Kurier, Dimensi Kualiti Perkhidmatan, Van Ninja

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List of Abbreviations

NVU Ninja Van at Universiti Utara Malaysia (UUM),

T Timeliness

O Order Accuracy

PF Price Fairness

IQ Information Quality

PQ Personnel Quality

SQ Service Quality



CHAPTER ONE

INTRODUCTION

1.1 Introduction

This Chapter of the research study serves as an introductory platform, outlining the essential components and variables critical to the research. It begins with a comprehensive background overview, setting the stage for the study by addressing the problem statement and formulating specific research questions. This chapter also clearly defines the research objectives and highlights the significance of the study.

1.2 Background of Study

The inherently intangible and unsecured nature of services poses significant challenges in establishing explicit requirements and assessing outcomes, as noted by Grönroos (1988). A diverse array of theories and models has been developed to elucidate the quality of service from various vantage points, thereby underscoring its multifaceted characteristics. At its core, the assessment of service quality is deemed pivotal in gauging the overall efficacy of a service. Carman (1990) defines service quality as the extent to which the service rendered by providers aligns with customer expectations. Echoing this sentiment, Brady and Cronin (2003) contend that the quality of a service exerts a direct influence on its performance, advocating for the enhancement of service quality as a means to augment customer satisfaction and foster loyalty. Buttle (1995) characterizes service quality as a comprehensive evaluation by customers of the service received, encompassing the degree to which it satisfies their expectations and fulfills their satisfaction criteria.

In line with these perspectives, Sultan and Chan (2012) advise that organizations should benchmark their performance not only against customer expectations and experiences but also relative to competitors within the same sector to attain an all-encompassing understanding of their service quality. This recommendation is predicated on the notion that customers primarily seek the benefits that services provide, rather than the services themselves. Despite the burgeoning growth of the service industry, issues and grievances related to service quality remain prevalent. The courier service sector, which plays a crucial role in facilitating the direct transfer of goods from manufacturers to consumers, serves as a case in point for an industry grappling with challenges such as ensuring the secure and prompt delivery of parcels, issues that have culminated in numerous customer complaints. In the current climate, courier services are increasingly in demand due to the rise of online shopping. This trend represents a shift towards convenience, allowing individuals, including professionals and students, to make purchases without the need to allocate special time during weekends or working hours. For students and staff, in particular, the integration of courier services within educational institutions offers a solution that accommodates their limited availability, enabling them to engage in e-commerce without compromising their academic commitments. This adaptation underscores the evolving landscape of consumer behavior, where the convenience of online shopping and the efficiency of courier services cater to the needs of a diverse demographic.

The investigation delved into the service quality within the courier industry, which is currently witnessing unprecedented global demand and serves as a pivotal conduit for the exchange of goods and communication, as highlighted by Otsetova & Enimanev

(2014). Historically, courier services were primarily associated with the conveyance of information and communications from one point to another, a concept detailed by Tariq, Jan, Qadir, & Ullah (2017). In the realm of the courier service sector, the satisfaction of customers emerges as a crucial determinant for sustaining service utilization and fostering repeat transactions, according to Otsetova (2017). The industry recognizes the paramount importance of customer satisfaction in fueling business expansion and acknowledges the potential negative impacts that may ensue from failing to meet customer expectations, a sentiment echoed by both Li et al. (2006) and Otsetova & Enimanev (2014). This acknowledgment underscores the critical role that customer satisfaction plays in the strategic development and operational success of courier services, highlighting its significance as a key metric for evaluating service quality and ensuring long-term business viability.

In 2022, Malaysia's courier service industry showcased its resilience and adaptability in a rapidly changing market environment. With the e-commerce sector undergoing significant shifts due to evolving consumer preferences post-pandemic, the courier and postal services have adeptly navigated these transformations. The year saw a decrease in overall courier services traffic to 706.87 million items, down 8.3%, indicative of a return to pre-pandemic e-commerce growth rates.

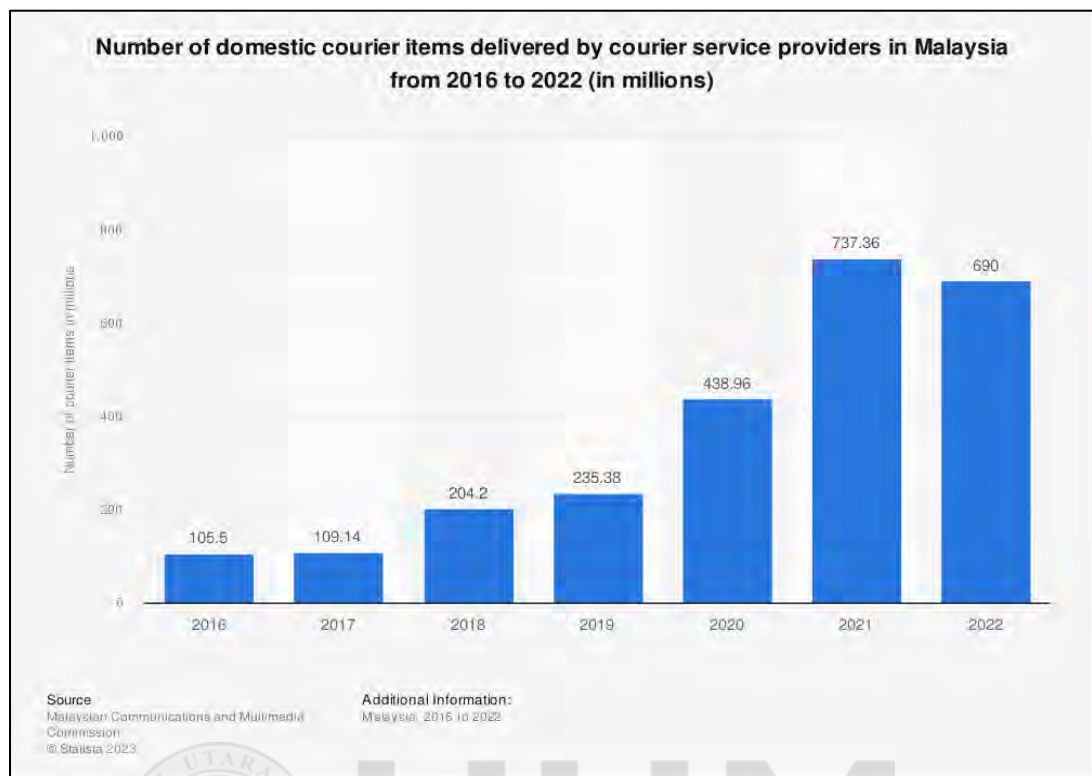


Figure 1-1 Domestic Courier Items Delivered

Despite this, Figure 1-1, the domestic segment remained robust, with approximately 690 million domestic courier items delivered, underscoring the industry's critical role in supporting local commerce and logistics. The e-commerce market in Malaysia continued its upward trajectory, with its value estimated to reach an impressive 38.2 billion Malaysian ringgit in 2022. This surge in e-commerce has been a driving force behind the increase in parcel deliveries, positively impacting the revenue streams of both postal and courier sectors.

Regulatory measures by the Malaysian Communications and Multimedia Commission (MCMC) have been crucial in shaping the industry's direction. Post a two-year moratorium, the MCMC resumed issuing courier service licenses in 2022, advocating for sustainable and environmentally conscious practices within the sector. This

approach is reflected in the 120 courier licenses issued by year-end, categorized across various service levels.

Infrastructure advancements were notable, with a significant 82.1% increase in the number of service centers to 2,038. This expansion, coupled with a vast network of agents and drop-in centers, enhanced the industry's capability to meet the escalating consumer demands efficiently. The courier vehicle fleet also expanded to 123,578 units in 2022, a mixture of company-owned, outsourced, and employee-owned vehicles, indicating the industry's commitment to scaling up its operational capacity. Due to the rapid growth of courier services in the market, courier firms must prioritize the quality of their services to meet client satisfaction (Otsetova, 2017). The longevity of a firm is contingent upon the caliber of its service (Hanif, Hafeez & Riaz, 2010).

Ninja Van, formed in 2014, has its origins in Marcella, a menswear brand started by Lai Chang Wen, a former banker who faced difficulties in obtaining properly fitted men's shirts. Marcella, who specialises in creating personalised men's clothing, encountered major obstacles as a result of faulty delivery services, which caused regular delays and missing deliveries. As a result, Lai identified and tackled a secondary problem: the requirement for a reliable logistics solution. Consequently, Ninja Van was established, transforming into a technologically advanced express logistics company that serves enterprises of different scales across Southeast Asia. The firm has experienced significant expansion, currently managing around 1.5 million packages daily across six countries. This operation is facilitated by a network of over 1,600 hubs and stations, and a workforce of roughly 31,000 employees. Ninja Van Malaysia has extended its coverage to encompass the whole Peninsular Malaysia,

increasing its fleet capacity by more than 80%. This expansion has allowed them to serve an expansive region of 2 million square miles. Additionally, it proudly has around 4,000 locations for picking up and dropping off products, as well as one of the most extensive networks of lockers in Malaysia, facilitating the delivery of millions of items each month. Ninja Van is a technology business that is transforming a significant industry by employing inventive software and organisational techniques (Salim, 2021). The service offers a high level of convenience for clients when it comes to package delivery. Consequently, the researcher is specifically examining the Ninja Van (NV) branch at Universiti Utara Malaysia (UUM), Sintok, Kedah.

The primary objective of this research is to explore the major factors impacting service quality in relation to Ninja Van UUM (NVU) courier services. The study focuses on investigating how elements such as service quality, timeliness, order accuracy, price fairness, information quality, and personnel quality contribute to service quality. It aims to identify the key factor(s) that most significantly influence service quality, among NVU customers.

1.3 Problem Statement

This study delves into the critical issue of service quality within the courier service sector, particularly through the lens of Ninja Van's operations at Universiti Utara Malaysia (UUM), Sintok, Kedah. Amidst the explosive growth of online shopping, courier services have become indispensable in the modern supply chain. Yet, they are plagued by persistent challenges in meeting customer expectations on several fronts, including timeliness, accuracy, and the secure handling of parcels. These challenges have precipitated widespread customer dissatisfaction and complaints, casting a

shadow over the operational efficiency and loyalty that are paramount to the survival and success of courier services. The issues at hand not only underscore operational and logistical inefficiencies but also mirror broader systemic issues within the industry (Andreassen, 2001; Tax & Brown, 2000; Gulc, 2020).

Despite the consensus on the criticality of high-quality service delivery for fostering customer satisfaction and loyalty, a significant gap in empirical research on service quality determinants in courier services persists. The extant literature, while rich with generic service quality models, falls short of addressing the unique operational challenges and customer expectations specific to courier services. This gap is particularly pronounced in the context of Malaysia's rapidly evolving e-commerce landscape, which has been inadequately explored in existing studies (Jiradilok et al., 2014; Gläser, Jahnke & Strassheim, 2023).

Ninja Van UUM's case presents a unique vantage point to explore these challenges. Initially established to surmount the logistical challenges faced by the e-commerce business Marcella, Ninja Van has burgeoned into a leading logistics provider in Southeast Asia. However, the service quality issues and operational challenges specific to its UUM branch remain largely uncharted territory. This study endeavors to fill this void by dissecting the determinant factors of service quality at Ninja Van UUM, including timeliness, order accuracy, pricing fairness, information quality, and personnel quality. The exploration of these factors is instrumental in unveiling how they collectively contribute to customer satisfaction and loyalty within the courier service sector.

The dearth of focused research on the determinants of courier service quality, especially in the context of educational institutions and against the backdrop of Malaysia's e-commerce boom, signals a significant theoretical and practical research gap. This study aims to bridge this gap by proposing an integrated model that assesses the impact of specific service quality dimensions on customer satisfaction at Ninja Van UUM. In doing so, it aspires to enrich the discourse on service quality management within the courier services, providing insights that could help enhance service standards amidst evolving market demands.

High-quality service delivery's importance in engendering customer satisfaction and loyalty cannot be overstated. This aligns with Donabedian's (1980) bifurcation of service quality into technical and functional aspects, further elaborated by Gronroos (2001) and Fatemi (2023). Technical quality focuses on the tangible aspects of what is provided, whereas functional quality delves into the intangible facets of how services are rendered. The latter, heavily influenced by customer-provider interactions, underscores the critical need for understanding and bridging the gap between customer expectations and actual service delivery.

At the core of service quality issues is timeliness, a factor whose significance is magnified in the online shopping realm, where expectations for swift delivery are heightened (Xu & Cao, 2008; Mulyana, Y., 2023). The Ninja Van UUM Centre, plagued by staff shortages and reliance on part-time staff, exemplifies how these operational challenges impact customer satisfaction. Order accuracy, too, is paramount, with its role in avoiding delivery mishaps and fulfilling customer needs

precisely being critical to the courier service's reliability and reputation (Novack et al., 1994).

Moreover, pricing strategies and information quality emerge as pivotal factors influencing customer perception and satisfaction. The alignment of price with value provided and the transparency in parcel tracking and delivery details are vital for building customer trust and satisfaction (Lokmic-Tomkins et al., 2023; Foster, 2016; Hanif et al., 2010). Lastly, the quality of personnel, defined by effective communication and problem-solving skills, directly impacts customer satisfaction, highlighting the importance of investing in quality staff training (Donabedian, 1980; Gronroos, 2001). This study, through its examination of Ninja Van UUM's service quality determinants, seeks not only to contribute to the scholarly discourse on courier service quality management but also to offer practical insights for improving service standards in the dynamically evolving courier service market.

1.4 Research Objective

The study aims to identify factors that influence service quality towards Ninja Van UUM (NVU); this leads to the following research objective:

- To examine the influence of timeliness, order accuracy, price fairness, information quality, and personnel quality towards Ninja Van UUM (NVU) service quality among customers.

1.5 Research Question

This section introduces the research questions that have been formulated in direct response to the problem statement identified within the current study.

- Does timeliness, order accuracy, price fairness, information quality, and personnel quality collectively and significantly influence the service quality of Ninja Van UUM (NVU) among its customers?

1.6 Scope of Research

This research aims to evaluate the satisfaction levels of customers at UUM (Sintok) regarding the services offered by the Ninja Van UUM (NVU) and to assess the specific issues faced by customers in using NVU's services. The study has a deadline of three months, during which the researcher must finish his work. The information will be gleaned from the survey's participants. The absence of preceding research is a barrier to collecting data from a broader perspective.

1.7 Significance of Research

The primary aim of this study is to provide significant perspectives on the quality of courier services inside Universiti Utara Malaysia (UUM), branch of Ninja Van, with a specific focus on stakeholders at UUM, sintok, Kedah. The study results and suggestions aim to provide benefits to several stakeholders within the Ninja Van context.

1.7.1 Customers

This research study, now focusing on the courier service quality at Ninja Van UUM (NVU) in Sintok, aims to provide insights into the factors influencing courier services, particularly for the local and regional communities. The study explored the extent to which NVU's service quality meets the satisfaction levels of its customers. This evaluation considered various aspects such as timeliness, order accuracy, price fairness, information quality, and Personnel Quality. The findings will be valuable for NVU in strategizing improvements and for other stakeholders in understanding the dynamics of courier services in a regional context.

1.7.2 Academicians:

This study will serve as a valuable reference for academicians interested in conducting similar research on service quality in higher educational institutions. It offers a framework and insights that can be adapted or expanded upon in future academic inquiries.

1.7.3 Research Area

This research primarily investigates the perceptions of the customers of Ninja Van UUM (NVU) in Sintok, specifically in the regions of Universiti Utara Malaysia (UUM). The study aims to understand the factors influencing customer satisfaction with courier services in these areas. By exploring the views of a diverse group of users, including students, staff and residents' customers, this research provided insights into the quality-of-service delivery by NVU. The findings will be instrumental for future

researchers in analyzing the dynamics of customer satisfaction in courier services, extending beyond educational settings to a broader community context. This study will therefore not only contribute to the body of knowledge regarding courier service quality but also aid NVU in enhancing its service delivery to meet the evolving needs of its diverse clientele.

1.8 Definition of Key Terms

This section aims to provide concise definitions and detailed explanations for several important terms used in the present investigation:

1.8.1 Service Quality

Service quality is determined by how well the service meets or exceeds customer expectations, involving both the outcome of the service (technical quality) and the process through which the service is delivered (functional quality). Technical quality refers to the correctness, completeness, and quality of the service's result, while functional quality includes aspects such as responsiveness, empathy, and communication. These dimensions are critical in shaping customer satisfaction and loyalty (Parasuraman et al., 1985).

1.8.2 Timeliness

Timeliness in courier services denotes the efficiency and speed with which parcels are processed and delivered to recipients. This concept is crucial for assessing service

quality and ensuring customer satisfaction, as it reflects the courier's ability to meet delivery expectations within a specified timeframe (Xu & Cao, 2008).

1.8.3 Order Accuracy

Order accuracy is defined by the precision in fulfilling the customer's original order, ensuring that parcels are undamaged, the correct quantity of items is delivered, and there is no mix-up of packages between customers. This accuracy is fundamental to establishing customer trust and satisfaction, reflecting the courier service's capability to execute orders correctly and efficiently. (Mentzer, Flint, & Kent, 1999)

1.8.4 Information Quality

The quality of information provided to customers about their orders, including tracking updates and delivery schedules, plays a vital role in reducing uncertainties and enhancing customer satisfaction. Accurate, error-free, and reliable information is essential for efficiently managing customer expectations and minimizing potential confusion regarding their parcels' status (Li, Rao, & Ragu-Nathan, 2005).

1.8.5 Price Fairness

Price fairness relates to the customers' perception that the service prices are reasonable, acceptable, and justified given the value received. Achieving a balance between competitive pricing and high-quality service delivery is pivotal for fostering customer satisfaction and promoting the continued use of the service. (Matzler, 2006).

1.8.6 Personnel Quality:

The quality of interactions between courier service personnel and customers is a significant determinant of service quality. This includes staff performance in communication, empathy, responsiveness, and professionalism. Positive customer experiences with courier staff contribute to overall satisfaction and the perceived value of the courier service. (Parasuraman, Zeithaml, & Berry, 1985)

1.9 Organisation of Thesis

The structure of this project paper is meticulously organized into five chapters, each serving a distinct role and objective:

- I. **Chapter 1:** Serving as the introduction, this chapter establishes the foundation for the research. It succinctly outlines the study's background, effectively defines the problem statement, and develops the research questions. Additionally, it outlines the objectives of the research and explains its relevance. This chapter aims to provide a comprehensive understanding of the study's objective and its significance, thereby preparing the groundwork for a detailed examination of the subject in the following chapters.
- II. **Chapter 2:** This chapter is dedicated to the literature review, where previous studies related to the research topic are thoroughly examined. The purpose is to support and justify the terms and concepts used in the study and to provide a solid theoretical background. It establishes a study setting by examining the independent and dependent variables and their connections.

III. **Chapter 3:** Understanding how the study was done requires discussing its methodology in this chapter. The study framework, design, operational definitions, and variable measurement are thoroughly examined. It also describes equipment, data collecting, sampling, and analysis methodologies. The study procedure and outcomes' validity and reliability depend on the chapter.



CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents an extensive literature review relevant to the study, seamlessly integrating various components for a comprehensive understanding. Initially, it delves into the definition and conceptual review, exploring key service quality dimensions such as timeliness, order accuracy, price fairness, information quality, and personnel quality, particularly in the context of courier services at the the Ninja Van UUM (NVU). Following this, the chapter develops hypotheses based on the theoretical insights gleaned, focusing on how these service quality dimensions impact customer satisfaction among NVU customers at Universiti Utara Malaysia (UUM), Sintok, Kedah. It then outlines the theoretical framework of the study, centering on the Service Quality (SERVQUAL) Theory and its application in framing the research variables. Additionally, the chapter discusses the underpinning theories that form the foundation of the study's framework, highlighting their relevance to the courier service sector.

2.2 Definition and Conceptual Review

In the conceptual review section, the focused on examining and elucidating the various concepts, variables, and terms that are integral to this research study, as identified in previous literature. This review aims to provide detailed explanations and insights into these concepts, enhancing the overall comprehension of the topic matter.

In this section, the study thoroughly dissected and analyzed fundamental concepts related to service quality, focusing on specific variables critical to the research. These variables include timeliness, order accuracy, price fairness, information quality, and personnel quality. Each of these concepts is examined in detail, with insights drawn from existing literature to provide a comprehensive understanding of how these factors interplay and impact the overall service quality.

Emphasis is placed on the context of the Ninja Van UUM (NVU), offering an in-depth perspective on how these variables affect service quality within this specific setting. The analysis aims to elucidate the nuances of each factor and their collective influence on service delivery at the NVU, thereby contributing valuable insights into the facets that shape customer experiences and satisfaction in this environment. The goal of this conceptual review is not only to establish a clear understanding of each term and variable but also to demonstrate their relevance and application in the realm of courier services within an educational institution setting.

Table 2-1 Definition of Variables

V	Term	Definition	Source
DV	Service Quality	The extent to which customer perceptions and expectations align with the service provided, including aspects of desired and adequate service.	Parasuraman et al. (1985, 1988)
IV	Timeliness	The expected duration for customers' parcels to be available, from placement to delivery, varying based on the courier's delivery process.	Xu & Cao (2008)
IV	Order Accuracy	The precision with which delivered items match the customer's order, ensuring parcels are undamaged, the	Mentzer, Flint, & Kent (1999)

V	Term	Definition	Source
		correct quantity is delivered, and no mix-up of packages occurs.	
IV	Information Quality	Providing accurate, error-free information to avoid uncertainty, inefficiency, and mishandling of customers' packages.	Li, Rao, & Ragu-Nathan (2005)
IV	Price Fairness	A price that customers consider acceptable, reasonable, and justifiable, particularly in the context of service charges set by the Ninja Van UUM (NVU)	Matzler (2006)
IV	Personnel Quality	The level of interaction between courier service personnel and customers, judged by the customer through the performance of courier personnel.	Parasuraman, Zeithaml, & Berry (1985)

2.2.1 Service Quality

This study delves into the concept of service quality in the context of logistic service providers, particularly focusing on the Ninja Van UUM (NVU). Kotler & Armstrong (2014) describe service as an intangible activity or benefit, distinct from tangible products, where customer satisfaction is a primary goal. In logistics, factors like timeliness and speed of delivery are crucial, with Vivaldini (2023) linking these to the provider's operational efficiency. Alzaydi et al. (2018) highlight the intricacies of quantifying service quality in sectors such as courier services, owing to the intangible, variable, non-permanent, and indivisible characteristics of service offerings. Addressing these complexities, the SERVQUAL methodology, conceptualized by Parasuraman et al. in the mid-1980s, emerges as a vital tool. Initially encompassing a

spectrum of ten quality dimensions, this framework was subsequently refined to emphasize five essential aspects: physical evidence, trustworthiness, consistency, compassion, and promptness. Its core approach lies in evaluating service quality by measuring the discrepancy between what customers anticipate and what they experience. This methodology has gained substantial validation within the courier sector, as demonstrated in research conducted by Mentzer et al. (2001), Naik & Srinivasan (2015), and Kansra & Jha (2016).

However, the SERVQUAL model's focus on the expectation-perception gap has been debated. Cronin and Taylor (1992) introduced the SERVPERF model, emphasizing performance efficiency in service quality measurement. This approach is supported by various researchers (Hawkins & Hastie, 1990; Appleton-Knap & Krentler, 2006; Buttle, 1994; Oldfield & Barron, 2000; Abdullah, 2006a, 2006b), who argue for a model based more on actual customer experiences. Furthermore, Mentzer et al. (2001) developed the Logistics Service Quality (LSQ) model, tailored for the courier industry with nine dimensions encompassing operational and functional aspects of service quality (Alemu, 2016). This model integrates various indicators from SERVQUAL but is more specific to logistics services.

This research is centered on assessing the service quality at Ninja Van UUM (NVU), with particular emphasis on factors such as timeliness, order accuracy, price fairness, information quality, and personnel quality. These elements are integral to determining the perceived quality of service and customer satisfaction within the courier service framework at NVU, as underscored in studies by Novack et al. (1994), Anderson et al. (1994), Rutner & Langley (2000), Stank et al. (2003), and Rafid & Jaafar (2007).

2.2.2 Timeliness

In the service industry, especially within courier services, timeliness is acknowledged as a crucial element. The concept of "on-time delivery" is often regarded as a fundamental aspect of service quality, underscoring its importance in this sector. Rahman (2006) underscores the importance of an organization's ability to deliver services within an expected timeframe, positioning timeliness as central to customer satisfaction. Bhardwaj and Chawla (2013) concur, emphasizing timeliness as an essential element of service quality, which encompasses both customer service and physical distribution aspects as highlighted by Mentzer et al. (2001).

In courier service literature, timeliness is often cited as a primary indicator of service quality. This is largely because it meets customers' pre-existing expectations regarding parcel delivery time (Saura, Frances, Contri, & Blasco, 2008). The timely delivery of parcels not only meets but often exceeds customer expectations, thereby enhancing their overall perception of the courier service's quality. Additionally, timeliness significantly impacts the quality perception of courier services (Perrault & Russ, 1974; Novack et al., 1994; Mentzer et al., 2001). While other indicators such as order processing time and lead time are less frequently discussed in literature, they remain important aspects of the overall timeliness and effectiveness of courier services. The consistent emphasis on timeliness across studies indicates its vital role in shaping customer satisfaction and the perceived quality of courier services.

Timeliness also encompasses the efficient collection of parcels by customers at the courier counter to avoid operational issues with package management. Prompt notification to customers upon parcel arrival is crucial. However, the speed of parcel arrival can be affected by various factors in the delivery process, leading to potential

delays (Bienstock et al., 1997). Delays in service delivery can adversely affect customer satisfaction and the perceived quality of the courier service. Park et al. (2009) emphasizes the importance of addressing customer needs swiftly, highlighting timeliness as a critical factor in attaining overall customer satisfaction and loyalty, as supported by the findings of Lin & Wei (1999) and Muyeed (2012). While the definition of timeliness varies among researchers, leading to different interpretations, Rahman (2006) identifies on-time service delivery as the most crucial aspect of this dimension, particularly at the the Ninja Van UUM (NVU). A common complaint among customers is prolonged waiting times, leading to dissatisfaction when parcels are not delivered within the specified timeframe.

2.2.3 Order Accuracy

In the courier service industry, the accuracy of orders plays a significant role in defining service quality and customer satisfaction. Xu and Cao (2008) describe order accuracy as the capability of the courier service provider to align the delivery of parcels with customer expectations, specifically regarding the condition, quality, and quantity of the parcels. It's crucial that customers receive exactly what they ordered, without mix-ups or errors in the parcels intended for others, as emphasized by Mentzer et al. (2001). This aspect of service quality directly impacts customer trust and satisfaction. Mentzer et al. have thoroughly explored the concept of order accuracy, emphasizing its multifaceted nature and significance in the courier service industry. Their research (Mentzer et al., 1989, 1999, 2001; Bienstock et al., 1997) indicates that order accuracy encompasses more than just delivering the correct items. It also involves ensuring deliveries are made to the right customer, in the correct quantity,

and without any defects or unauthorized substitutions. Maintaining these standards of order accuracy consistently is crucial for a courier service provider to establish its reliability.

Fluctuations in the standards of order accuracy can result in varying degrees of customer concerns and expectations. Therefore, it's critical for courier services to comprehend and maintain high standards of order accuracy to ensure customer satisfaction and preserve the quality of their service. Customers are understandably concerned about the condition of their parcels following handling and transportation. If any defects are present, customers have the right to claim compensation, and courier services are responsible for ensuring such incidents do not recur. The quality and quantity of delivered parcels must meet customer expectations to avoid complaints. Researchers have suggested various methods to improve order accuracy and minimize errors.

In this study, a common customer complaint is not receiving parcels as expected, often receiving them in poor condition, which includes damages, incorrect quantities, or receiving parcels meant for others. While some damage might occur during shipment and may not be directly the fault of the Ninja Van UUM (NVU) as a third-party provider, there are still proactive steps that NVU can take to address and mitigate these issues.

2.2.4 Price Fairness

Price is a pivotal factor, generally perceived as the monetary sacrifice required for acquiring a product or service. Both Zeithaml (1988) and Foster (2016) underscore the significance of price in their discussions. Zeithaml regards it as the amount a customer

sacrifices, while Foster describes it as the necessary monetary amount to procure a product or service. The perception of price fairness is essential, as customers need to view the price as reasonable. Companies that set excessively high prices risk overlooking this customer perspective. Price plays a significant role in influencing customer decisions, as found in studies like those by Dimyati & Subagio (2016). Their research indicates that price plays a crucial role in shaping a customer's decision-making process when evaluating the value obtained from a product or service. Foster (2016) advises companies to consider adopting more competitive pricing strategies to sustain long-term business viability.

Customers typically evaluate the price-quality relationship when considering a purchase. Marina, Kartini, Sari, and Padmasasmita (2016) highlight this assessment process, where customers weigh the price against their expectations of the product or service's quality. Leasure (2013) notes that higher prices might deter customers, while lower prices can stimulate purchase interest. This understanding of price perception and its influence on buying behavior is crucial for businesses in strategizing their pricing policies to align with customer expectations and market trends.

In this study, price fairness is assessed by examining customers' perceptions of the value and benefits they receive relative to the price paid for a product or service. Monroe (1985) initially established this assessment framework, which Bolton, Warlop, and Alba (2003) further elaborated on. They define fairness in terms of righteousness, rationality, and acceptability. Matzler, Renzl, and Faullant (2006) view price fairness as the consumer's perception of how a price compares to socially accepted norms and other benchmarks, considering it reasonable, acceptable, and justifiable. This concept is also echoed by Xia, Kent, and Jennifer (2004), who

perceive price fairness as a customer's evaluation of whether a product or service's price is acceptable and justified.

Matzler et al. (2006) further develop this concept by associating price fairness with customer satisfaction or dissatisfaction. Their focus extends to specific dimensions such as price reliability, the price-quality ratio, and relative price, all of which are critical in determining how customers perceive and react to pricing strategies. They note that customers might have mixed feelings about different aspects of pricing. Han and Ryu (2009) further emphasize the importance of price as a determinant of customer behavior, highlighting its significant impact on satisfaction. Gumussoy and Koseoglu (2016) concur, stating that appropriate pricing strategies by service providers can enhance customer satisfaction. Keaveney (1995) and Chen, Gupta, and Rom (1994) also acknowledge the importance of price fairness in the service industry, emphasizing its role in safeguarding companies from service failures and competition. Previous studies provide additional evidence of the importance of price fairness in customer satisfaction. Herrmann, Xia, and Huber (2007) conducted research involving German car dealership customers and discovered that buyer satisfaction was indeed influenced by their perceptions of price fairness. This underscores the role of price fairness in shaping customer satisfaction across various industries. Kaura, Prasad, and Charma (2015) conducted research at the State Bank of India (SBI) and reached the conclusion that perceived price fairness has a positive influence on customer satisfaction and loyalty. This finding supports the idea that price fairness plays a significant role in shaping customer satisfaction and fostering loyalty, even in the context of the banking industry. These studies across different industries reinforce the

critical role of price fairness in shaping customer satisfaction and loyalty, highlighting its importance as a key factor for businesses to consider.

2.2.5 Information Quality

Information quality is another dimension that has received substantial attention in literature, with various interpretations and emphasis on its importance. Tian, Ellinger, and Chen (2010) define information quality as the accuracy and usefulness of information provided to customers about their parcels. A typical example is the provision of tracking numbers by courier providers, allowing customers to monitor the location of their parcels. The key element here is the availability of accurate tracking details, ensuring that customers have precise information, including documents, receipts, or warranty cards related to their parcels. Parasuraman (2004) also highlights the significance of language accessibility in information provision. He suggests that organizations or companies should offer information in multiple languages to make it easily understandable and more useful for customers. The accuracy and lucidity of information play a critical role in influencing client satisfaction and their estimation of the level of service offered by courier companies.

In this study, a prevalent issue at the Ninja Van UUM (NVU) is the provision of incomplete information to customers. This often leads to confusion and difficulties in parcel collection at the service counter, increasing the risk of misplacing customer packages. Therefore, Improving the quality of information given is crucial for raising client happiness and optimizing the overall efficiency of the courier service.

2.2.6 Personnel Quality

Personnel quality is a key factor influencing the quality of courier services, as highlighted by various scholars. Xu & Cao (2008) define it in terms of the interactions between customers and service personnel. Customers greatly value the attributes of customer service personnel, including their knowledge, courtesy, and professionalism, particularly in handling issues and responding to complaints. This idea is reinforced by studies conducted by Parasuraman et al. (1985), Bitner et al. (1994), and Hartline & Ferrel (1996), all of whom underline the significance of personnel quality in the service sector. Personnel quality goes beyond employees' knowledge; it involves their capacity to understand customer needs and efficiently address problem-solving (Bitner et al., 1994; Parasuraman et al., 1985). In the courier service context, personnel are responsible not only for aiding customers as required but also for managing any discrepancies in service that may occur. This responsibility is significant, as the quality of personnel interaction often shapes customers' overall service experience.

Suprenant and Solomon (1987) provide additional support for this viewpoint, proposing that customers' assessment of service quality in courier services is more closely linked to the quality of personnel interactions than to the actual service outcome. This emphasizes the vital role of personnel quality in shaping the customer experience and underscores the importance of courier services in recruiting, training, and retaining high-quality staff to enhance customer satisfaction and faithfulness.

In the context of this study, a notable issue is the lack of empathy shown by staff towards customers at the Ninja Van UUM (NVU). Customers typically expect positive and effective interactions with personnel who can promptly and empathetically handle their situations. Effective communication between customers and personnel is

essential, and any time delays in this interaction are generally unwelcome. Parasuraman et al. (1985) further highlight the significance of evaluating the quality of personnel-customer contact throughout the package handling and delivery process. This underscores the significance of people quality in shaping client satisfaction and the perceived quality of courier services.

2.3 Hypotheses Development

In this research section, hypotheses are formulated to investigate the direct impact of various factors, including timeliness, order accuracy, price fairness, information quality, and personnel quality at the Ninja Van UUM (NVU), on the perceived service quality among customers at Universiti Utara Malaysia (UUM), Sintok, Kedah. The objective is to analyze and substantiate how these specific elements of courier service collectively shape the overall perception of service quality. These hypotheses are presented as predictive statements concerning the expected influence of each factor. These hypothesized influences were rigorously examined using the research methodology applied in the study, providing a comprehensive understanding of how service quality is perceived and affected by these factors.

2.3.1 Timeliness and Service Quality:

In the realm of courier services, the pivotal role of timeliness in shaping customer perceptions of service quality is incontrovertible. The extant literature, with seminal contributions from Conlon and Murray (1996), Durvasula, Lysonski, and Mehta (2000), among others, consistently underscores the salient correlation between promptness in service delivery and the enhancement of perceived service quality.

Notably, foundational investigations by Perrault and Russ (1974), complemented by subsequent inquiries by Novack et al. (1994), Bienstock et al. (1997), and Mentzer et al. (2001), have illuminated the centrality of timeliness in cultivating positive evaluations of courier service quality among consumers. This correlation is further substantiated by Yu, Ellinger, and Haozhe (2010), who delineate timeliness as a critical determinant in the dyadic interactions between courier service providers and their clients.

Saura, Frances, Contri, and Blasco (2008) articulate a conceptualization of timeliness predicated on the punctual fulfillment of delivery commitments within anticipated timeframes. This perspective is corroborated by Rahman (2006), who posits that "on-time delivery" constitutes an indispensable dimension of service quality in courier services, instrumental in the minimization of operational process durations. Additionally, Mattila and Mount (2006) argue that customer assessments of service quality are positively influenced by the provision of flexible delivery schedules that cater to their specific exigencies, thereby augmenting overall satisfaction levels.

Predicated on this corpus of literature, the present study endeavors to interrogate the applicability of these insights within the specific context of Ninja Van UUM (NVU) service offerings to its patrons at Universiti Utara Malaysia (UUM), Sintok, Kedah. Specifically, this inquiry aims to elucidate the impact of timely delivery on customer perceptions of service quality and satisfaction.

H1: Timeliness significantly influences service quality.

2.3.2 Order Accuracy and Service Quality

Within the domain of courier services, the concept of 'order accuracy' is instrumental in shaping perceptions of Logistics Service Quality (LSQ). This attribute, reflecting the exactitude with which services fulfill customer orders, is a cornerstone in determining customer satisfaction and their overall perception of service quality. The essence of order accuracy lies in the precision of deliveries that match the customer's specifications in terms of item type, quantity, and the exclusion of unauthorized substitutions. The significance of order accuracy as a fundamental component of service delivery is highlighted by research findings from Bienstock, Mentzer, and Bird (1997), and Mentzer, Flint, and Kent (1999), which illustrate its direct correlation with heightened customer satisfaction and service quality. This relationship underscores the necessity for courier services to meticulously manage order accuracy by adapting their operational strategies to cater to the variegated expectations of distinct customer segments, thereby enhancing the competitive edge in service quality.

Building upon this established foundation, the current study posits that order accuracy exerts a significant influence on service quality. This hypothesis is rooted in the prevailing academic discourse that consistently associates higher order accuracy with improved perceptions of service quality among customers. The premise being that a rigorous adherence to the specifics of customer orders fosters a sense of reliability and trust in the service provider, ultimately contributing to a more favorable assessment of service quality.

Nevertheless, it is imperative to consider the insights from Sanjuq (2014), who, in a study within the banking industry, identified no significant influence between order accuracy and pservice quality. Although this finding diverges from the dominant trend

in the literature, it introduces an essential layer of complexity to the discourse on service quality determinants. It suggests that the impact of order accuracy on service quality perceptions might be moderated by factors intrinsic to the industry context or the nature of customer expectations. Consequently, while this study advances the hypothesis that order accuracy significantly influences service quality within the courier service industry, it also acknowledges the necessity for empirical examination to discern the extent to which this relationship is manifest in the specific context of Ninja Van UUM (NVU) and its clientele at Universiti Utara Malaysia (UUM).

H2: Order accuracy significantly influences service quality.

2.3.3 Price Fairness and Service Quality

The notion of price fairness plays a critical role in shaping consumer perceptions of service quality across various industries. This concept, as articulated by Xia et al. (2004), encompasses the customer's evaluative process regarding the equity and acceptability of a service provider's pricing compared to that of competitors. It involves an assessment of price fairness based on comparative, historical, and equitable distribution considerations of costs and profits. Empirical investigations into this phenomenon, such as those by Dimyati and Subagio (2016) and Mlekwa (2014), have underscored a significant positive correlation between perceptions of price fairness and service quality, ultimately influencing customer satisfaction. Such studies suggest that fairness in pricing not only fosters a positive service quality perception but also contributes substantially to customer satisfaction.

Contrasting these findings, research by Carlson, J. P., Huppertz, J. W., & Neidermeyer, P. E. (2008) in the context of healthcare services observed a non-

significant impact of price fairness on service quality. This divergence in findings highlights the sector-specific nuances that may influence the relationship between price fairness and perceived service quality. While the direct applicability of Carlson et al.'s (2008) results to the courier service industry may be limited due to the contextual differences between the healthcare and courier services sectors, their study introduces an important consideration into the discourse on price fairness. It suggests that the influence of price fairness on service quality and customer satisfaction might not be universally applicable across all service industries, warranting a more detailed investigation within specific contexts.

This hypothesis reflects a conjecture grounded in prevailing literature yet is attuned to the potential nuances and variability in the relationship between price fairness and service quality across different service sectors. Consequently, while advancing the proposition that price fairness critically impacts service quality within the courier service context, this study simultaneously underscores the imperative for empirical examination. Specifically, it seeks to discern the extent to which the established correlation between price fairness and service quality is manifest within the unique operational and customer service environment of Ninja Van UUM (NVU) and its clientele at Universiti Utara Malaysia (UUM).

H3: Price fairness significantly influences service quality.

2.3.4 Information Quality and Service Quality

Previous research investigations have put light on the significant role that information quality plays in determining client views and satisfaction with courier services. These studies have emphasized the necessity of relevant and correct information in

influencing customer attitudes towards such services. Studies by Saura, Frances, Contri, & Blasco (2008), and Yu, Ellinger, & Haozhe (2010) emphasize that providing information that meets customers' needs and demands is crucial for enhancing the service quality of courier services. Parasuraman (2004) further suggests that courier service organizations, particularly in multicultural contexts like Malaysia, should offer information in multiple languages to cater to a diverse customer base. This approach not only improves accessibility and understanding but also demonstrates a commitment to customer service and inclusivity.

Thus, this research hypothesizes that accurate, therefore, would be that high-quality information — accurate, relevant, and accessible — positively influences the quality of delivery services at Ninja Van UUM (NVU), especially among its customers. This influence is crucial as it reflects how well customers are informed about the services they are using, which is a significant aspect of their overall service experience.

H5: Information quality significantly influences service quality.

2.3.5 Personnel Quality and Service Quality

The study delves into the influences between personnel quality and service quality, emphasizing the vital role of communication between customers and service personnel. This exploration is rooted in the framework established by Parasuraman et al. (1985), which highlights the importance of service quality and its impact on customer satisfaction and overall service perception. By examining how personnel quality—encompassing aspects like expertise, responsiveness, and interpersonal communication—affects the quality-of-service delivery, the study aims to provide

insights into how effective customer-service personnel interactions can enhance the overall service experience. Effective communication between these two parties is essential in shaping customers' expectations and perceptions during service delivery. In this context, the study investigates the influence of personnel quality on service quality, with a specific emphasis on the significance of communication between customers and service personnel. Lehtinen (1991) proposes a framework for evaluating service quality, which encompasses three dimensions: physical quality, corporate quality, and interactive quality. The interactive quality dimension is particularly centered on direct interactions between customers and service personnel, and it plays a pivotal role in shaping customers' overall perceptions of service quality. Further emphasizing this perspective, Bitner et al. (1994) and Mentzer et al. (2001) highlight the significance of personnel's empathy towards customers. This empathetic approach is particularly crucial in addressing challenges and issues that arise during the service delivery process. By demonstrating empathy and effective problem-solving skills, service personnel can significantly improve their interactions with customers. This, in turn, positively influences the customers' perceived quality of service within the courier industry. The study, therefore, positions these interpersonal aspects as key determinants in evaluating service quality.

In this context, the study hypothesizes that high-quality interactions with personnel — characterized by empathy, effective communication, and problem-solving abilities — positively influence the service delivery quality at Ninja Van UUM (NVU). This aspect is especially significant in the courier service industry, where direct customer-personnel interactions often shape the overall customer experience and satisfaction.

H5: Personnel quality significantly influences service quality.

2.4 Theoretical Framework

According to Cheah (2009), this study uses a structured model to identify, measure, and analyze relevant variables and their statistical influences. Based on the issue description and literature analysis, this framework addresses research questions and study goals. This research framework examines the relationship between independent variables like timeliness, order accuracy, price fairness, information quality, and personnel quality and the dependent variable, courier service quality. This study focuses on customers at Universiti Utara Malaysia (UUM), Sintok. in Kedah to examine how these variables affect their courier service quality judgments. Thus, the framework is essential for directing research and systematically comprehending these processes. The research analyzes courier services to see how these elements affect these users' service quality. We can identify what drives courier service quality at educational institutions and arrange research of these factors.

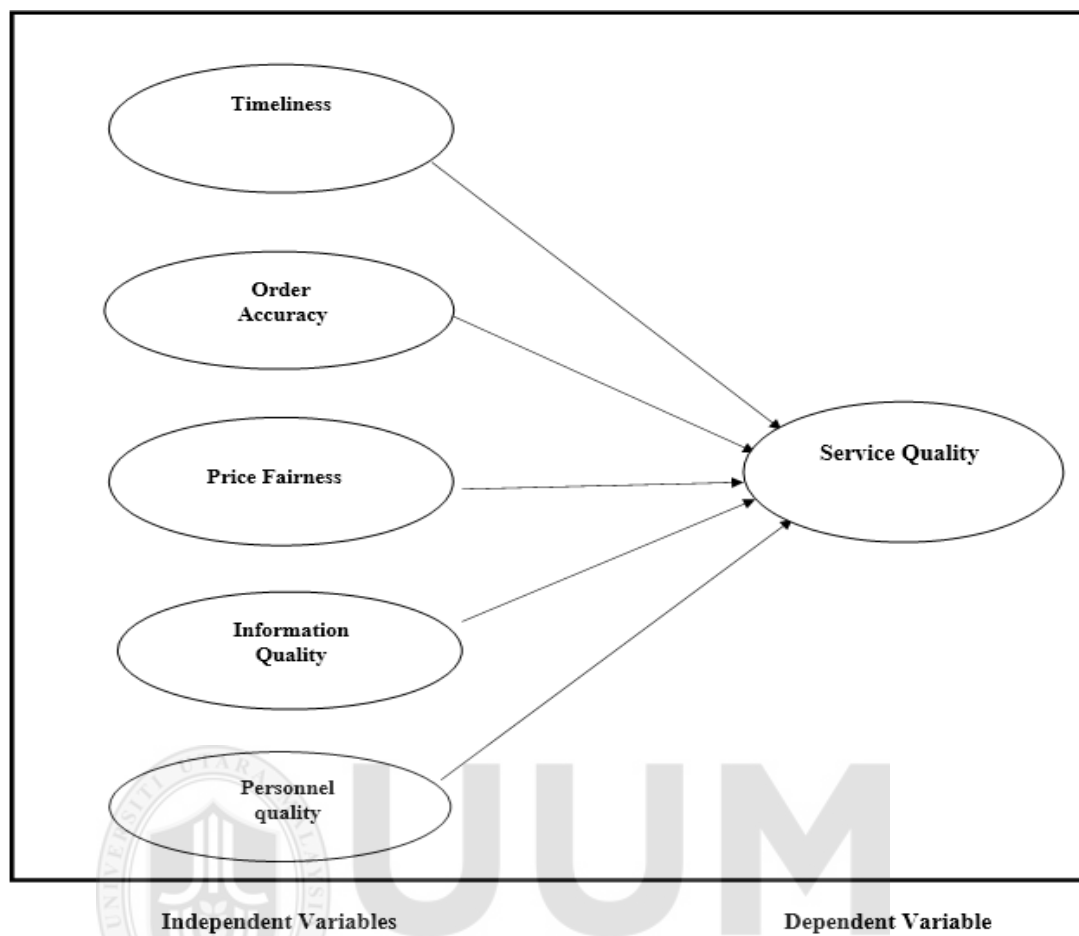


Figure 2-1 Theoretical Framework

2.5 Underpinning Theory

The concept of 'underpinning theory' served as a critical linchpin in academic research, offering a structured theoretical base from which empirical inquiries unfolded. This foundational framework involved the strategic deployment of established theoretical constructs, principles, and postulations to elucidate phenomena within a specified field of study. A methodical application of these theoretical underpinnings not only facilitated the nuanced dissection of complex subjects but also set the stage for subsequent exploration and understanding. As Taha (2020) articulated, a theory was

an organized assemblage of concepts, constructs, definitions, and propositions that rendered a systematic vista on phenomena, articulating the interplay among variables to explain and predict the subject matter. Cornelissen et al. (2021) emphasized the centrality of theoretical grounding in organizational studies as a benchmark for scholarly rigor and relevance. They championed the vital function of a theoretical base in enriching empirical research, asserting its indispensable role in academic inquiry.

In examining the determinants of service quality, an integrative theoretical approach was imperative to elucidate the dynamics and guide the research trajectory. In this study, assessing service quality within Ninja Van UUM (NVU) at Universiti Utara Malaysia (UUM) was undergirded by the Total Quality Management (TQM) theory and the SERVQUAL model.

The philosophy underpinning Total Quality Management (TQM) theory, which underscored the primacy of customer satisfaction, the imperativeness of continuous enhancement, and the systematic governance of quality, as delineated by Deming (1986) and Juran (1989), was extensively recognized within scholarly discourse for its pivotal role in augmenting organizational performance (Powell, 1995; Kaynak, 2003).

TQM, through its concentration on essential processes and the fostering of a universal commitment among employees towards service quality objectives, engendered a milieu that was propitious to operational excellence (Hackman & Wageman, 1995).

Conversely, the SERVQUAL model, introduced by Parasuraman, Zeithaml, and Berry (1988), had garnered acclaim for its meticulous focus on the discrepancy in perception of service quality. Numerous studies had applied the SERVQUAL framework across varied sectors, establishing its effectiveness in the elevation of customer service and satisfaction (Cronin & Taylor, 1992; Seth, Deshmukh, & Vrat, 2005).

The confluence of TQM and SERVQUAL within academic research had been championed by Owusu-Kyei et al. (2023), positing that the amalgamation of TQM's holistic quality management approach with SERVQUAL's service-oriented dimensions could furnish profound insights into strategies for service enhancement. In a similar vein, Talib, Rahman, and Azam (2011) illustrated the applicability of TQM principles within the service domain, employing SERVQUAL dimensions to gain a deeper understanding of customer necessities and service efficacy.

In the present study, the interrelation between TQM and SERVQUAL was scrutinized through the prism of NVU's service dimensions. The identified pivotal service quality factors—timeliness, accuracy of orders, equity in pricing, quality of information, and the caliber of personnel—resonated with both the operational tenets of TQM and the consumer-focused criteria of SERVQUAL. These facets echoed the empirical research of Ladhari (2009) and Sahay & Sharma (2003), who had highlighted the importance of such attributes in the realization of superior service quality and customer contentment.

By anchoring the research in these theoretical frameworks, the study endeavored not merely to delineate the direct influences of the specified service quality dimensions on the overarching quality of service but also to proffer pragmatic strategies for NVU to attain preeminence in service provision.

2.5.1 Total Quality Management Theory (TQM)

Total Quality Management (TQM) embodies a holistic philosophy wherein practices centered around quality pervade all facets of an organization's activities. This philosophy is grounded in the conviction that an unwavering dedication to service

quality and customer satisfaction is of paramount importance, extending beyond the mere quality of products to encompass all dimensions of service provision. The implementation of TQM within the operational framework of Ninja Van UUM (NVU) is poised to revolutionize service quality, elevating customer experiences to epitomes of excellence and dependability.

As elucidated by Rashid and Aslam (2012), the essence of TQM surpasses conventional quality assurance methods, advocating for a cultural transformation that aligns all organizational endeavors with the principles of continuous improvement and customer orientation. This necessitates a reflective and strategic overhaul by NVU, aimed at integrating quality considerations into every stage of the courier service lifecycle, from logistical planning to the final delivery of parcels.

The adoption of TQM principles within the operational paradigm of NVU is anticipated to drive a series of transformative benefits. Among these are the optimization of process efficiencies, the establishment of a robust framework for customer trust, and a notable enhancement in the metrics of service delivery. By leveraging TQM tools such as statistical process control, benchmarking, and initiatives for employee development, NVU can adopt a proactive approach to service quality management. This strategy not only preemptively addresses potential shortcomings in service quality but also fosters an organizational culture of relentless pursuit of excellence.

TQM's effectiveness in enhancing the quality of manufacturing operations. This insight suggests that the service sector, and specifically the domain in which NVU operates, stands to benefit significantly from the adoption of TQM practices. The integration of TQM principles into NVU's service delivery processes signifies a shift

from a reactive approach to quality control to a more dynamic and integrative quality management paradigm (Soltanmohammadi et al. 2021)

The theoretical framework of Total Quality Management offers an expansive guide for embedding quality at the core of NVU's operations. This approach ensures the infusion of a quality-centric mindset across all organizational levels, fostering a seamless congruence between NVU's service delivery strategies and the intrinsic quality expectations of its customers. Thus, TQM transcends its theoretical confines, serving as a practical pathway for NVU to attain unparalleled levels of service excellence and industry leadership.

2.5.2 SERVQUAL Model

This research aims to utilize the SERVQUAL model to explore the impact of efficiently managing its five key dimensions on service quality enhancement. The focus is on identifying the gaps between what customers anticipate and their real experiences in these areas, intending to highlight opportunities for service quality enhancement. This method is especially pertinent in environments like the courier service sector, where customer satisfaction is closely tied to their perception of the quality of service.

Service quality is fundamentally defined by a customer's personal assessment of the service they receive, as highlighted by Johansson in 2009, and is a key factor in shaping customer satisfaction. Gronroos, in 1984, proposed that service quality can be described as the degree of difference between consumers' expectations and their perceptions of the service.

The SERVQUAL model, which is highly relevant to this research, provides a framework for evaluating the quality of courier services in the area settings. Despite some criticisms, as noted by Ladhari in 2009, the SERVQUAL model remains a vital tool for service quality assessment. Initially, Parasuraman et al. in 1985 and 1988a outlined the SERVQUAL model with ten distinct elements: security, reliability, politeness, communication, dependability, responsiveness, accessibility, competence, physical evidence, and customer understanding. Nevertheless, these aspects were subsequently synthesized into five primary factors: tangibility, dependability, responsiveness, assurance, and empathy (Parasuraman et al., 1988a; b). Parasuraman et al. (1988) made further advancements to the SERVQUAL methodology by introducing two key concepts. The initial concept divides service quality into various dimensions, while the second theory focuses on defining service quality as the gap between what customers expect and what they perceive.

This study adopts the SERVQUAL model, originally developed by Parasuraman et al. in 1985. This model included key attributes such as tangibility, reliability, responsiveness, assurance, and empathy. These dimensions are utilized in this research to evaluate the difference between customer expectations and their actual perceptions of the service quality, as described by Parasuraman et al. in 1988. The detailed explanation of each dimension is as follows:

- i. **Tangibility:** In the courier service industry, tangibility is an important factor for evaluation. It relates to the visible and physical aspects of the service, such as the facilities, appearance of personnel, and equipment used, as outlined by Parasuraman et al. in their 1985 and 1988 publications. Jamal and Naser (2002)

suggest that tangibles can significantly influence customer responses and behavioral intentions, often forming their first impression of the service (Pantouvakis & Lymperopoulos, 2008). This dimension remained unchanged in subsequent revisions by Parasuraman et al. (1988).

- ii. **Reliability:** This dimension focuses on the ability to perform the promised service dependably and accurately, as highlighted by Tansakul et al. in their 2013 study. In the courier service context, reliability encompasses timely delivery, damage-free parcels, and successful operational handling (Clegg, Kersten, & Koch, 2010).
- iii. **Responsiveness:** According to Saad Andaleeb and Conway (2006), responsiveness is about the attitude and promptness in addressing customers' needs, complaints, and queries. In courier services, this dimension is continuously assessed through the service delivery process and employees' attitudes towards customers.
- iv. **Assurance:** Assurance encompasses the competencies of personnel, including their knowledge, civility, friendliness, and ability, which are aimed at fostering trust and confidence among consumers (Jun, Yang, & Kim, 2004). Kassim and Asiah Abdullah (2010) highlight that assurance also encompasses how employees handle customers' privacy and security concerns.
- v. **Empathy:** Empathy refers to the individualized attention that courier service providers give to their customers (Lee, et al, 2011; Jones & Shandiz, 2015; Markovic, et al., 2015). This dimension focuses on services that cater to the diverse requests of customers, requiring providers to understand each customer's unique needs and preferences.

These dimensions collectively form the basis for assessing service quality in the courier service sector, particularly in understanding how users at NVU serve the delivery quality provided.

2.6 Chapter Summary

This chapter effectively encapsulated the conceptual framework of the study, commencing with an overview of various theories and concepts pertinent to the research topic. It included a thorough review of practical studies related to the subject matter, adding depth to the theoretical understanding. A focal point of the chapter was the detailed discussion on the Theory of Service Quality, commonly referred to as the SERVQUAL Theory. This segment provided an in-depth explanation of the theory's constructs, illustrating their applicability and significance to the study's context.

The chapter methodically examined the relationship between various independent variables — such as timeliness, accuracy of orders, fairness in pricing, quality of information, and staff competence in the courier service sector — and their influence on the dependent variable, which is the perceived quality of service. This examination was specifically focused on the experiences of customers at Universiti Utara Malaysia (UUM), Sintok, Kedah. This emphasis allowed for an in-depth analysis of how these diverse factors collectively influenced the overall perception of service quality in a courier service setting, particularly among a varied users demographic. This approach highlighted the study's dedication to comprehensively understanding service quality from a multi-faceted perspective.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

In this chapter, the primary aim of the research design was to establish a thorough and fitting framework for conducting the study. The selection of the research strategy was a pivotal aspect of the research design process, as it defined the methodologies for gathering pertinent data for the investigation. However, it was important to recognize that design research involved a complex array of interconnected decisions, as noted by Paul & Barari in 2022. This study employed a descriptive method to assess the hypothesis concerning factors influencing the satisfaction levels of NV users with the Ninja Van UUM (NVU) at Universiti Utara Malaysia (UUM), Sintok, Kedah. The use of a descriptive design during this phase offered a systematic way to measure the extent of user satisfaction across various dimensions, specifically in terms of meeting the expectations of NVU customers.

3.2 Research Framework and Summary of Research Hypotheses

This study's structure, shown in Figure 3.1, hypothesized how independent factors impacted the dependent variable. This framework was crucial because it clearly and systematically showed the causal relationships between independent variables like

timeliness, order accuracy, price fairness, information quality, and personnel quality at the Ninja Van UUM (NVU) and the dependent variable, NVU users' service level.

Figure 3.1's graph simplified the predicted influences and helped explain the intricate connections. It visually summarized the study's conceptual framework and focused on evaluating service quality in the Ninja Van UUM (NVU) service serving a diverse NVU customer body, guiding the research process and analysis. By illustrating these influences, the framework served not just as a conceptual map of the research hypothesis but also guided the subsequent data collection and analysis processes, ensuring a focused investigation into how these factors shaped service quality perceptions.

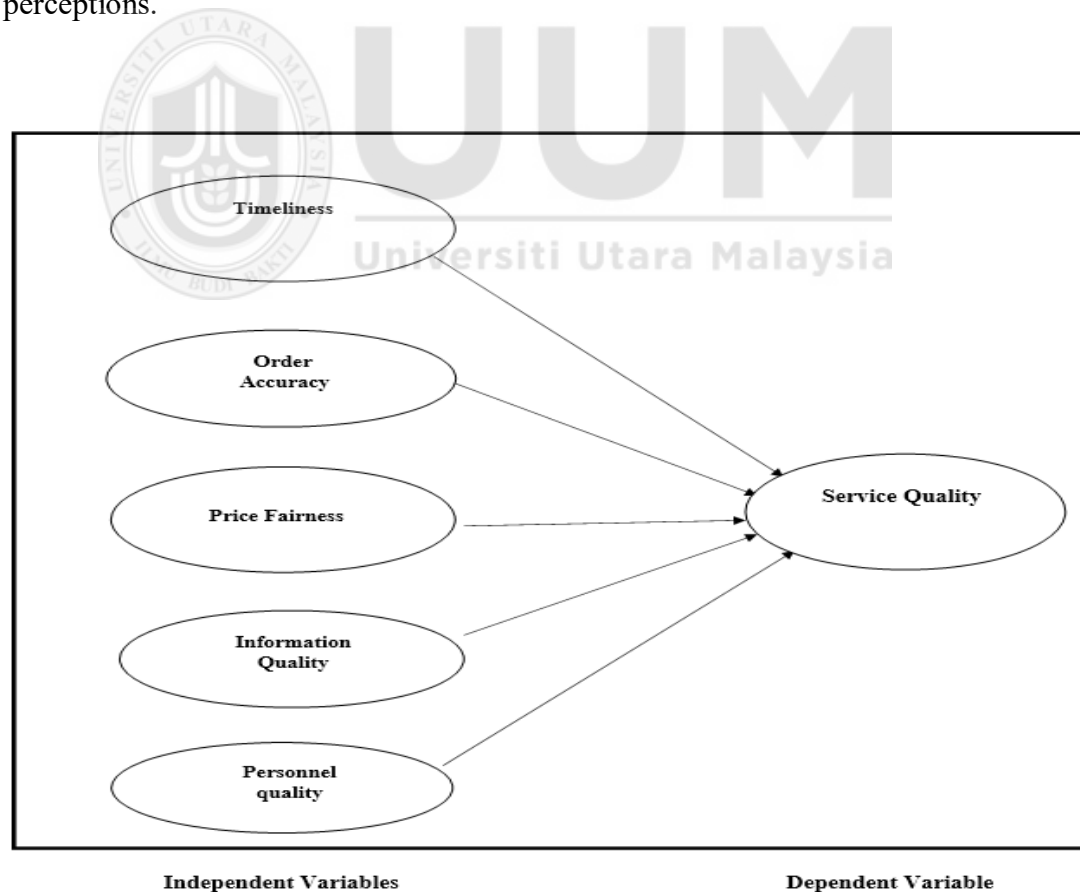


Figure 3-1 Theoretical Framework

3.2.1 Summary of Research Hypotheses

The research concentrated on examining the effect of factors such as timeliness, accuracy of orders, fairness in pricing, quality of information, and staff competence at the Ninja Van UUM (NVU) on the perceived service quality among NVU users at Universiti Utara Malaysia (UUM), Sintok, Kedah. It hypothesized that each of these elements significantly impacted the users' perceptions of the quality of courier services. The objective was to explore and verify how these factors, in combination, contributed to the overall perception of service quality. The study employed specific methodologies to thoroughly test these hypotheses, with the goal of providing an in-depth understanding of the variables that influence perceived service quality in this setting.

Table 3-1 Summary of Research Hypotheses

HN	Variables	Proposed influence
H ₁	Timeliness	Timeliness significantly influences service quality.
H ₂	Order Accuracy	Order accuracy significantly influences service quality.
H ₃	Price Fairness	Price fairness significantly influences service quality.
H ₄	Information Quality	Information quality significantly influences service quality.
H ₅	Personnel Quality	Personnel quality significantly influences service quality.

3.3 Research Design

Figure 3-2 depicted the research design part of this study, presenting the structure and methodology undertaken for the research. It encompassed a set of interconnected

decisions that were vital for collecting pertinent data, as highlighted by Aaker et al. The study employed a descriptive research methodology to assess hypotheses related to the attributes affecting the quality of service delivery at Ninja Van UUM (NVU) among NVU customers at Universiti Utara Malaysia (UUM), Sintok, Kedah. The foremost aim of this research design was to determine the influences between the quality of service delivery and various characteristics, including timeliness, accuracy of orders, fairness in pricing, quality of information, and staff competence.

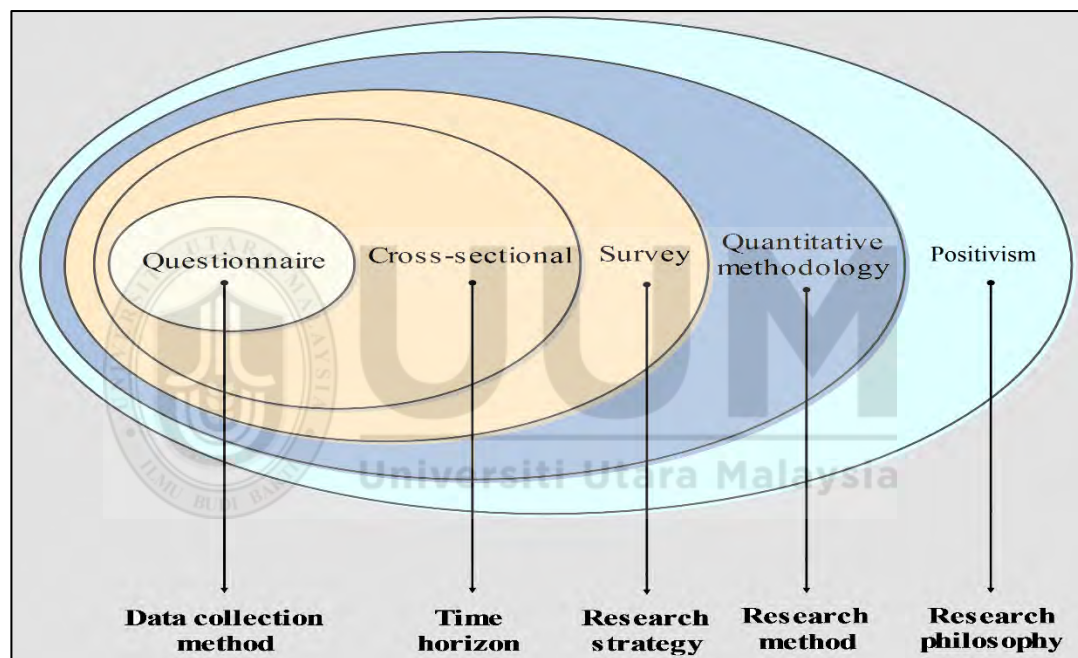


Figure 3-2 The Research Design

3.3.1 Approach

The research project followed either a deductive or inductive approach. In this study, a deductive approach was employed, starting from the theory to hypothesis testing. This approach involved moving from a general framework to specific instances, with data collection and hypothesis testing being key components (Sekaran, Uma, and

Bougi, 2019). Conversely, the inductive approach is based on empirical evidence (Saunders et al., 2019). The study used deductive methods to analyze NVU user satisfaction among customers, testing the formulated hypotheses.

3.3.2 Study Setting

The study setting involved collecting data from customers who used the services of Ninja Van at Universiti Utara Malaysia (NVU). This research was designed to examine how independent variables influenced dependent variables, aiming for precise data collection, as highlighted by Hussain (2013). By focusing on the interactions between these variables within the context of NVU's service delivery, the study sought to uncover meaningful insights into the factors that impacted customer satisfaction and service quality."

3.3.3 Research Strategies

Various research strategies like mixed methods, grounded theory, action research, and analysis can be employed. This study adopts a survey approach to gather data on service delivery performance at NVU among the Ninja Van UUM (NVU). Surveys may include questionnaires and evaluations for data collection (Saunders et al., 2019).

3.3.4 Unit of Analysis

Choosing the correct unit of analysis is critical in research, as misidentification can result in misleading conclusions. This crucial step involves identifying the specific entity to be examined. Borges et al. (2017) highlight that the decision on the unit of

analysis should be driven by the research questions, specifically focusing on 'what' or 'how' aspects within the context of the study. In this research, the unit of analysis comprises individual respondents, including both male and female participants who are customers of Ninja Van UUM (NVU) at Universiti Utara Malaysia (UUM), Sintok, Kedah. By focusing on this specific demographic group within the university, the approach aims to glean insights into the experiences and perspectives of these NVU customers.

3.3.5 Time Horizon

The two main types of research designs are longitudinal and cross-sectional. Cross-sectional studies gather data at a single point in time, whereas longitudinal studies collect data over an extended period to observe changes and developments, as explained by Saunders et al. (2019). This study employs a cross-sectional design, designed to assess the impact and openness of participants within a specific frame of the three-month period. Despite this timeframe, the essence of the cross-sectional approach is maintained, as it does not track the same participants' changes over time but rather assesses a snapshot within this period.

3.4 Sampling Design

This research used the sample design approach to choose a representative segment of the population for investigation. The use of inferential statistics is crucial to make inferences about the features of a population based on a specified subset. The research entails the selection of a sample of customers from Universiti Utara Malaysia (UUM), Sintok, Kedah, who are then requested to participate in the study by completing

questionnaires. This approach guarantees that the results effectively represent the wider user's demographic, therefore yielding dependable insights that are pertinent to the study subject.

3.4.1 Population

In research, the term "population" denotes the entire group of elements sharing similar characteristics that a researcher aims to investigate. For this study, the target population consists of customers at Universiti Utara Malaysia (UUM), Sintok, Kedah, comprising 32,819 students and 2,922 staff members.

3.4.2 Sample size

Sample size performs an essential part in the interpretation as well as the estimation associated with SEM outcomes (Hair et al., 2006). This study applied two statistical methods to decide the appropriate size of the sample including the software G*Power 3 by (Faul et al., 2009), and rules of thumb Tanaka (1987). At first, the power analysis was performed with the following parameters in G*Power 3.1 software: medium-effect size f^2 (0.15), alpha-definition ("α err prob; 0.05"), power (1-β err pro; 0.95") and 6 predictors. Using this statistical method, the researcher found that a sample size of 146 respondents was necessary to guarantee reliability as shown in figure 3.7.

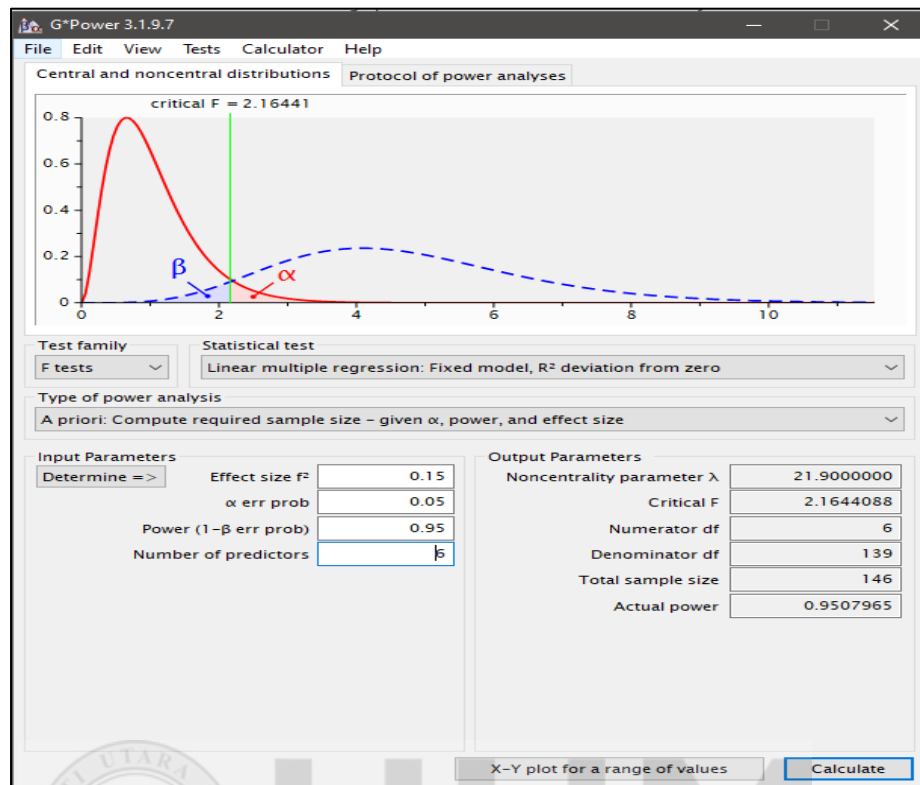


Figure 3-3 G-Power Sample Size

Tanaka (1987) proposed that a sample size to parameter ratio of 4:1 would be sufficient to obtain reliable results. For instance, if the number of items is 10 then the sample size must be 40. Consequently, This study encompassed 29 items; therefore, the required sample size was 120 respondents. The power of a statistical test, according to a large number of experts, increases dramatically as the size of the sample increases (Dattalo, 2008; Lenth, 2001). As a result, this research depended on the statistical method that utilizes a larger sample size, which is the G*Power 3 calculation with a sample size of 146 respondents. The researcher adhered to the recommendations of Baruch and Holtom (2008) and Salkind (2018) and increased the sample size to at least 40% to decrease sampling error and address the non-response rate issue. The researcher then distributed 204 questionnaires to the participants based on the prior discussion. Sampling techniques are used to reduce the cost and time and ensure the

data is accurate (Cochran, 2007; Zikmund et al., 2013). Alternative sample designs can be divided into two broad categories probability and nonprobability (Saunders et al., 2019). There is a claim by Sekaran and Bougie (2016, p. 240), nonprobability techniques are when “the elements do not have a known or predetermined chance of being selected as subjects”. To put it another way, nonprobability sampling is based on chance, not randomness. Nonprobability sampling includes snowball, quota, judgement, and convenience sampling (Zikmund et al., 2013). On the other hand, Sekaran and Bougie (2016, p. 240) defined probability techniques as “the elements in the population have some known, nonzero chance or probability of being selected as sample subjects”. By contrast, in a purposive strategy, information is gathered from participants who have been predetermined to be the most suitable and/or useful sources on the subject being investigated (Teddlie & Yu, 2007). So, this respondent needed familiarity and experience with using service quality. Therefore, a sample method based on the respondents who have used SQ before would be suitable for this study.

3.4.3 Sampling Technique

This study utilized a non-probability convenience sampling technique to select participants from Universiti Utara Malaysia (UUM), located in Sintok, Kedah. Convenience sampling was chosen due to its practical benefits, particularly in terms of ease of access to participants who are readily available. This approach does not ensure that every member of the target population has an equal chance of being selected; instead, it involves selecting individuals who are most accessible and willing to participate.

While this method enhances the efficiency of participant recruitment, especially in contexts with limited time or resources, it is important to acknowledge that it may introduce selection bias. Such bias occurs because the sample may not comprehensively represent the broader population's characteristics, potentially limiting the generalizability of the findings (Sekaran, 2003). Despite these limitations, convenience sampling was deemed appropriate for this exploratory study aimed at examining the correlation between students' perceptions of courier service quality and their perceived service quality at Ninja Van UUM (NVU). This method allowed for a straightforward and pragmatic approach to gathering preliminary data within the specific confines of the university setting.

3.5 Measurement of Variables

In this study, a Likert scale questionnaire is utilized, enabling respondents to choose the response that best fits their opinion for each item in sections B to G. The items in the questionnaire were adapted and modified from previous studies pertinent to this research area. Table 3-3, The Likert scale functions as an instrument that allows respondents to indicate their level of agreement or disagreement with the variables being investigated in the research.

Different scales, such as nominal, ordinal, and interval scales, are used to categorize and measure responses in this study. The nominal scale is applied to classify subjects into separate groups or categories. The ordinal scale measures the variations in the intensity of variables, essentially organizing them from the lowest to the highest level, as detailed by Borges et al. in 2017. This ranking system helps in establishing the

relative positions within the data set, which in turn aids in the more effective analysis of the questionnaire responses.

Table 3-2 Five-Point Likert Measurement Scale

SCALE	Strongly Disagree	Disagree	Neutral	Agree	Strong Agree
SCORE	1	2	3	4	5

Moreover, a questionnaire was employed as the primary method for conducting the survey. The questionnaire developed based on modifications and adaptations from Li et al.'s (2015) previous research, which is relevant to this study. It is comprised of seven sections, labeled A through G, each focusing on different aspects relevant to the research objectives.

The data for this study were collected using a questionnaire comprising exclusively closed-ended questions. These questions were meticulously crafted to include both positive and negative aspects, aimed at minimizing bias and the halo effect from respondents (Sekaran & Bougie, 2009). The questionnaire, structured into seven sections, contains closed-ended questions designed by the researcher. Closed-ended questions are advantageous as they require less time to answer and are easier for respondents to engage with (Zikmund, 2007).

- i. **Section A** distributes the demographic background of the respondents. It includes 7 items, and participants are required to provide their personal information. This section employs an ordinal scale for measurement.

- ii. **Section B** encompasses 5 items focused on timeliness, delving into the punctuality and timeliness of the courier service. Adapted from Bhardwaj and Chawla (2013), these items aim to ascertain the duration taken for parcels to arrive promptly and securely into customers' hands.
- iii. **Section C** comprises 4 items that center on order accuracy, evaluating how precisely the courier service fulfills customer orders. Adapted from Xu and Cao (2008), these items are structured within Section C of the questionnaire survey to measure whether parcels meet customers' pre-established expectations accurately or vice versa.
- iv. **Section D** comprises 5 items aimed at examining price fairness. This section assesses respondents' perceptions regarding the fairness of the prices charged by the courier service. The concept of price fairness is adapted from Mlekwa (2014). These price fairness variables are essential for fulfilling the objectives of the research study.
- v. **Section E** is composed of 5 items that pertain to information quality. These items are designed to investigate the accuracy and usefulness of the information provided by the courier service. The next step involves using an instrument to measure the four independent variables, which is information quality. This instrument is adapted from Tian, Ellinger, and Chen (2010) and aims to indicate the details of information given by the NVU to customers. Its purpose is to serve as a reference regarding the status of their parcels.
- vi. **Section F** five items are dedicated to evaluating the quality of personnel within the courier service. These items assess the competence, courtesy, and responsiveness of the staff. Additionally, the independent variable of personnel

quality, adapted from the research of Xu and Cao (2008), will be examined in Section F. This variable aims to measure how effectively personnel handle customers' needs and complaints regarding the service provided.

- vii. **Section G** there are 5 items specifically addressing service quality, aimed at evaluating the overall service quality by respondents. This section incorporates a dependent variable consisting of five questions regarding the service quality of the Ninja Van UUM (NVU), adapted from Gronroos (1984). Throughout this section, the focus is on measuring the service quality perceived by UUM students and staff to gauge their satisfaction and loyalty towards the service provided.

Each section of the study is carefully planned to collect specific data that is pertinent to the research objectives and hypotheses. This approach enables a thorough investigation of the many aspects that influence the quality-of-service delivery at the Ninja Van UUM (NVU) for customers at Sintok, Kedah.

Table 3-3 Item Questionnaire

SECTION	PART	ITEMS
A	Demographic	7
B	IV 1 (Timeliness)	5
C	IV 2 (Order Accuracy)	5
D	IV 3 (Price Fairness)	5
E	IV 4 (Information Quality)	5
F	IV 5 (Personnel Quality)	5
G	DV (Service Quality)	5

3.5.1 Pilot Study

The pilot test provides the researcher with information on deficiencies and feedback to improve irrelevant or ambiguous items (Mills & Gay, 2019). Furthermore, pilot testing is crucial because it enhances the questionnaire's content and format (Creswell & Creswell, 2017). The sample size in the pilot study is estimated to be relatively smaller, ranging from 15 to 30 participants (Malhotra, 2015). For this study, the pilot study conducted among 30 participants for reliability testing. SPSS v27 used to examine reliability. Cronbach's alpha is commonly used to assess the reliability of an estimate (Babin & Zikmund, 2015). Researchers suggest 0.7 as the satisfactory cut-off for Cronbach's Alpha criterion. However, Hair *et al.* (2006) considers a value of more than 0.6 as an acceptable level.

Table 3-2 Reliability Analysis of Pilot Study

Item	N of Items	Cronbach's Alpha
Timeliness	5	.861
Order Accuracy	4	.892
Price Fairness	5	.836
Information Quality	5	.864
Personnel Quality	5	.923
Service Quality	5	.876

Table 3.4, displays that all of the investigated constructs had Cronbach's Alpha values greater than 0.70, a summary of the pilot study's findings. Therefore, all the constructs were reliable, as measured by the predetermined standard of 0.70 (Hair Jr et al., 2019).

3.6 Data Collection

For this study, a self-administered approach is adopted, the questionnaire, comprising a series of printed questions, is designed for individual completion, allowing for the collection of survey data. This method does not necessitate direct researcher involvement, thereby reducing the potential for bias as respondents' answers are not influenced by the researcher's presence (Sekaran, 2003). The questionnaires are distributed to users at the Ninja Van UUM (NVU) who are utilizing its courier services. Data collection occurs at the research area located at Universiti Utara Malaysia (UUM), Sintok, Kedah, where surveys are distributed. Additionally, for staff questionnaires, visited to the headquarters of NVU. Data collection is a necessary step in quantitative research. For quantitative studies, the most typical data collection tool is a questionnaire survey. Because it is appropriate and effective, the questionnaire was used as this study's primary data collection tool. A questionnaire allows respondents to provide the necessary information quickly while minimizing response bias (Sekaran & Bougie, 2016). Accordingly, questionnaires were selected for their ability to collect data more quickly and cost-effectively while increasing the possibility of collecting accurate information (Sekaran & Bougie, 2016). A self-administered survey as a total of 204 distributed to collect the data from the users of the Ninja Van at UUM who are utilizing its courier services.

3.7 Data Analysis Technique

Data analysis is a method of understanding the collected data by the application of appropriate reasoning. According to Zikmund et al. (2013), the suitable analytical

procedure of data analysis might be determined by understanding the proper research design characteristics and the nature of the data collected. The current study aims to examine the factors that influence SQ continuance intention. Consequently, the researcher started data analysis with descriptive analysis using SPSS v 27.

3.8 Chapter Summary

This chapter provided a comprehensive overview of the study's research design, demographic and sample strategy, instrument, data collecting procedures, and data analysis methodology. Chapter 3 connected the theoretical underpinnings from previous chapters to the empirical findings from following chapters. This chapter prepared for Chapter 4, which discussed results and data analysis relevant to the study objectives and hypotheses. Chapter 4 evaluated and examined how the statistical analysis findings matched the hypothesis from Chapter 3. This strategy guaranteed a consistent flow of information and arguments throughout the study, making it easy to grasp how the research methodology affected the paper's results and conclusions.

CHAPTER FOUR

DATA ANALYSIS AND RESULTS

4.1 Introduction

This section delineates the outcomes of the investigation, categorizing them into three primary stages, the rate of response, the coding of data, and the execution of descriptive statistical analyses, subsequently culminating in the third phase which delves into correlation and regression analyses to address the research queries and hypotheses posited by the study. It elucidates on all discoveries, employing statistical analysis to explicate the analysis and discussions emanating from the data analysis process. The research was executed as a descriptive study complemented by hypothesis testing, initiating with preparatory activities, data screening, and evaluation of the requisite statistical foundations for the analytical instruments utilized. This progression leads to the testing of hypotheses, culminating in a summary. The research exclusively utilized SPSS version 22 as the analytical tool for the quantitative analysis of data. This study is undertaken with the aim of employing both descriptive analysis and hypothesis testing methods to ascertain the impact of various factors - specifically timeliness, order accuracy, price fairness, information quality, and personnel quality - within the specific milieu of courier services provided by Ninja Van at Universiti Utara Malaysia (NVU).

4.2 Response Rate

Adhering to the guidelines set forth by Tabachnick and Fidell (2014) regarding the exclusion of outliers, this investigation eliminated a single multivariate outlier. Subsequently, the principal data analysis incorporated 141 valid instances, yielding a response rate of 73%. This response rate aligns with the criterion proposed by Hair, Black, et al. (2019), which suggests that an adequate sample size should be at least ten times the quantity of independent variables present in the study. Similarly, Babin and Zikmund (2015) have posited that survey-based research can be considered successful if it achieves a response rate of 50% or above. Consequently, given these scholarly recommendations, the response rate of 73% attained in this study is regarded as satisfactory for the purposes of further quantitative investigation. Based on Table 4.1 shows the percentage of response rate.

Table 4-1 Questionnaires Response Rate

Description	Frequency/Rate
No. of distributed questionnaires	204
Returned questionnaires	150
Questionnaires not returned	54
Incomplete questionnaires (not valid)	7
Response rate	73%
Multivariate outliers	2
Valid response rate	94%

4.3 Data Screening and Preliminary Analysis

As delineated by Hair, Black, et al. (2019), and Sekaran and Bougie (2016), multivariate investigations necessitate an extensive preliminary data screening. This crucial step enables researchers to identify any conspicuous discrepancies that contravene the fundamental tenets of multivariate analysis. Furthermore, such initial screening substantially enhances the potential for generalizing the findings, as argued by Cruz (2007).

4.4 Test of Normality

Hair et al. (2019) elucidate normality as the extent to which the distribution of a dataset for a sample aligns with the principle that values of variables cluster around the mean, forming a normal or bell-shaped curve. While the testing of variable normality is not an indispensable prerequisite for conducting multivariate analysis, it is often considered a critical initial step in the variable screening process, as per Hair et al. (2017). Consequently, in Figure 4.1 demonstrates that the data garnered for the current investigation adhere to a normal distribution pattern, as evidenced by the proximity of all histogram bars to a normal curve. Consequently, Figure 4.2 confirms that the assumptions of normality have been maintained in this study.

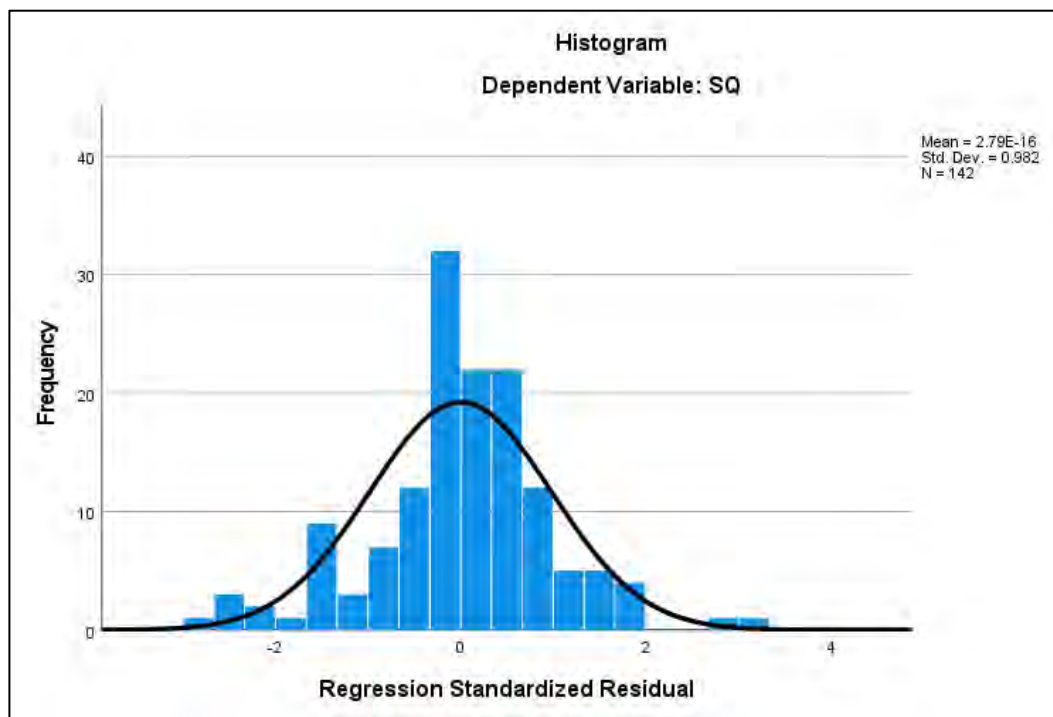


Figure 4-1 Histogram and Normal Probability Plot (1)

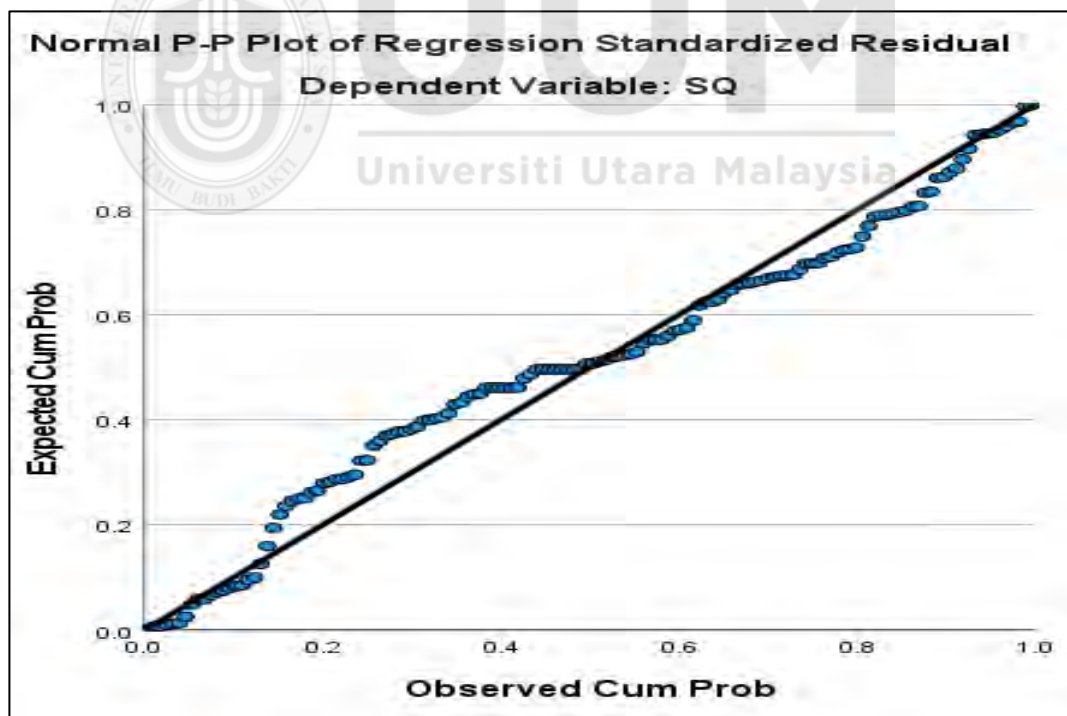


Figure 4-2 Histogram and Normal Probability Plot (2)

4.5 Skewness and Kurtosis Value

The evaluation of skewness and kurtosis plays a pivotal role in ascertaining the normality of data distribution in the study focused on the quality-of-service delivery by Ninja Van. Although the precise thresholds for normality remain a subject of discussion, skewness and kurtosis emerge as widely accepted measures. According to norms on nonnormality classification, absolute skewness, and kurtosis values below 1.0 signal slight nonnormality, values ranging from 1.0 to about 2.3 indicate moderate nonnormality, and those exceeding 2.3 point to severe nonnormality.

Table 4.2, In the analysis at hand, the data reveal that all independent variables—Timeliness, Order Accuracy, Price Fairness, Information Quality, Personnel Quality—as well as the dependent variable, Service Quality, register skewness values within the domain of slight nonnormality, characterized by negative values yet not surpassing an absolute value of 1. This reflects a distribution moderately skewed towards the left.

More specifically, Timeliness (Skewness = -0.528), Order Accuracy (Skewness = -0.730), Price Fairness (Skewness = -0.672), Information Quality (Skewness = -0.887), Personnel Quality (Skewness = -0.558), and Service Quality (Skewness = -0.615) all exhibit slight negative skewness, suggesting a clustering of higher responses or levels of agreement within the dataset.

Furthermore, the kurtosis values for these variables denote distributions that align closely with the normal range, absent the excessive kurtosis linked with severe nonnormality. Timeliness (Kurtosis = 0.097), Order Accuracy (Kurtosis = 0.415), Price Fairness (Kurtosis = 0.399), Information Quality (Kurtosis = 0.671), and Personnel Quality (Kurtosis = 0.063) manifest distributions that are comparatively normal in their peakedness. Service Quality (Kurtosis = -0.144) exhibits a mild

negative kurtosis, indicating a distribution with less pronounced tails than a normal distribution.

Table 4-2 Normality Test of Skewness and Kurtosis

Latent Variables	Skewness Statistic	Skewness Std. Error	Kurtosis Statistic	Kurtosis Std. Error
T	-.528	.203	.097	.404
OA	-.730	.203	.415	.404
PF	-.672	.203	.399	.404
IQ	-.887	.203	.671	.404
PQ	-.558	.203	.063	.404
SQ	-.615	.203	.144	.404

This detailed assessment highlights the predominantly slight nonnormality in the data distribution, with a leftward skewness and near-normal kurtosis values, underscoring a mild deviation from perfect normality across the variables examined in this study on Ninja Van's service quality.

4.6 Demographic Profile of Respondent

The demographic profile of the 144 respondents was compiled to elucidate the distribution of participants across various dimensions, including gender, age, academic program of study, current academic level, and nationality for international students. These attributes were integrated to furnish comprehensive demographic information regarding the sample. Table 4.3 delineates the descriptive statistical demographic profile for each variable considered in this study.

Table 4-3 Respondents Demographic Characteristics

Variables	N	Percentage
Gender		
Male	68	48.2%
Female	73	51.8%
Total	141	100.0%
Age		
18-24	114	80.9%
25-34	20	14.2%
35-Above	7	5.0%
Total	141	100.0%
Ethnicity		
Malay	81	57.4%
Indian	25	17.7%
Chinese	10	7.1%
Other	25	17.7%
Marital_Status		
Single	129	91.5%
Married	12	8.5%
Income		
Below 1,500	112	79.4%
1,501 - 3,000	13	9.2%
3,001 - 5,000	7	5.0%
5,001 - 7,000	5	3.5%
7,001 - 10,000	3	2.1%
10,001 and above	1	0.7%
Total	112	79.4%
Have_ever_you_used_Ninja_Van_service_before		
Yes	141	100.0%
Frequency_of_Ninja_Van_services_use		
Daily or multiple times per day	7	5.0%
Weekly or a few times per week	10	7.1%
Monthly or a few times per month	71	50.4%
Yearly or a few times per year	53	37.6%

The demographic analysis of 141 respondents who have previously utilized Ninja Van services reveals insightful patterns regarding gender, age, ethnicity, marital status, income level, and frequency of service use. The gender distribution shows a slight female predominance with 73 female respondents (51.8%) compared to 68 male respondents (48.2%). This suggests a balanced gender representation among Ninja Van service users.

Age-wise, the data indicates a strong skew towards the younger population, with 114 respondents (80.9%) aged between 18 and 24 years. This demographic is significantly more represented than the 25-34 age group, which accounts for 20 respondents (14.2%), and the 35 and above age group, with only 7 respondents (5.0%). This trend highlights the appeal of Ninja Van services to a predominantly youthful user base.

In terms of ethnicity, the majority of respondents are Malay, accounting for 81 individuals (57.4%). This is followed by Indian and Other ethnicities, each represented by 25 respondents (17.7%), and Chinese respondents, who constitute a smaller segment of 10 individuals (7.1%). The ethnic diversity among users underscores Ninja Van's broad appeal across different communities.

Regarding marital status, a vast majority of the respondents are single (129 individuals, 91.5%), with a small minority being married (12 individuals, 8.5%). This demographic profile suggests that Ninja Van services are particularly popular among single individuals, likely reflecting the younger age distribution of the user base.

Income levels among the respondents demonstrate a significant inclination towards lower income brackets. A majority of 112 respondents (79.4%) reported incomes below 1,500, indicating Ninja Van services are chiefly utilized by individuals within this economic group. The next income bracket, 1,501 - 3,000, includes 13 respondents

(9.2%), highlighting a smaller yet notable segment of the service's user base. The representation within the income range of 3,001 - 5,000 is even less, with 7 respondents (5.0%), followed by those earning between 5,001 and 7,000, accounting for 5 individuals (3.5%). The upper income brackets are sparsely populated with 3 respondents (2.1%) earning between 7,001 and 10,000 and a single respondent (0.7%) reporting an income of 10,001 and above.

All respondents (100%) have used Ninja Van services before, illustrating the service's reach among the surveyed demographic. The frequency of service usage presents a varied picture: a majority, 71 respondents (50.4%), use the service monthly or a few times per month. A significant number, 53 respondents (37.6%), utilize it yearly or a few times per year, while weekly usage and daily or multiple times per day usage are less common, reported by 10 respondents (7.1%) and 7 respondents (5.0%), respectively. This distribution underscores a predominant trend towards occasional rather than frequent use of Ninja Van services among the respondents.

4.7 Constructs Descriptive Analysis

Table 4-4 Descriptive Statistics

Latent variable	No of items	Mean	Std. Deviation
Timeliness	5	3.9141	.81420
Order Accuracy	4	4.0581	.81740
Price Fairness	5	3.9183	.83204
Information Quality	5	4.1366	.81140
Personnel Quality	5	3.9577	.82611
Service Quality	5	4.0423	.79174

This investigation rigorously examined the determinants influencing the quality of courier service delivery, with specific emphasis on Ninja Van, through the application of descriptive statistical methods. These methods facilitated a deeper understanding of user perceptions regarding service quality. Each factor was meticulously analyzed to ascertain its impact on the service delivery by Ninja Van.

Table 4.7 presents a detailed examination of these factors, initiating with Timeliness, identified as a pivotal factor in determining service quality. The data, however, reveal a mean score ($M=3.9141$) with a standard deviation ($SD=0.81420$), suggesting that although Ninja Van typically meets customer expectations for prompt delivery, there exists a variance in customer experiences of this service aspect.

The aspect of Order Accuracy, with a mean ($M=4.0581$) and a standard deviation ($SD=0.81740$), reflects Ninja Van's robust performance in accurately fulfilling customer orders, highlighting its importance in the overall service quality, albeit with minor fluctuations in customer experiences.

Price Fairness is delineated as another critical factor, with mean ($M=3.9183$) and standard deviation ($SD=0.83204$), indicating customers perceive Ninja Van's pricing as relatively fair, effectively balancing cost with service value, crucial for customer satisfaction and loyalty.

Information Quality, distinguished by the highest mean value ($M=4.1366$) and a standard deviation ($SD=0.81140$), emphasizes the exceptional importance customers place on the provision of accurate and timely information. Ninja Van's performance in this area reflects a high level of user satisfaction.

The quality of Personnel is also essential, evidenced by a mean score ($M=3.9577$) and a standard deviation ($SD=0.82611$). This suggests Ninja Van's staff are highly

regarded for their professionalism and customer service, highlighting the essential role of human interaction in delivering quality service.

Lastly, the overall Service Quality aspect, with a mean ($M=4.0423$) and standard deviation ($SD=0.79174$), demonstrates a strong overall service experience as perceived by users. This encapsulates the collective impact of all other factors, illustrating Ninja Van's efficacy in providing a comprehensive quality service.

4.8 Reliability

Cronbach's alpha, a measure of internal consistency and scale reliability, was utilized to assess the reliability of both the independent and dependent variables within this study, which investigates the factors influencing the quality of courier service delivery towards Ninja Van. Table 4.5, The values for Cronbach's alpha range from 0.6 to 0.79, indicating the lower limit of acceptability and suggesting that the variables possess a satisfactory level of internal consistency. Meanwhile, values between 0.80 to 0.89 point towards a higher degree of homogeneity among the questions formulated for the independent and dependent variables, showcasing that the survey items are uniformly capturing the constructs under investigation. The independent variable (IV) Timeliness reported a Cronbach's alpha of .898, signifying a high level of internal consistency among the items measuring this aspect and indicating that the construct reliably captures the timeliness of Ninja Van's service delivery. Order Accuracy, another independent variable, displayed a Cronbach's alpha of .911, highlighting the homogeneous and consistent measurement of order accuracy within the service delivery process. Price Fairness, with a Cronbach's alpha of .909, demonstrates that the pricing strategies of Ninja Van are assessed consistently across respondents,

indicating a reliable measure of how fair prices are perceived. Information Quality achieved a Cronbach's alpha of .906, reflecting a strong internal consistency in evaluating the quality of information provided by Ninja Van. Personnel Quality showed a Cronbach's alpha of .914, the highest among the constructs, underscoring a highly consistent assessment of the quality of interactions with Ninja Van's personnel. The dependent variable (DV), Service Quality, attained a Cronbach's alpha of .879, indicating that this overarching measure of service quality is reliably captured by the survey items.

Cronbach's alpha values for the variables underlines not only the acceptability but also the high internal consistency for these constructs, affirming the reliability of the measures used to evaluate the quality of courier service delivery by Ninja Van. The high values, particularly for Personnel Quality, suggest that the survey items are effectively and cohesively measuring the intended aspects, providing a robust basis for analyzing how these factors influence the overall quality of service delivery.

Table 4-5 Cronbach's Alpha Value

Variable	No of Items	Cronbach's Alpha
Timeliness	5	.898
Order Accuracy	4	.911
Price Fairness	5	.909
Information Quality	5	.906
Personnel Quality	5	.914
Service Quality	5	.879

4.9 Correlation Analysis

In the examination of factors influencing the quality of courier service delivery towards Ninja Van, a correlation analysis was utilized to discern the strength and direction of relationships between the independent variables (IVs) of Timeliness (T), Order Accuracy (OA), Price Fairness (PF), Information Quality (IQ), Personnel Quality (PQ), and the dependent variable (DV) of Service Quality. Pearson's correlation coefficients, which scale from +1 to -1, were interpreted as low, moderate, or high to categorize the strength of these relationships.

Table 4-6, The analysis yielded significant correlations across all variables. The Pearson correlation coefficient for Timeliness (T) was .798, indicating a high positive correlation with Service Quality, suggesting that perceptions of timely deliveries are strongly associated with higher service quality. Similarly, Order Accuracy (OA) exhibited a robust positive correlation with a coefficient of .657, denoting that accurate order fulfillment is perceived as an integral part of service quality.

Price Fairness (PF) was strongly correlated with Service Quality, reflected by a coefficient of .723, indicating that perceptions of fair pricing significantly influence customers' views on the overall quality of service delivery. Information Quality (IQ) presented a strong positive relationship with a coefficient of .743, revealing that the quality and accessibility of information from Ninja Van play a crucial role in shaping customers' satisfaction with the service quality.

Personnel Quality (PQ), with the highest correlation coefficient of .798, underscored a very strong positive relationship with Service Quality. This highlights the importance of interactions with personnel in customer evaluations of overall service

quality, suggesting that staff professionalism, courtesy, and support are highly valued by customers.

Table 4-6 Correlation Analysis

	T	OA	PF	IQ	PQ
T	1.000				
OA	.657**	1.000			
PF	.723**	.726**	1.000		
IQ	.743**	.795**	.718**	1.000	
PQ	.798**	.677**	.723**	.707**	1.000

All independent variables demonstrated significant and strong positive correlations with the dependent variable of Service Quality, with correlation coefficients ranging from .657 to .798. These findings underscore the interconnectedness of various service aspects, with each element—be it timeliness, order accuracy, pricing, information, or personnel—significantly contributing to the overall quality of service delivery by Ninja Van.

4.10 Regression Analysis

In the conducted research, linear regression analysis was employed to evaluate the three postulated hypotheses. The primary objective of utilizing linear regression analysis is to examine the nature and magnitude of the association between independent and dependent variables. This analytical technique is adept at identifying which among the independent variables exhibits a stronger linkage with the dependent variable, as discussed by Sekaran & Bougie (2010).

Table 4-7 Model Summary for Independent Variables on
Dependent

Model Summary						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.443 ^a	.196	.167	4.255	.196	6.639

a. Predictors: (Constant), PQ, O, P, T, IQ

b. Dependent Variable: SQ

Table 4-7, The model summary pertaining to the investigation of Ninja Van service delivery reveals an R value of 0.443, indicating a moderate correlation between the studied factors and the quality-of-service delivery. The R Square value suggests that approximately 19.6% of the variance in service quality is elucidated by the variables incorporated in the model. Consequently, this infers that a substantial portion, specifically 80.4%, of the variability in service quality remains unexplained, hinting at the presence of other influential factors not captured in this analysis. Moreover, the Adjusted R Square, standing at 16.7%, offers a refined estimation by considering the quantity of predictors used. Although the model successfully identifies significant elements affecting service quality, it concurrently underscores the potential impact of additional, unexplored variables on customers.

Table 4-8 ANOVA Results of Service Quality Dimensions at Ninja Van UUM (NVU)

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	600.863	5	120.173	6.639	.000 ^b
	Residual	2461.785	136	18.101		
	Total	3062.648	141			

a. Dependent Variable: SQ

b. Predictors: (Constant), PQ, O, P, T, IQ

Table 4-8, The ANOVA table presented in the research illustrates that the F statistic stands at 6.639, serving to evaluate the collective significance of the regression model utilized. The significance level, denoted as 0.000, substantiates the statistical significance of the model across conventional alpha thresholds (e.g., 0.05, 0.01), suggesting the model's robustness in predictive validity. With respect to the degrees of freedom (df) related to the regression, a total of 5 is observed, aligning with the quantity of independent variables examined within the model—these being Timeliness (T), Order Accuracy (OA), Price Fairness (PF), Information Quality (IQ), and Personnel Quality (PQ). The residual df, recorded at 136, reflects the number of data points minus the number of parameters estimated, a figure obtained from the tally of complete responses concerning the variables.

The pronounced significance of the F value indicates a meaningful association among the independent variables of Timeliness, Order Accuracy, Price Fairness, Information Quality, and Personnel Quality, in relation to the dependent variable, namely the Quality-of-Service Delivery. This denotes that these identified factors, in unison, exert a notable impact on the perception of service quality among Ninja Van service users.

Table 4-9 Coefficient Statistics for Exploring Key Service Quality Dimensions at Ninja Van UUM (NVU)

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.081	6.003		.513	.609
	T	.359	.119	.254	3.021	.003
	O	.105	.084	.099	1.240	.217
	P	-.018	.104	-.013	-.168	.867
	IQ	.230	.086	.231	2.674	.008
	PQ	.198	.082	.189	2.411	.017

a. Dependent Variable: SQ

Table 4-9, The coefficients table from the research delineates the beta coefficients for variables associated with the quality-of-service delivery by Ninja Van. These beta coefficients, representing standardized coefficients, elucidate the extent of change, in standard deviations, that the dependent variable experienced per standard deviation increment in the predictor variable.

Timeliness (T) is identified with a beta coefficient of .254, which is both positive and statistically significant ($p < .05$). This indicates a positive and significant correlation between Timeliness and the Quality-of-Service Delivery, leading to the acceptance of the hypothesis concerning Timeliness (H1) as an influential factor in service quality.

Order Accuracy (O) exhibits a beta coefficient of .099, with its relationship being not statistically significant ($p > .05$), suggesting that Order Accuracy may not exert a significant effect on Service Quality. Consequently, the hypothesis concerning Order Accuracy (H2) might not find support.

Price Fairness (P) is associated with a negative beta coefficient of -.013, lacking statistical significance ($p > .05$). This infers that Price Fairness does not significantly

impact Service Quality, and thus, the hypothesis regarding Price Fairness (H3) may not be upheld.

Information Quality (IQ) presents a beta coefficient of .231, which is positive and statistically significant ($p < .05$), denoting a significant and positive relation with Service Quality. Hence, the hypothesis concerning Information Quality (H4) is validated.

Personnel Quality (PQ), with a beta coefficient of .189, demonstrates a positive and statistically significant association with Service Quality ($p < .05$), substantiating the hypothesis that Personnel Quality (H5) plays a critical role in enhancing the overall service quality.

The findings suggest that Timeliness, Information Quality, and Personnel Quality maintain positive and significant associations with Service Quality, affirming their roles as significant contributors. Conversely, Order Accuracy and Price Fairness were not found to significantly influence Service Quality within this model, indicating that the hypotheses pertaining to these variables may not be corroborated by the present analysis.

4.11 Summary of findings

This study embarked on an exploration of the influences exerted by various factors on the quality of courier service delivery offered by Ninja Van. Through the formulation and examination of hypotheses concerning Timeliness, Order Accuracy, Price Fairness, Information Quality, and Personnel Quality, the research aimed to discern their impacts on service quality. The analysis uncovered that Timeliness, Information Quality, and Personnel Quality positively and significantly influence service delivery

performance, whereas Order Accuracy and Price Fairness were found to lack significant effects. These pivotal factors collectively explain 19.6% of the variance in Service Quality, underscoring their integral role in molding customer satisfaction levels. Consequently, the outcomes affirm the postulated hypotheses that Timeliness, Information Quality, and Personnel Quality are key to determining the caliber of service in Ninja Van's operations, emphasizing their criticality in elevating the customer service experience.

Table 4.10 shows that all the hypotheses are significant. The findings generally confirm the connections investigated in the study, indicating positive support for the theoretical framework or research aims of the study when all research hypotheses are significant.

Table 4-10 Summary of Hypotheses Testing

Hypotheses	Hypothesis	Significant
(H1)	Timeliness significantly influenced Service Quality	Significant
(H2)	Order Accuracy's influence on Service Quality was positive but not significant	Not Significant
(H3)	Price Fairness did not significantly influence Service Quality	Not Significant
(H4)	Information Quality had a positive and significant influence on Service Quality	Significant
(H5)	Personnel Quality significantly influenced Service Quality	Significant

4.12 Summary

Chapter 4 of the study meticulously outlines the data analysis, leveraging both descriptive and inferential statistical methods to scrutinize the associations between independent and dependent variables pertinent to the service quality of Ninja Van. The analysis unveiled significant relationships among critical variables, with pronounced correlations suggesting impactful linkages. Such revelations lay the groundwork for the forthcoming exploration of the research questions and hypotheses in the subsequent chapter, thereby advancing the study's narrative towards its empirical objectives.



CHAPTER FIVE

DISCUSSION

5.1 Introduction

This chapter was dedicated to synthesizing the key outcomes derived from the thorough statistical examination, succinctly presenting the insights related to the variables under investigation. The study embarked on a bifurcated analytical journey: firstly, to provide a detailed account of the demographic characteristics and service usage patterns of Ninja Van customers; and secondly, to evaluate hypotheses regarding the determinants of their service satisfaction, including gender, age, ethnicity, marital status, income, and service usage frequency. Building on the detailed data analysis articulated in Chapter 4, this research delved into the satisfaction levels among Ninja Van's varied customer base, analyzing an array of factors that could potentially influence this satisfaction. Surveys were systematically administered to users of the service, generating a dataset that underpinned the hypothesis testing detailed in the previous chapter. As the discussion progressed, this chapter was meticulously organized into separate sections, each focusing on expanding the analysis, deriving conclusions, and proposing recommendations. The forthcoming discussions not only delved deeper into the statistical findings but also situated these findings within the larger framework of service quality and customer satisfaction literature, thereby providing a holistic understanding of the factors that influence customer perceptions and experiences with Ninja Van's service delivery.

5.2 Study review

The current research endeavored to elucidate the impact of 'timeliness', 'order accuracy', 'price fairness', 'information quality', 'personnel quality', and their collective influence on the service quality of Ninja Van UUM (NVU) at Universiti Utara Malaysia (UUM), Sintok, Kedah. Utilizing a cross-sectional questionnaire, which was adapted from validated scale items found in existing literature, the research aimed to corroborate the proposed model delineating the determinants of service quality at NVU. The research undertook the following questions:

- Does timeliness, order accuracy, price fairness, information quality, and personnel quality collectively and significantly influence the service quality of Ninja Van UUM (NVU) among its customers?

Data were gathered from customers of Ninja Van UUM (NVU) at Universiti Utara Malaysia (UUM), as previously outlined in Chapter 3, with the participation of 141 respondents. This data collection facilitated the examination needed to substantiate the hypothesized model regarding the factors that influence service quality at NVU. For hypothesis testing, SPSS version 27 was utilized. The findings, as displayed in Table 5.1, revealed that timeliness, information quality, and personnel quality significantly affected the service quality at NVU, confirming the importance of these factors in determining the overall service quality experienced by NVU's clientele.

Table 5-1 The Outcomes of The Hypotheses

Hypotheses	Hypothesis	Significant
(H1)	Timeliness significantly influenced Service Quality	Significant
(H2)	Order Accuracy's influence on Service Quality was positive but not significant	Not Significant
(H3)	Price Fairness did not significantly influence Service Quality	Not Significant
(H4)	Information Quality had a positive and significant influence on Service Quality	Significant
(H5)	Personnel Quality significantly influenced Service Quality	Significant

5.3 Discussion on the Findings

The analytical endeavors and data testing outcomes were thoroughly detailed in the preceding section, and this segment was devoted to an extensive discussion of those findings. Essentially, this section was designed to address the research questions posited earlier, thereby fulfilling the study's objectives and facilitating some level of generalization. Through a meticulous examination of the results in relation to the established research framework, this discussion aimed to interpret the significance of the findings, explore their implications, and connect them to the broader body of existing literature. In doing so, it endeavored to contribute to the understanding of the factors affecting service quality, specifically within the context of Ninja Van UUM

(NVU) at Universiti Utara Malaysia (UUM), and to propose actionable insights based on the validated hypotheses and observed data patterns.

5.3.1 The Influence Between Timeliness and Service Quality (SQ)

In the pursuit of understanding the dynamics of service delivery within the courier and logistics sector, Hypothesis H1 posited that Timeliness significantly influences Service Quality (SQ) at Ninja Van UUM (NVU). The hypothesis was predicated on the belief that the swiftness and punctuality of deliveries are critical determinants of how customers perceive the quality of service offered by logistics providers.

The findings from this investigation unequivocally support Hypothesis H1, revealing a significant positive relationship between Timeliness and SQ ($\beta = 0.254$, $p < 0.05$). This outcome not only affirms the critical importance of Timeliness in shaping service quality perceptions but also establishes it as a superior factor when compared to other service dimensions such as tangibles, reliability, assurance, and empathy. Such a discovery aligns with the seminal research conducted by Conlon & Murray (1996) and Durvasula, Lysonski, & Mehta (2000), which highlighted the central role of delivery speed in elevating customer satisfaction within the logistics and courier domain. Furthermore, this study's findings resonate with the insights provided by Rahman (2006) and Saura, Frances, Contri, & Blasco (2008), who also documented a significant positive correlation between timeliness and service quality, underscoring its pivotal role in fulfilling customer satisfaction.

The pronounced influence of Timeliness on SQ underscores the imperative for NVU to prioritize punctuality and reliability in their delivery operations. The literature and this study advocate for the deployment of effective training programs aimed at

bolstering the workforce's dedication to timely deliveries, which in turn nurtures customer trust. The provision of exceptional service, facilitated by timely deliveries, is instrumental in reinforcing the service provider-customer relationship, thereby significantly enhancing customer trust in NVU's ability to handle their parcels with care and efficiency.

Therefore, Timeliness emerges as a non-negotiable element of service quality, especially critical in the courier and logistics industry. Customers' preference for engaging with service providers that they can rely on for prompt and dependable deliveries diminishes their propensity to switch to competitors. This study definitively positions Timeliness as a key driver of SQ at NVU, indispensable for elevating customer satisfaction and securing a competitive advantage in the marketplace.

5.3.2 The Influence Between Order Accuracy and Service Quality (SQ)

In investigating the role of Order Accuracy in shaping Service Quality (SQ) at Ninja Van UUM (NVU), Hypothesis H2 was formulated with the expectation that high Order Accuracy would significantly enhance SQ. This hypothesis assumed that precision in order fulfillment directly correlates with customers' perceptions of service excellence.

Contrasting with these expectations, the empirical analysis demonstrated that Order Accuracy does not significantly affect SQ, as evidenced by the findings ($\beta = 0.099$, $p > 0.05$). This result echoes the findings of Sanjuq, G. (2014), who similarly found no significant influence between Order Accuracy and service quality in the banking industry, suggesting a reevaluation of the commonly accepted notion that service execution accuracy is a key determinant of service quality perceptions.

The refutation of Hypothesis H2 prompts a reconsideration of what constitutes service quality from the perspective of customers, hinting that Order Accuracy might be viewed as a basic expectation rather than an attribute that markedly enhances service quality. This perspective transforms the dialogue around Order Accuracy from being a direct contributor to service excellence to being seen as an essential baseline expectation in service interactions.

For NVU, this insight indicates the need to expand their comprehension of what significantly influences customers' service quality perceptions. It points towards the necessity of focusing on other service experience facets that might have a more direct and significant impact on SQ, such as delivery timeliness, communication clarity and quality, or the overall customer service experience.

This study's findings reveal the nuanced nature of service quality perceptions and challenge NVU and similar entities to adopt a holistic approach to quality enhancement. Recognizing Order Accuracy as a basic requirement rather than a distinct competitive advantage prompts a strategic pivot towards dimensions of service that more profoundly align with customer expectations and satisfaction, potentially leading to enhanced customer relationships and loyalty.

5.3.3 The Influence Between Price Fairness and Service Quality (SQ)

Investigating the intricacies of service delivery within the courier and logistics domain, this research proposed Hypothesis H3, which anticipated a significant impact of Price Fairness on Service Quality (SQ). This hypothesis was predicated on the expectation that customers' perceptions of price fairness would be instrumental in determining their overall assessments of service quality.

Contrary to these anticipations, the study unveiled that Price Fairness does not exert a significant influence on SQ ($\beta = -0.013$, $p > 0.05$), deviating from initial expectations and contesting the widely held beliefs in service management literature regarding the influence of price-related aspects on service quality perceptions. This finding is in line with the research of Carlson, J. P., Huppertz, J. W., & Neidermeyer, P. E. (2008), who also observed a non-significant impact between Price Fairness and service quality in the context of healthcare services.

The refutation of Hypothesis H3 illuminates a pivotal insight into the evaluative priorities and decision-making frameworks of customers within the courier and logistics sector. It implies that customers may give precedence to service experience facets such as timeliness, accuracy, and the caliber of customer interactions over the aspect of pricing fairness when judging service quality. This insight underscores the multifaceted nature of service quality evaluation and signals to businesses the imperative of considering an array of factors, not limited to price, in their endeavors to amplify customer satisfaction and foster loyalty.

Considering these insights, the dynamics between Price Fairness and SQ are more complex than initially posited. The findings from this study not only enrich the academic conversation on the determinants of service quality but also underscore the significance of empirical exploration in questioning and refining theoretical postulates.

5.3.4 The Influence Between Information Quality and Service Quality (SQ)

Exploring the dynamics of service delivery within NVU's courier and logistics framework, Hypothesis H4 proposed that Information Quality significantly impacts

Service Quality (SQ). This hypothesis is grounded in the belief that the provision of accurate, timely, and relevant information is central to enhancing the overall quality of service delivery and customer satisfaction.

The empirical analysis robustly supports Hypothesis H4 revealing a significant positive influence of Information Quality on SQ ($\beta = 0.231$, $p < 0.01$). This pivotal finding elevates the status of Information Quality as a key determinant of service quality, asserting its dominance over other service dimensions such as tangibles, reliability, assurance, and empathy. The critical importance of delivering high-quality information to customers, thereby significantly influencing their satisfaction and perceptions of service quality, resonates with the research conducted by Saura, Frances, Contri, & Blasco (2008) and Yu, Ellinger, & Haozhe (2010). These studies collectively highlight the considerable positive impact of Information Quality on service quality within the logistics and courier sectors. Furthermore, the recommendation by Parasuraman (2004) to provide information in multiple languages underscores the value of enhancing service inclusivity and accessibility through improved Information Quality.

The pronounced positive impact of Information Quality on SQ underscores the strategic need for NVU to prioritize the enhancement of information accuracy, timeliness, and relevance. Aligning with the literature, it becomes evident that investing in sophisticated information management systems and comprehensive training for staff is imperative. These initiatives aim not only to improve the caliber of information provided but also to foster a trusting and loyal relationship with customers.

Therefore, Information Quality emerges as a fundamental pillar of service quality within the courier and logistics industry. This study conclusively identifies Information Quality as a critical driver of SQ at NVU, essential for boosting customer satisfaction and securing a competitive edge in the marketplace. The alignment with prior studies that have demonstrated a significant positive correlation between Information Quality and service quality further emphasizes the strategic importance of focusing on information excellence to meet and exceed customer expectations.

5.3.5 The Influence Between Personnel Quality and Service Quality (SQ)

Investigating the impact of Personnel Quality on Service Quality (SQ) within NVU's courier and logistics operations, Hypothesis H₅ anticipated a significant enhancement of SQ through the quality of personnel interactions. Grounded in the theory that staff behavior, competence, and empathy directly contribute to the quality of service delivered, this hypothesis reflects the core principles espoused by service management pioneers such as Parasuraman, Zeithaml, & Berry (1985).

The findings from this study affirm Hypothesis H₅, demonstrating a significant positive relationship between Personnel Quality and SQ ($\beta = 0.189$, $p < 0.05$). This discovery not only validates the hypothesis but also aligns with the longstanding view that personnel quality is a cornerstone of service excellence. The significant role that employee interactions play in shaping customer perceptions of service quality is further supported by research from Lehtinen (1991), Bitner et al. (1994), and Mentzer et al. (2001), which collectively highlight the positive impact of effective interpersonal interactions and the critical importance of empathy and problem-solving skills among service staff.

This study's identification of a clear and positive impact of Personnel Quality on SQ underscores the strategic importance of investing in human resources as a means of enhancing service delivery. It suggests that NVU's commitment to ongoing training and development programs aimed at bolstering staff competencies in customer service, empathy, and communication is not just beneficial but essential. Such initiatives are crucial for fostering a service environment where staff interactions with customers are characterized by understanding, efficiency, and care, thereby significantly improving the perceived quality of service.

Therefore, Personnel Quality emerges as a pivotal factor in the pursuit of superior Service Quality within the courier and logistics sector. This study's findings, corroborated by the referenced research, unequivocally highlight the irreplaceable value of high-quality personnel in driving customer satisfaction and maintaining a competitive advantage. The significant positive correlation between Personnel Quality and SQ illuminated by this investigation reinforces the need for NVU and similar organizations to prioritize and continuously invest in their staff as a key strategy for achieving and sustaining service excellence.

5.4 Contribution of the Study

This research contributes significantly to the practice of courier service management, particularly within the context of Ninja Van at Universiti Utara Malaysia (UUM), and to the theoretical frameworks underpinning service quality research. Given the evolving nature of courier services in educational settings, the insights derived from this study are of relevance.

5.4.1 Practical Implications

In terms of practical implications, this investigation offers Ninja Van a variety of actionable strategies to enhance their service quality. Among the key findings, the criticality of service timeliness and efficiency emerges, suggesting that management should prioritize initiatives aimed at reducing delivery times to ensure parcels are delivered within the promised timeframes. This could encompass the optimization of logistics routes and the integration of advanced technology for more efficient parcel tracking. Furthermore, the importance of enhancing information quality is underscored, highlighting the necessity for accurate and timely communication with customers. The implementation of robust information systems that provide real-time updates on parcel status can significantly elevate customer satisfaction. Additionally, the study emphasizes that the quality of interactions between staff and customers plays a pivotal role in shaping service perceptions, suggesting that training programs focused on customer service skills could profoundly improve the overall service experience.

5.4.2 Theoretical Implication

Theoretically, this research enriches the literature on service quality within the logistics and courier service sectors by adapting and applying the SERVQUAL model to the operations of Ninja Van at UUM. It underscores the importance of expanding service quality dimensions, validating the significance of timeliness, information quality, and personnel quality as key components. This extension of the SERVQUAL model's applicability to the courier service domain broadens the scope of service quality dimensions considered in this sector. Moreover, the study offers nuanced

insights into how each dimension of service quality specifically impacts customer satisfaction in the courier service setting, providing a more detailed application of the SERVQUAL model in a relatively underexplored context.

Thus, this investigation not only validates existing theories within a new domain but also encourages further research into the evolving aspects of service quality in courier and logistics services, especially in an era where digital transformation continues to reshape the industry.

5.5 Limitations of the Study

This investigation into the determinants of courier service quality by Ninja Van at Universiti Utara Malaysia furnishes pivotal insights for both academic and practical understandings of service quality in courier services. Nonetheless, as with any scholarly endeavor of this nature, the study is not devoid of limitations, primarily stemming from its methodological framework and the scope of its findings. Recognizing these limitations is essential for accurately positioning the study's contributions and for directing future scholarly inquiries in this domain.

The geographical and operational focus of this study on Ninja Van's activities specifically within the UUM campus confines its conclusions to a distinctly local context. The unique operational, geographical, and logistical characteristics at UUM might not fully encapsulate the diversity of environments or operational conditions where Ninja Van functions. Hence, the generalization of these findings to broader or substantially divergent contexts should be approached with caution and might necessitate further contextual adaptations. Moreover, the investigation, given its specific emphasis on Ninja Van at UUM, ventures into a comparatively unexplored

domain of research, especially within the Malaysian setting. While the engagement with a broad array of literature related to courier services and service quality theories enriches the study, it also poses a challenge. The direct transferability of insights gleaned from the wider corpus of service quality and courier services literature to the particularities of Ninja Van's operations at UUM warrants consideration, bearing in mind these contextual distinctions.

Employing a cross-sectional study design implies that the data reflects a singular moment in time, encapsulating users' perceptions and experiences at a specific juncture. Although this yields valuable insights, such an approach constrains the capacity to chronicle the evolving nature of service quality perceptions over time, especially in light of changes in operational practices, customer expectations, or external factors influencing service delivery.

Predominantly quantitative, the methodological orientation of this study facilitates a systematic examination of factors impacting service quality. Nevertheless, the depth of qualitative insights into user experiences, motivations, and detailed perceptions of service quality remains somewhat untapped. Future investigations would benefit from adopting a mixed-methods approach, incorporating qualitative data to furnish a more comprehensive understanding of the influences on service quality.

Considering these limitations, forthcoming research endeavors are encouraged to broaden the geographical and operational scope, possibly to include different operational frameworks of Ninja Van or comparative analyses with other courier services. A longitudinal study design could provide more profound insights into the temporal shifts in service quality perceptions. Additionally, the integration of qualitative research methodologies could augment the depth of understanding

concerning the drivers of customer satisfaction, thereby amplifying the theoretical and practical contributions to the discourse on courier service quality.

5.6 Recommendations for Future Researchers

This investigation into the utilization levels with Ninja Van services quality at Universiti Utara Malaysia (UUM) delineates several prospective paths for future research aimed at enriching the comprehension of courier service quality, customer satisfaction, and their broader implications within university settings. The insights derived from this study, situated within the context of UUM, serve as a foundational platform for further exploration, extending beyond the confines of Malaysia to encompass similar educational and geographical contexts. It is proposed that future investigations could benefit from adopting longitudinal study designs, acknowledging the dynamic nature of customer perceptions and service quality assessments over time. Such an approach would facilitate a deeper, more nuanced understanding of the evolving service expectations, experiences, and satisfaction levels, thereby illuminating the ways in which courier services might better align with the changing needs of university communities.

Moreover, while this study primarily leveraged quantitative methodologies, there is a compelling case for future research to embrace qualitative or mixed methods approaches. These methodologies hold the potential to unearth deeper insights into the motivations, experiences, and perceptions of service users, potentially revealing nuances that quantitative analyses may overlook. Employing interviews, focus groups, and ethnographic observations could yield invaluable perspectives on the user

experience, pinpointing crucial service interaction points and identifying opportunities for service improvement.

Furthermore, there is an opportunity to enhance understanding by incorporating moderating and mediating variables into future studies, thus offering a more intricate, layered exploration of the determinants driving customer satisfaction and loyalty towards courier services within the academic milieu. This could entail examining factors such as digital literacy, service accessibility, and the influence of promotional activities on user engagement, thereby enriching the analytical framework.

Adopting a comparative lens to examine courier services across different academic institutions or contrasting Ninja Van with other courier service providers within the same educational context could also provide valuable insights. Such comparative analyses might elucidate best practices, service differentiation strategies, and the significance of institutional partnerships in optimizing service delivery.

Given the distinct cultural and operational backdrop of UUM, subsequent research might benefit from investigating how cultural, geographical, and institutional dynamics influence courier service expectations and user experiences. Exploring courier services in varied settings could reveal how cultural specificities and operational limitations shape service delivery models and customer satisfaction.

Expanding the scope of inquiry to encompass the perspectives of service providers, university administrators, and other stakeholders involved in the logistics and delivery ecosystem within universities could offer a more comprehensive understanding of the challenges and opportunities present. This broader analytical perspective might facilitate the identification of collaborative strategies aimed at enhancing courier services in educational contexts.

Lastly, considering the relatively limited research on e-services, including courier and delivery services, in educational environments, there is a pronounced need for further studies in this domain. This is especially pertinent for developing countries, where digital transformation is revolutionizing educational logistics and operations. Advancing research in this area could significantly contribute to the burgeoning body of knowledge, assisting service providers and educational institutions in effectively meeting the evolving demands of their communities.

5.7 Conclusion

The investigation into the factors influencing courier service quality towards Ninja Van, particularly at Universiti Utara Malaysia (UUM), homed in on pivotal service aspects such as timeliness, order accuracy, price fairness, information quality, and personnel empathy. This focused study sought to unravel the complex service delivery fabric within the courier industry, pinpointing how these dimensions mold customer satisfaction and perceptions.

Key discoveries underscored timeliness and accuracy as cornerstones of trust, the impact of transparent pricing and clear information on perceived value, and the critical role of empathetic staff in elevating the service experience. These findings propose actionable pathways for Ninja Van to bolster service quality and customer satisfaction. In essence, this study amplifies the dialogue on courier service quality, pressing for an equilibrium between operational precision and the nuances of human interaction. It paves the way for Ninja Van, and similar entities, to refine their approaches, laying a foundation for further research to expand on these insights in diverse settings, enriching the narrative on courier service excellence.

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Appendix A

Content Validity of the Main Questionnaire



SESSION (A232) BPMZ69912 RESEARCH PAPER REQUEST FOR SURVEY

I am Awadh Faisal Abdulatef Ali, currently pursuing a master's degree in the Department of Supply Chain Management at School of Technology Management & Logistics (STML), College of Business (COB), Universiti Utara Malaysia. My research focuses on "Investigating the Factors Influencing the Quality of Courier Service Delivery Towards Ninja Van".

Your participation in this survey, which should take approximately 3 minutes of your time, is invaluable. I sincerely request your assistance in providing honest and genuine answers to the following questions, there is no right or wrong response. Rest assured, your identity and the information shared will be treated with the utmost confidentiality and solely used for research purposes.

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Supervisor:

Prof. Ts. Dr. Mohd. Rizal bin Razalli

UUM College of Business

Technology and Logistics Management

Directions: Please read all instructions and ANSWER all questions carefully.

SECTION A: RESPONDENT GENERAL INFORMATION

Please tick ☒ for the answers that best describe your demographic information in the box provided.

☐ **Gender**

- ☐ Male
- ☐ Female

☐ **Age**

- ☐ 18-24
- ☐ 25-34
- ☐ 35- and above

☐ **Ethnicity**

- ☐ Malay
- ☐ Chinese
- ☐ Indian
- ☐ Others (please specify: _____)

☐ **Marital Status**

- ☐ Single
- ☐ Married

☐ **Income Range (Rm)**

- ☐ Below 1,500
- ☐ 1,501 - 3,000
- ☐ 3,001 - 5,000
- ☐ 5,001 - 7,000
- ☐ 7,001 - 10,000
- ☐ 10,001 and above

☐ Have ever you used Ninja Van service before?

☐ Yes

☐ No

☐ Frequency of Ninja Van services use:

☐ Daily or multiple times per day

☐ Weekly or a few times per week

☐ Monthly or a few times per month

☐ Yearly or a few times per year

SECTION B:

This section is divided into five parts and each part consists of five questions. Please circle a number to indicate the extent to which you strongly agree or strongly disagree with the statement regarding timeliness, order accuracy, price fairness, information quality, and personnel quality of Ninja Van UUM (NVU) courier services.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly agree

SECTION B: TIMELINESS						
NO.	QUESTION	SCALE				
1.	I am confident that my deliveries will arrive on the promised date and time.	1	2	3	4	5
2.	The courier service consistently keeps me informed about the status of my deliveries, including any potential delays.					
3.	I can depend on this courier service to deliver my packages promptly and efficiently.	1	2	3	4	5
4.	Compared to other courier services I've used; the timeliness of deliveries is a significant advantage of this service.	1	2	3	4	5
5.	Based on my experience, the timeliness of this courier service exceeds my expectations.	1	2	3	4	5

SECTION C: ORDER ACCURACY						
1.	Effectiveness of NV services delivering the parcels to the customer at the address recorded.	1	2	3	4	5
2.	The accuracy of the parcels received by customers meets their expectations.	1	2	3	4	5
3.	The parcels are received by customers in good condition.	1	2	3	4	5
4.	The parcels are received by customers with the correct amount or quantity.	1	2	3	4	5

SECTION D: PRICE FAIRNESS						
1.	The price I am paying is within my expectation.	1	2	3	4	5
2.	I get the value for money for what I have been paying.	1	2	3	4	5
3.	The price of Ninja Van Courier Services is good value for money comparing to others.	1	2	3	4	5
4.	This Ninja Van Courier Service provide a variety of pricing plan.	1	2	3	4	5
5.	The price policy set is reasonable.	1	2	3	4	5

SECTION E: INFORMATION QUALITY						
1.	Customers have been given a correct tracking number	1	2	3	4	5
2.	Customers successfully track the location of the parcels with a given tracking number.	1	2	3	4	5
3.	The information on parcels details given by Ninja Van services is accurate and useful.	1	2	3	4	5
4.	Customers successfully received updates through notifications upon delivered parcel.	1	2	3	4	5
5.	Giving notifications in bilingual that can be understandable by customers.	1	2	3	4	5

SECTION F: PERSONNEL QUALITY						
1.	Ninja Van personnel are consistently polite and friendly with customers.	1	2	3	4	5
2.	Ninja Van personnel are calmly listening to customer needs.	1	2	3	4	5
3.	Ninja Van personnel can handle customers' complaints directly and effectively.	1	2	3	4	5
4.	Ninja Van personnel of the delivery service are well trained to handle diverse customer needs.	1	2	3	4	5

5.	Personnel respond actively with customers through Ninja Van online platforms like E-website and Facebook.	1	2	3	4	5
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SECTION G: SERVICE QUALITY

This section provides the questions referring to your views as a customer towards the service quality provided by Ninja Van UUM (NVU), Please circle a number to indicate the extent to which you strongly disagree or strongly agree with the statements down below.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

NO.	QUESTION	SCALE				
1.	Product packaging is appropriate and safe	1	2	3	4	5
2.	Ninja Van Courier Services has up-to-date equipment and technology.	1	2	3	4	5
3.	When I need to make a purchase, this service provider is my first choice.	1	2	3	4	5
4.	The physical facilities of Ninja Van Courier Service are visually appealing	1	2	3	4	5
5.	Overall, I would recommend this Ninja Van courier service to others.	1	2	3	4	5

END OF QUESTIONS
THANK YOU FOR YOUR COOPERATIONS

Appendix B

SPSS Output on Pilot Test

i. Timeliness

Reliability Statistics	
Cronbach's Alpha	N of Items
.861	5

ii. Order Accuracy

Reliability Statistics	
Cronbach's Alpha	N of Items
.892	4

iii. Price Fairness

Reliability Statistics	
Cronbach's Alpha	N of Items
.836	5

iv. Information Quality

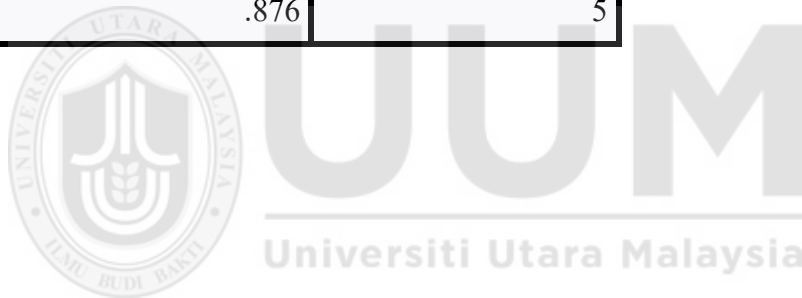
Reliability Statistics	
Cronbach's Alpha	N of Items
.864	5

v. Personnel Quality

Reliability Statistics	
Cronbach's Alpha	N of Items
.923	5

vi. Service Quality

Reliability Statistics	
Cronbach's Alpha	N of Items
.876	5



Appendix C

Descriptive Statistics

i. Profile of Respondents

Gender		
	N	%
Male	68	48.2%
Female	73	51.8%

Age		
	N	%
18-24	114	80.9%
25-34	20	14.1%
35-Above	7	5.0%

Ethnicity		
	N	%
Malay	81	57.4%
Indian	25	17.7%
Chinese	10	7.1%
Other	25	17.7%

Matirial_Status		
	N	%
Single	129	91.5%
Married	12	8.5%

Income		
	N	%
Below 1,500	112	79.4%
1,501 - 3,000	13	9.2%
3,001 - 5,000	7	5.0%
5,001 - 7,000	5	3.5%
7,001 - 10,000	3	2.1%
10,001 and above	1	0.7%

Have_ever_you_used_Ninja_Van_service_before		
	N	%
Yes	141	100.0%

Frequency_of_Ninja_Van_services_use		
	N	%
Daily or multiple times per day	7	5.0%
Weekly or a few times per week	10	7.1%
Monthly or a few times per month	71	50.4%
Yearly or a few times per year	53	37.6%

ii. Level of variables

Latent variable	No of items	Mean	Std. Deviation
Timeliness	5	3.9141	.81420
Order Accuracy	4	4.0581	.81740
Price Fairness	5	3.9183	.83204
Information Quality	5	4.1366	.81140
Personnel Quality	5	3.9577	.82611
Service Quality	5	4.0423	.79174

iii. Descriptive

Latent Variables	Skewness Statistic	Skewness Std. Error	Kurtosis Statistic	Kurtosis Std. Error
T	-.528	.203	.097	.404
OA	-.730	.203	.415	.404
PF	-.672	.203	.399	.404
IQ	-.887	.203	.671	.404
PQ	-.558	.203	.063	.404
SQ	-.615	.203	.144	.404

Appendix D

RELIABILITY OF THE INSTRUMENTS

i. Timeliness

Reliability Statistics	
Cronbach's Alpha	N of Items
.898	5

ii. Order Accuracy

Reliability Statistics	
Cronbach's Alpha	N of Items
.911	4

iii. Price Fairness

Reliability Statistics	
Cronbach's Alpha	N of Items
.909	5

iv. Information Quality

Reliability Statistics	
Cronbach's Alpha	N of Items
.906	5

v. Personnel Quality

Reliability Statistics	
Cronbach's Alpha	N of Items
.914	5

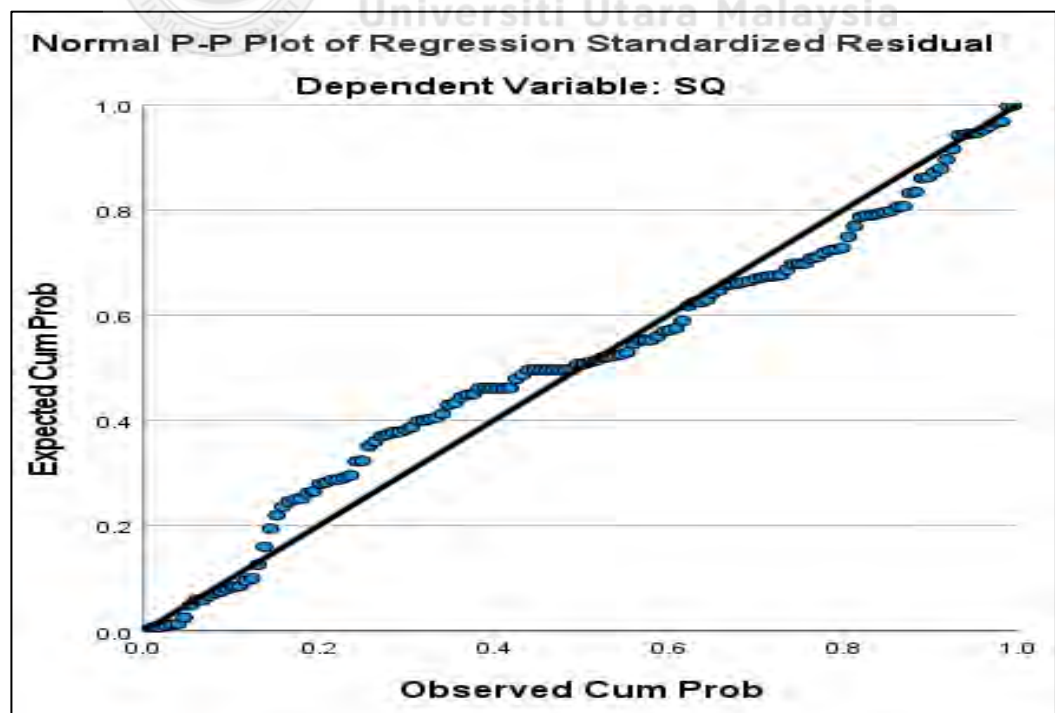
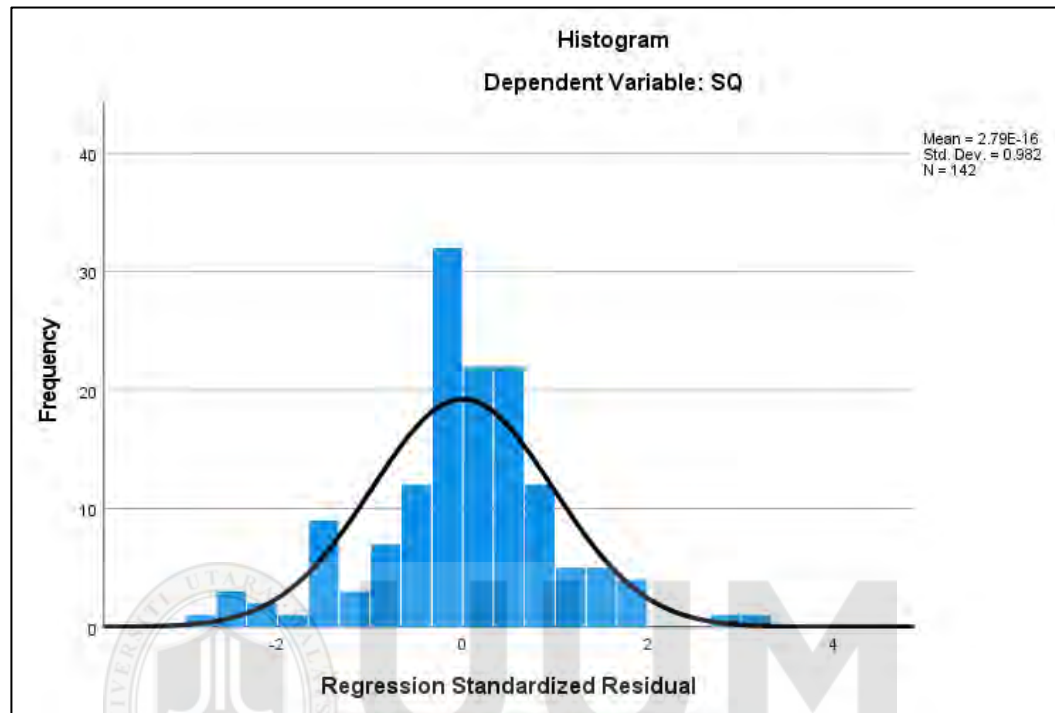
vi. Service Quality

Reliability Statistics	
Cronbach's Alpha	N of Items
.879	5



Appendix E

NORMALITY OF THE DATA



Appendix F

INFERENTIAL STATISTICS

i. Pearson Correlation Analysis

	T	OA	PF	IQ	PQ
T	1.000				
OA	.657**	1.000			
PF	.723**	.726**	1.000		
IQ	.743**	.795**	.718**	1.000	
PQ	.798**	.677**	.723**	.707**	1.000

ii. Regression Analysis

Model Summary						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.443 ^a	.196	.167	4.255	.196	6.639

a. Predictors: (Constant), PQ, O, P, T, IQ

b. Dependent Variable: SQ

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	600.863	5	120.173	6.639	.000 ^b
	Residual	2461.785	136	18.101		
	Total	3062.648	141			

a. Dependent Variable: SQ

b. Predictors: (Constant), PQ, O, P, T, IQ

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.081	6.003		.513	.609
	T	.359	.119	.254	3.021	.003
	O	.105	.084	.099	1.240	.217
	P	-.018	.104	-.013	-.168	.867
	IQ	.230	.086	.231	2.674	.008
	PQ	.198	.082	.189	2.411	.017

a. Dependent Variable: SQ

