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Influences Of E-Logistics Service Quality on Gen-Z Customer Satisfaction and Loyalty in Mekong Delta, Vietnam

Bachelor of International Business Thesis

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Wish all the best to everyone.

Sincerely.

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EXECUTIVE SUMMARY

With the arrival of contemporary platforms, online shopping has experienced a significant revolution that has significantly altered consumer behavior. This opens up multiple opportunities for e-commerce companies to increase their potential market, but it also brings strong competition from numerous new merchants. Therefore, today's sellers' main concern is raising client satisfaction and loyalty to gain a competitive edge. The purpose of this research is to determine how e-logistics service quality influences online shopper satisfaction and loyalty. Online shoppers made up both the study's population and its sample. Primary data was utilized for analysis in this research. The questionnaire and purposive sample techniques used to compile this data were both tried and true. There were 631 respondents of Generation Z (Gen-Z) included in the sample (Mekong Delta, Vietnam). The SPSS and AMOS measurement and structural models were used in this investigation. This study presents relevant literature to provide a theoretical framework proposing a connection between the quality of an e-logistics provider's service and the satisfaction and loyalty of its youngest customers, Gen-Z. Perceived online safety (POS), capacity of office employees in e-logistic service centers (COS), user interface quality (UIQ), and e-logistic quality (ELQ) are all factors included in this research into e-commerce customers' satisfaction with e-logistics service providers. Online customer satisfaction and office staff capacity in an e-logistic service center were shown to be significant predictors of Gen-Z customers' loyalty to online shopping. E-logistics service quality, such as e-logistics quality, user interface quality, perceived security, perceived privacy, and perceived information quality, is assessed using the current literature. This study's findings suggest that the quality of e-logistics services in Vietnam's Mekong Delta has been reorganized to take into account factors such as perceived online safety, user interface quality, e-logistic quality, and capacity of office staff in e-logistic service centers. This study adds to the literature on developing market customer satisfaction and loyalty online, as seen by the findings.

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LIST OF ABBREVIATIONS AND ACRONYMS

AMOS	Analysis of Moment Structures
B2C	Business To Consumer
COS	Capacity of office employees
CFI	Comparative Fit Index
CFA	Confirmatory Factor Analysis
CDP	Customer Data Platform
CMIN/DF	Discrepancy divided by degree of freedom
EC	Electronic Commerce
EDI	Electronic Data Interchange
ELQ	E-Logistics Quality
EFA	Exploratory Factor Analysis
EE	Effort Expectancy
GDPR	General Data Protection Regulation
GFI	Goodness of Fit Index
IoT	Internet of Things
IS	Information System
LSPs	Logistics Service Providers
LSQ	Logistics Service Quality
OCS	Online Customer Satisfaction
OCL	Online Customer Loyalty
PIQ	Perceived Information Quality
POS	Perceived online safety

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PP	Perceived Privacy
PS	Perceived Security
PE	Performance Expectation
RMSEA	Root Mean Square Error of Approximation
SPSS	Statistical Package for the Social Sciences
SEM	Structural Equation Modelling
3PL	Third-Party Logistics
TLI	Tucker-Lewis Index
TAM	Technology Acceptance Model
UIQ	User Interface Quality
UTAUT	Unified Theory of Acceptance and Use of Technology
WWW	World Wide Web

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CHAPTER 1

INTRODUCTION

This chapter will introduce the context of e-commerce growth for the current economy. In particular, it will show that Gen Z will be the dominant user of the internet and also the object with the most influence in online shopping. Besides, it also determines the quality of e-logistics services will be an important factor and it will affect customer satisfaction and loyalty. From there, the purpose, research problem, and outline of the paper will be determined.

1.1. BACKGROUND

Over the last decade, the internet and information technology have expanded customers' shopping possibilities beyond malls and grocery stores. Online commerce is becoming more important in the economy. Online shopping platforms' prominence has increased industry competition. Internet and smartphone users have increased online buying. Simon (2019) reported 366 million more internet users (9%) and 100 million more smartphone users (2%) in 2018. According to the Vietnam e-business index 2022 by the Vietnam E-commerce Association (2022), the e-commerce industry in Vietnam would increase by 20% to 16 billion USD in 2021, accounting for 5.5% of total retail sales of consumer products and services. E-commerce in Vietnam has attracted local and international enterprises due to its potential. In which the "digital native" millennial generation (Gen Z) is honored for growing up with continual online access. Generation Z is growing in Southeast Asia (Digital News Asia, 2017). Thus, you should cater to Gen Z. Generation Z strongly influences home purchasing behaviors, according to Wegert (2016). Since this generation dominates internet and smartphone usage globally. Generation Z, one of the most informed generations, may know a product's price before buying it. Due to their need for rapid satisfaction and impatience to learn about new products, Generation Z provides unique problems for companies (Priporas et al., 2017). Schlossberg (2016) found that

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Generation Z values shopping and has greater standards. A good product, service, or marketing campaign makes Gen Z customers loyalty.

E-commerce buyers also enjoy the anticipation and delivery of their purchases. This determines customer satisfaction and loyalty. Businesses have developed complicated customer-company relationships to stand out by offering a convenient and trustworthy combination of goods and services (Fuller et al., 1993). A company's logistical skills may help build customer relationships (Bowersox et al., 1970). LSQ advancements have helped many internet merchants succeed. To stay up with the global economy, the logistics business and delivery systems are continually changing (Jalowiec, 2020). E-logistics' fast growth has caused many of these developments. Due to the Internet and worldwide commerce computerization, e-logistics is a new sector. E-logistics may help companies save money on transportation, increase income, satisfy customer needs, and reduce waste (Iskandar & Ramantoko, 2017).

Researchers have identified e-logistics service quality as an important activity for retailers (Cao et al., 2018; Hüseyinoglu et al., 2018; Koufteros et al., 2014; Murfield et al., 2017). By meeting customer needs, e-logistics services boost revenue (Erceg & Damoska, 2019). Customer satisfaction concerns increase with the e-logistics business. Since customer happiness is the most important factor in recurring purchases (Arslan, 2020), this is problematic. To attract and maintain customers, e-logistics organizations must offer exceptional services in addition to fast delivery. Value-added services like easy payment and high-quality items may boost e-logistics customer satisfaction (Gunasekaran & Ngai, 2003). Merchants must improve their offerings to attract online shoppers (Szymanski & Hise, 2000). Quick transfers, acceptable payment options, and secure websites (Li et al., 2017) boost consumer satisfaction. E-logistics services leverage cutting-edge automation and technology to improve provider capacity and customer satisfaction (Jie et al., 2015). E-logistics struggles with consumer happiness, according to a study. In the digital world, companies must manage Gen Z's electronic satisfaction and loyalty to attract them. What motivates Gen Z shoppers?

1.2. RESEARCH OBJECTIVES

1.2.1. Overall objective

This study seeks to determine Generation Z's views on e-logistics' reliability as prospective consumers who are receptive to new technologies and abilities. The thesis helps organizations understand what makes their consumers satisfied and loyal and how to benefit from this knowledge.

1.2.2. Specific objectives

- To determine the opinion of Gen Z about E-logistics, E-customer satisfaction and loyalty in the Mekong Delta.

- To analyze the impact of E-logistics service quality on e-customer satisfaction and loyalty in the Mekong Delta.

- To propose feasible recommendations to improve e-customer satisfaction and loyalty.

1.3. RESEARCH QUESTIONS

What are the opinions of Gen Z customers about E-Logistics Service Quality, satisfaction and loyalty?

How does E-Logistics service quality influence on satisfaction and loyalty of Gen Z customers?

How to increase the satisfaction and loyalty of Gen Z customers from E-Logistics service quality?

1.4. OUTLINE OF THESIS

This thesis consists of five chapters: The first chapter provides the reader with background information about the research background, research objectives, and scope of the thesis. The second chapter provides an overview of relevant research theories as a basis for building research questions on the factors affecting the satisfaction and loyalty of Gen Z. The third chapter presents the present research

framework, conceptual framework, data collection process, scale construction, questionnaire and data analysis in this thesis to prove its validity and reliability. The fourth chapter covers the experimental results of the study: factors affecting the satisfaction and loyalty of Gen Z to the quality of electronic logistics and possible solutions and strategies. The final chapter discusses the positives as well as the limitations of the study. From there, some solutions and recommendations are proposed.

CHAPTER 2

LITERATURE REVIEW

The second chapter will provide an overview of related research theories about Gen Z and its distinctive characteristics, thereby showing the importance of online sellers targeting this generation's beliefs and buying behavior. Next, this chapter examines critical consumer theories, including customer satisfaction and loyalty definitions. Besides, it also evaluates previous typical studies on the relationship between customer satisfaction and loyalty, E-logistics service quality and satisfaction, and the relationship between E-logistics service quality and loyalty. From there, develop the theoretical model and scale of the components for this study.

2.1. THE THEORY OF RESEARCH

2.1.1. The concepts

2.1.1.1. Definition Gen Z

Individuals born between 1997 and 2012 are considered members of Generation Z (Gen Z), sometimes referred to as the Post-Millennial generation, according to Dimock (2019). Regarding the starting year for this generation's definition, several researchers accept varying viewpoints. These are: Born in 1990 or later (Wiktorowicz & Warwas, 2016; Świerkosz-Hołysz, 2016; Żarczyńska-Dobiesz & Chomątowska, 2014; Wojtaszczyk, 2013); between 1990 and 1999 (Half, 2015); between 1991 and 2000 (Tulgan, 2009); between 1993 and 2005 (Turner, 2015); between 1993 and 2012 (White, 2019); born in 1995 or later (Thangavel et al., 2021; Haddouche & Salomone, 2018; Lanier, 2017; Priporas et al., 2017; Twenge, 2017). But in the present research, the acknowledged Z gene, which was born between 1997 and 2012 (Dimock, 2019), is the object of analysis. Because this age group utilizes social media more regularly and has easier access to technology. Furthermore, they have developed more mature thinking and are financially independent.

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Nguyen et al. (2021) estimate that 21% of Vietnamese and 33% of the world's population belong to Generation Z. Gen Z consumers have emerged as a desirable and viable customer segment for businesses worldwide due to their rapid population expansion and control of the global market (Tunsakul, 2018). Additionally, Gen Z has a significant influence on family and household spending decisions (Wegert, 2016). Targeting Gen Z consumers and meeting their needs makes sense because this set of consumers will represent society in the future.

High-educated, creative, and tech-savvy Gen Z customers are prevalent in the digital era (Priporas et al., 2017; Fister-Gale, 2015; Bassiouni & Hackley, 2014). Van den Bergh and Behrer (2016) claim that they make extensive use of technology as an instrument. As a result, Gen Z consumers are increasingly favoring the use of smart devices for online shopping (Arilaha et al., 2021; Hinduan et al., 2020). Many young people have developed a habit of doing this type of shopping, to the point where, according to Brown's (2017) study, up to 67% of people use their phones to pay for their orders placed online at stores, even though the majority of consumers prefer to touch and feel products in-store before making a final purchase decision. Gen Z customers have distinct tendencies. These include a curiosity about new technology, a preference for simplicity of use, a need to feel protected, a want to temporarily escape reality, high expectations, and an emphasis on the experience. Schlossberg (2016) found that Gen-Z values shopping and has greater standards. A good product, service, or marketing campaign makes Gen-Z customers loyalty. Gen-Z is the first generation to grow up with constant access to the internet; as such, it is crucial that you cater to them through the digital channels they prefer. This generation also has a strong desire for easy, instant payment methods, which is changing the face of online shopping. The good news is that what Gen-Z wants from an e-commerce site is precisely what stores should be doing to boost traffic, revenue, and customer loyalty anyhow. Therefore, improving your website for a Gen-Z perspective is just good the search engine optimization. Positively, Gen-Z is influencing the future of internet retailing. Gen-Z is changing the way we market digital services and goods, demanding both improved user experiences and more interactive social connections.

As a result, the mentality of Gen-Z is affecting e-commerce, and businessman needs to adjust online business operation to fit the needs of the next generation of buyers.

2.1.2. Unified Theory of Acceptance and Use of Technology

The Unified Theory of Technology Acceptance and Use (UTAUT) model (Venkatesh et al., 2003) is considered one of the latest developments in the field of general technology acceptance modeling. It shows that actual technology use is determined by behavioral intentions. Like previous acceptance models, it aims to explain users' intention to use IS and enhance usage behaviour. Venkatesh et al. (2003) improved this composite model to present a more complete view of the acceptance process than previous individual models could do. The UTAUT model successfully integrates key elements from eight models previously used in the IS field. The theory suggests that four main factors (performance expectations, effort expectations, social influence and facilitation) are direct determinants of usage intention and behavior (Venkatesh et al., 2003). The variables of gender, age, experience and willingness to use all moderate the impact of four main constructs on intention and behavior to use. UTAUT is considered as a combined model of many previous models to study the use of new information systems by users including TAM model. From a theoretical perspective, UTAUT has provided a view of the factors that influence Intent and Behavior develop over time.

The UTAUT model has been tested and proven to be superior to other models or theories (Venkatesh et al., 2003; Zhou, 2012) to be able to explain related behavior to the user's technology. The authors of this theory also suggested that this theory should be tested in the context of different technologies and were specifically suggested to test it for e-commerce applications (Venkatesh et al., 2003). According to UTAUT, performance and effort expectations are core determinants for any form of technology use (Venkatesh et al., 2003). Performance Expectation (PE) is the degree to which an individual (customer) believes technology (online shopping) will enhance his or her performance (Lian & Yen, 2014). Meanwhile, Effort Expectancy (EE) is an individual's (customer's) assessment of the extent to which they consider

the use of technology, and online shopping, to be effortless (Venkatesh et al., 2003). Hansen (2006) has shown that the main motivation of customers who love online shopping is convenience and easy transactions, both physical and mental. Furthermore, PE and EE can also be a source of conditioning the relationship between e-procurement service quality and intention. In terms of online shopping, EE determines the extent to which people perceive online sites to facilitate shoppers with less effort than with conventional purchases. In addition, the use of online shopping increases customer performance expectations such as time savings and the availability of online products that local retailers may not have. PE has an impact on intention (Lian & Yen, 2014). Similarly, due to convenience and zero-effort motivation, EE is also a major driver of online shopping intention. The rapid advancement in e-commerce has prompted researchers to examine the factors that drive online shopping to convince buyers.

2.1.3. Service Quality And Service Performance

Service quality refers to the extent to which the service provided is compatible with the customer's expectations. Service is considered quality when it always meets customer expectations (Lewis and Booms, 1983). Lehtinen and Lehtinen (1982) proposed that service quality is formed through interactions between customers and elements in the service organization. They identified three dimensions of quality: physical quality, which includes the physical elements of the service (e.g. equipment or facilities); corporate quality, in relation to the company's image or reputation; and the quality of interactions, stemming from communication between employees and customers as well as between customers. They make a clear distinction between quality related to the service delivery process and quality related to the outcome of the service. In today's context, service quality is influenced by social media communication and interaction between customer and service provider behavior (Doucet, 2004; Palese and Usai, 2018). These factors require a subjective assessment from stakeholders, in the sense that each person will have a personal assessment of the quality of service they experience. Service quality plays an important role in evaluating value from the perspective of consumers. Value judgments are believed to

influence consumer satisfaction and promote expected behavior (Zeithaml, 1988; Babakus and Boller, 1992). There are important examples of behavior driven by service quality assessments, including repurchase intention, loyalty, and word of mouth. Recent research has also shown the strong association of this chain of principles (i.e. service quality intention - satisfaction - behavior), with the relationship maintained across national borders, provide valuable benefits to global marketers (Brady and Robertson, 2001).

According to Colquitt (2011) service performance is the value of employee behaviors that positively or negatively contribute to the accomplishment of the organization's goals. Performance is the result of work that is closely related to the organization's strategic goals, customer satisfaction and contribution to the economy. Therefore, performance is the performance of work and the results obtained from that work (Armstrong and Baron, 1998). Besides, there have been extensive studies by previous researchers such as Dedeoğlu (2015), Huang (2016), Potluri (2016), and Paul (2016) on service performance, which can sum up that efficiency Service performance is the result of an employee's customer service performance. Service performance can be said to be successful if the service provided by the staff to the customer receives positive feedback from the customer and can drive business growth for the organization. Service performance is affected by a number of factors such as employee understanding of the service, employee responsiveness, problem solving, speed of service, situational adaptation, proactivity, service attitude, self-actualization, and compliance.

2.1.1.2. The theory of Consumer (Satisfaction and Loyalty)

Definition customer satisfaction

Hoppe (1930) and Lewin (1936)'s experimental and psychological research underlies consumer satisfaction theories. Researchers examining "self-esteem" and self-confidence identified a suitable framework for defining "satisfaction" and the relationship between contentment, trust, and confidence. Satisfaction throughout time is linked to trust (Bitner, 1995; Costabile, 1998), but this "back to the past" is especially essential because of its connection to expectations and performance-based satisfaction. Positive interactions foster loyalty and trust. Rust and Zahorik (1993) observed that consumer satisfaction increases repurchase intent. Anderson & Sullivan (1993) found that pleased customers stay longer, increasing revenue (Bowen & Chen, 2001). Oliver argues client loyalty has four phases. In the early stages of brand loyalty, consumers purchase mainly on advertising and information rather than actual brand experience. After repeated purchases, customers form an emotional connection with the brand and value it. After reinforcing expectations, the consumer has a favorable brand mindset. Oliver argues this ultimate devotion only comes in the third stage after repeated purchasing of the same things. Crosby and Taylor's (1983) voter behavior model shows strong will and significant participation after loyalty. Oliver feels "action control" (Kuhl & Beckmann, 1985) makes active loyalty most dedicated. This shows that brand loyalty is motivated by inner motivation and the "desire to overcome" difficulties in purchasing from that brand.

Customer satisfaction can be defined as the experience of delight or disappointment that individuals feel when comparing the performance or outcomes of a product to their initial expectations (Kotler & Keller, 2009). Kotler and Keller can be defined as customer satisfaction as the emotional response, characterized by pleasure or disappointment, resulting from the evaluation of a product's actual performance against the expected performance. The assessment of consumer satisfaction relies on the perceptions and expectations of each individual, as they possess unique perspectives and evaluations, leading to varying levels of satisfaction among customers. Kotler's theory, as presented in Suwardi's journal (2011), emphasizes that

customer satisfaction serves as the key to fostering customer retention. Customer satisfaction shows a company's customer service. Positive experiences retain consumers (Amin, 2014). Internet usage and product ratings are affected. Returning customers are brand loyal. Gajendra Sharma (2017) discovered contentment influences loyalty. Brand loyalty is "the firm conviction that one will continue in the future to buy one's favorite product or service," and consumers show it. Oliver (1997) considers pleasure "a synthetic psychological state that occurs when unconfirmed expectations are combined with a consumer's prior feelings about the consumption experience." This approach says "satisfaction can best be understood as an ongoing assessment of surprise present in the purchase and/or use a product." Several indicators can be used to measure customer satisfaction as follows:

Repurchase behavior: Customers exhibit their satisfaction by repeatedly returning to the company to make additional purchases and seek goods or services.

Word-of-mouth promotion: Satisfied customers actively engage in positive conversations about the company, sharing their favorable experiences with others.

Brand image development: Satisfied customers pay less attention to competing brands and advertisements, showing their allegiance to the company's brand.

Repeat purchase decisions: Satisfied customers choose to make subsequent purchases from the same company, reflecting their confidence and trust in its products.

Definition Customer Loyalty

Dissatisfied consumers investigate alternatives and follow rivals' suggestions. Customers who are unhappy with their store's service may resist the merchant's attempts to build a connection. Dissatisfied parties may withdraw. Engel et al. (1982) defined brand loyalty as "the preference, attitude, and behavior expressed by consumers towards one or more brands in a product category over some time." Jacoby (1971) states that psychological processes bias behavioral purchase choices, creating loyal customers. Other researchers describe brand loyalty as "a favorable attitude towards a brand that leads to repeat buying behavior consistently over time" (Assael, 1992; Keller, 1993). Keller thought brand loyalty comes from repeat purchases.

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Gremler (1995) says behaviors and attitudes influence loyalty. Tjiptono (2005) defines customer loyalty as "a customer's commitment to a brand, store, or supplier that is the result of repeated positive experiences over time." Customers are loyal when they like a brand and purchase it again, according to Sumarwan (2011). Sangadji, Etta, and Sopiah (2013) in Tjiptono (2015) develop a paradigm with six observable indicators to measure customer loyalty. Repurchase behavior, where customers show a propensity to make repeat purchases; consistent patronage of a particular brand, indicating a habitual consumption pattern; a strong affinity for the brand, showing a genuine fondness and preference; steadfast loyalty, showing unwavering dedication; implicit trust in the brand's superiority, showing a firm belief that it is the best option available; and unwavering commitment. These assessment factors may help companies determine client loyalty and long-term service. The term "e-commerce satisfaction" is used here to describe a customer's degree of satisfaction with their previous experience making an online purchase using the platform of a certain e-commerce business. Studies relate electronic loyalty to online buying happiness.

Online satisfaction keeps consumers returning. Therefore, "loyalty to e-commerce" is a good attitude toward an online business that leads to repeat purchases from that company for the purposes of this study.

2.2. REVIEW OF PAST STUDIES

2.2.1. The past studies in the relationship between customer satisfaction and loyalty

Client retention drives modern marketing. Over the last 15 years, various marketing studies (Edvardsson et al., 2000; Homburg & Giering, 2001; Auh & Johnson, 2005; Bodet, 2008; Terblanche & Boshoff, 2010) have identified and studied these themes. Reichheld and Markey (2000) estimate 60%–80% of "satisfied" or "very satisfied" clients depart. Customer loyalty is the goal of customer satisfaction survey critics (Jones & Sasser, 1995; Reichheld, 1994; Oliver, 1999). "Seems to be a valuable strategic shift for most companies because businesses understand the profitability of

having a loyal customer base" (Oliver, 1999, p. 33). "Seems to be a valuable strategic shift for most companies because businesses understand the profitability of having a loyal customer base" (Oliver, 1999, p. 33). Oliver (1999) argues this "seems to be a valuable strategic shift for most companies because businesses understand the profitability of having a loyal customer base" (p.33). Customer satisfaction should not be judged by this (Reichheld, 1994).

Loyalty measures have changed since staff retention affects a company's profit line (Taylor, 1998). Brand awareness drives repeat purchases. Trusted brands earned it. Trusted brands are more loyal, according to research. Satisfied customers indicate product success (Leninkumar, 2017). Consumer behavior is analyzed using most customer satisfaction and loyalty metrics. This study examined customer satisfaction and behavior, wallet sharing, and unwillingness to complain and real complaints (Chandon et al., 2005; Morwitz and al., 2007). Chang et al. (2009) found happy customers spend more. Services improve government efficiency (Portela & Thanassoulis, 2005). Customer service and loyalty influence purchases and returns (Caruana, 2002). Responsiveness, empathy, reliability, and trust determined e-service quality and customer satisfaction. Several research have shown a high correlation between enjoyment and loyalty (Cronin & Taylor, 1992; Newman & Werbel, 1973; Woodside, Frey & Daley, 19). Environment affects customer loyalty and emotions. Competition affects loyalty and pleasure, according to Jones and Sasser (1995). Oliver (1999) says friendships promote loyalty over delight. Business competition affects consumer happiness and brand loyalty, according to Jones and Sasser (1995). Oliver (1999) says friendships promote loyalty over delight. Competition affects loyalty and pleasure, according to Jones and Sasser (1995). Oliver (1999) found that customer pleasure helps keep customers. Online purchasing makes keeping customers difficult. It needs to enjoy online shopping. Inertia, belief, and perceived value are being studied.

2.2.2. The past studies on the relationship between E-logistic service quality and customer satisfaction

Oliver (1993) states that a service's value depends on how effectively it matches customer demands. Customer satisfaction includes service quality. Researchers have used diverse methods due to inconsistent data relating to service quality and consumer happiness (Bahia & Nantel, 2000). Customer satisfaction is not required for service quality, according to Kashif et al. (2015), Sheng and Liu (2010), and Yap (2012).

Monferreret et al. (2016) found that "quality of service helps attract and retain customers." Excellent service boosts client happiness, according to several research. According to Keiningham et al. (2006), customer happiness depends on the service provider's ability to fulfill numerous quality standards. Cronin Jr. (2016) claims "perceived service quality leads to satisfaction" based on research. According to Cheng et al. (2019), organizations are studying how service quality affects customer satisfaction and loyalty. Compatible brands are more likely to keep their customers around. Repeat business was found by Barshan et al. (2017). Most research agree that outstanding service is vital to customer satisfaction (Gil et al., 2008). Satisfied clients are a positive by product of a well-oiled logistics machine. Logistics are a big hit with satisfied consumers (L. Wang, 2015). Customer satisfaction varies with improved logistics. Yumurtac et al. (2018) focused their attention on the benefits to the clientele. Mentzer et al. (2001) proposed that successful product marketing achieves a middle ground between product quality, quantity, pricing, information, and setting logistics cost value. Shoppers profit from internet trade's increasing growth. Modern B2C e-commerce enterprises have grown rapidly, requiring stricter logistics (Jamal et al., 2018). Logistics distribution, as stated by Lasserre (2017), helps strengthen relationships between online stores and their clients. Logistics distribution influences public image and brand trust. Online merchants face more than price rivalry.

Logistics service quality is measured by delivery efficiency and procedure simplification. Client feedback on service quality according to Gil et al. (2008), Jang et al. (2013) and Liu et al. (2010) claim that customer satisfaction with a company's

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logistical assistance is a good indication of service quality. Customers appreciate logistics providers that go above and beyond. The quality of logistical service affects customer satisfaction, as stated by Kilibarda and Andrejic (2016). Politis et al. (2014) prompted changes in supply chain management, service delivery, and consumer habits.

Logistics uses the seven R's to satisfy customers (Mentzer, Flint, & Hult, 2001). Coyle et al. (1992) and Stock & Lambert (2001) describe logistics as "the distribution component that demonstrates a company's effectiveness in delivering the appropriate number of items at the right time, cost, information, and conditions." Mentzer et al. (2001) state that logistics may effect product value. These "rights" affect consumer demand for providers. Operations efficiency and customer satisfaction have a mixed relationship, according to logistics studies (Daugherty et al., 1998). Stank et al. (1999) showed a strong correlation between operational success and customer satisfaction. Relationships only indirectly affect happiness. Relationship success affects customer happiness, while operational success does not. Results reveal performance is "criteria to evaluate orders," not a competitive advantage. Mentzer et al. (2001) found that logistics pleases diverse clients using a norming process investigation. Logistical service consumers are happier when ordering is easy. Like relational logistics services, the quality of their most significant customer group improves.

Quality makes consumers happy. Satisfied consumers indicate excellent service. Measuring client satisfaction is harder. Caceres and Paparoidamis (2007) and Gorla, Somers, and Wong (2010) find that service quality affects customer satisfaction. Excellent service delights customers. Jayawardhena (2010), Hoang et al. (2010), and Rahman (2008) believe that customer happiness and service quality are the most crucial elements of successful business collaboration. Excellent logistics services and satisfied customers have resulted from long-term service provider-customer relationships. In the service industry, client service is crucial (Caceres & Paparoidamis, 2007). Logistics suppliers must meet customer demands to maintain partnerships. Logistics companies must provide complete customer service. Zairi (2000) found that the corporation appreciates consumers more than service providers

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and end users. Wirtz (2001) recommends prioritizing customer happiness for sustained profit. Customer-centricity is crucial to corporate sustainability, according to Panayides (2007) and Liu and Xie (2013). Most companies compete for clients, therefore they must give excellent service. Logistics firms must understand consumers. This lets companies target particular markets, improve customer service, and assess if they're achieving consumer expectations. Putting consumers first may work better.

According to Juga, Juntunen, and Grant (2010), customer-focused organizations employ data and market knowledge to learn what customers care about. This company prioritizes customer service above competition. Some authors suggest focusing on people rather than items (Jayawardhena, 2010). Jaiswal (2008) states that a service's capacity to satisfy consumers' requirements and desires determines its success. Customers' expectations differ. Environmental, geographical, and company-specific variables might alter flavor. Thus, a company's success relies on its adaptability. Logistics requires adaptability. Juga, Juntunen, and Grant (2010) and Autry, Zacharia, and Lamb (2008) emphasize the necessity for adaptable logistics to meet customers' changing expectations. This connection may not accurately assess logistical service quality and customer satisfaction. Previous research found that logistics service quality affected service size (Stank et al., 2003). Logistics service quality affects customer satisfaction, making it strategic (Mentzer et al., 2001; Mentzer, Myers, and Cheung, 2004; Rafiq and Jaafar, 2007; Richey, Daugherty, 2007; Law, 2016 and Huma, 2019). Esper, Fugate, and Davis-Sramek (2007) advocate specialized logistics services for market differentiation. This decreases consumer satisfaction.

Lee and Lin (2005) examined e-services, service quality, consumer satisfaction, and future purchase intent. Customers are happier on dependable, updated, and trustworthy websites. In 2007, Gunasekaran et al. examined 3PL in light of internet commerce and global markets. This investigation examines how global competition affects corporate product quality. Electronic logistics systems demonstrate the advantages of the Internet, EDI, and the WWW. Weltevreden (2008) examined large

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Dutch CDP firms and online customer surveys. Recent Dutch studies reveal widespread usage of CDP at the point of service. 1,4% of Dutch internet sales were delivered to petrol stations in 2006. Fasanghari et al. (2008) found that customer satisfaction surveys determine an online store's success. The study's main goals include solving these issues, creating accurate customer satisfaction measures, and using this data. Erin and her colleagues (2008) examined logistics' ability to satisfy customers via excellent service. Logistical vendor quality, happiness, and dedication are measured. Kassim and Abdullah (2010) examined Malaysian and Qatari e-commerce service quality, consumer pleasure, trust, and loyalty. Service quality affects consumer happiness, research shows. Sheng and Liu et al. (2010) examined how e-service quality affects digital consumer satisfaction and loyalty. Online retailers are in trouble. The article discusses keeping consumers satisfied. Eid (2011) analyzed online retailer consumer satisfaction, loyalty, and trust. This study examines how internet firms maintain customers despite the extensive usage of B2C e-commerce platforms. In 2015, Sharma and Lijuan indicated e-commerce website performance and online platform support. Information access speed and accuracy negatively affect consumer enjoyment and e-commerce platform performance. Sobiha et al. (2015) examined how good customer service experiences affect online purchase loyalty. Internet and e-commerce enable worldwide company growth. Studying Gen-Z's online shopping understands young people perceptions in new business context. Khan (2016) recommended increased trade security advertising as international commerce and business become increasingly Internet- and smart-mobile-based. Online shopping requires honesty. E-commerce may improve customer service, boost sales, and provide companies with a competitive edge. Classroom inquiry help. E-logistics services have increased client satisfaction in the current industrial period, according to Imran et al. (2019). There has been a lot of research done on e-logistics and satisfied customers. The study on e-logistics increased user's knowledge. Ezura and Jalil (2019) online sales rose considerably. Customers are a priority for firms that operate online. Customers are more likely to remain loyal to online shops that provide excellent customer service, transparent return policies, and user-friendly processes for ongoing purchases.

2.2.3. The past studies in the relationship between E-logistic and loyalty

Supply chain management and logistics literature says consumer loyalty affects organizations financially and socially (Mimouni-Chaabane & Volle, 2010). Market share rises when customers spend more (Ngobo, 2017). Repeat customers may indicate excellent service (Cooil et al., 2007; Gustafsson, 2005). Found (Zeithami et al., 1996). Improved logistical efficiency (Hartono et al., 2017). Logistics improvements benefit products and consumers. According to Aktepe and Kaura (2015), logistical effectiveness improves customer satisfaction. Online merchants' logistics services help retain customers, according to various research (Bhavsar et al., 2020; Kim et al., 2013; Bouzaabia et al., 2013; Davis & Mentzer, 2006).

Loyalty is more important than new business in today's competitive industry. Soh et al. (2015) found that customer retention is cheaper and faster than customer acquisition. Company performance depends on consumer involvement (Jang and Kim, 2012). Products with value attract customers (Soh et al., 2015). Success depends on consumer loyalty. Jang and Kim (2012) say logistics is one of the finest strategies to build customer loyalty. A logistics study (Stank et al., 1999) shows that product availability, delivery status, dependability, speed, and associated aspects like communication and response time significantly affect consumer pleasure and loyalty. Logistics quality affects customer loyalty (Fernandes et al., 2018). Logistics service quality influences customer loyalty in two ways (Rachmawati & Agus, 2020).

Customer satisfaction boosts repeat business. It helps retain customers. Top-notch service yields repeat clients and referrals (Zeithaml, Berry, & Pasuraman, 1996). Kuo et al. (2009) and Gil et al. (2008) found that satisfied customers return. They returned due to outstanding treatment. Client-business contact is evident. Service boosts business. Your service wins more consumers (Kaura et el., 2015). Another survey verified happy consumers' loyalty. Five hundred and forty-two (542) department store customers (Sivadas & Baker-Prewitt, 2000), five hundred and five (505) Turkish supermarket customers (Kitapci et al., 2013), and five hundred (Bei & Chiao, 2006) participated in indirect impact models that examined how customer satisfaction affects relationships. Service providers are responsive, trustworthy, confident, and

compassionate, according to these surveys. Consumers value work ethic. Many research suggest brand loyalty increases (Bei & Chiao, 2006; Sobihah et al., 2015; Kitapci, 2013; Sivadas & Baker-Prewitt, 2000).

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CHAPTER 3

RESEARCH METHODOLOGY

In this chapter, we aim to provide a comprehensive overview of the theoretical framework and methodologies employed in the study. We will delve into the intricate details of each approach, meticulously presenting their structure, rationale, and thorough explanations. By doing so, we aim to equip readers with a comprehensive understanding of the theoretical underpinnings and techniques utilized throughout this research endeavor.

3.1. THEORETICAL FRAMEWORK

3.1.1. Research framework

This framework provides a theoretical basis for doing the research. Reading the aforementioned literature on the topic of logistics service quality, customer satisfaction, and loyalty was the first step in getting ready to present the topic of the study. This laid the groundwork for the development of a practical theoretical framework and method of study. After that, we utilized what we learned to make choices regarding our study's aims, sample size, stakeholder involvement, questionnaire design, and logistics for conducting a pilot survey to gather primary data. These choices were taken in light of the established theoretical basis and deterministic model. Combining the results of the roundtable discussion with those of existing studies on the connection between logistical service quality, customer satisfaction, and customer loyalty will yield research findings that may be used in the development of an approach to a viable solution (Figure 3.1).
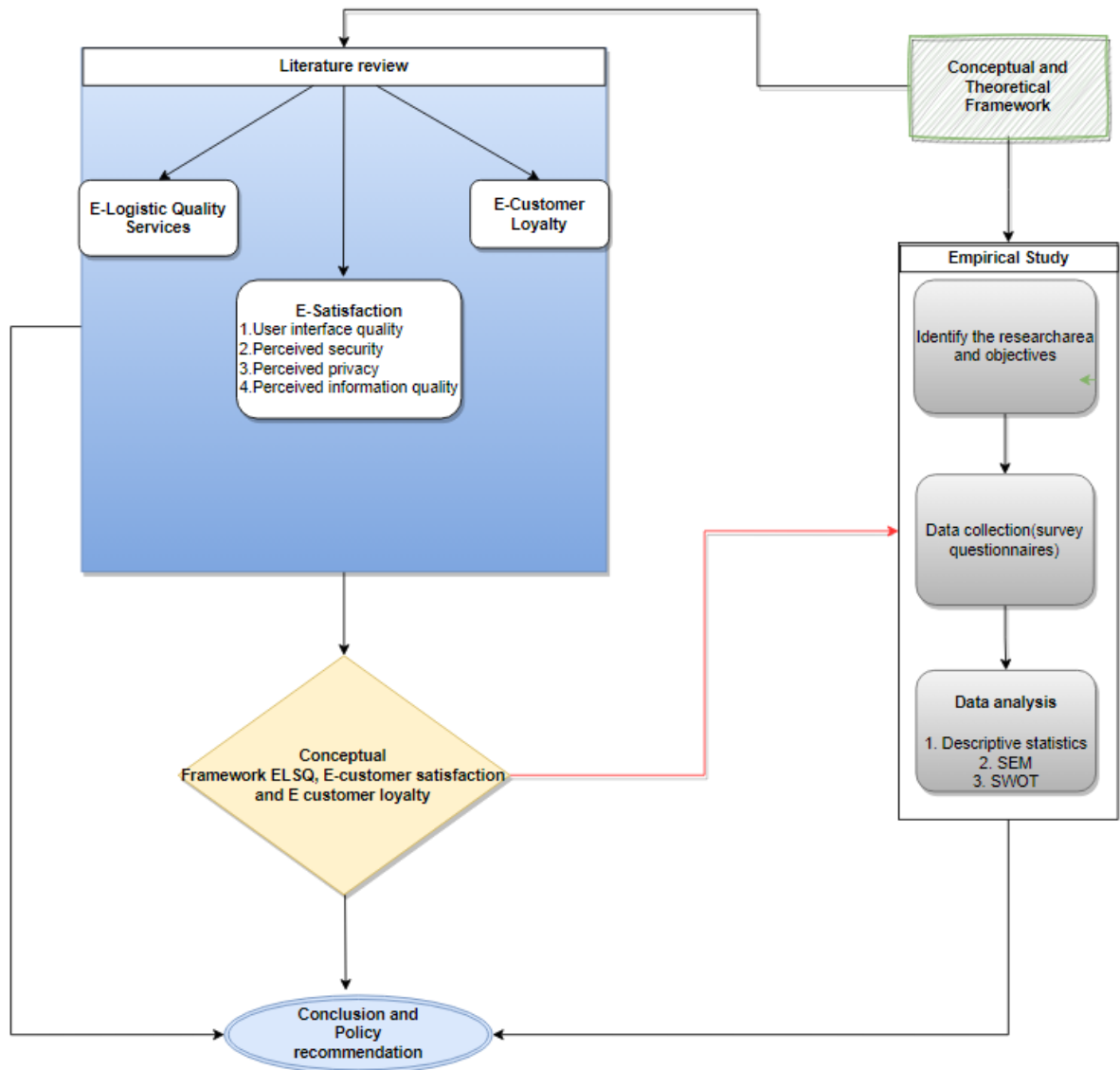
Figure 3. 1 : Research Framework

3.1.2. Hypothetical conceptual framework

3.1.2.1. Conceptual framework

The loyalty of Gen Z customers is analyzed by examining their satisfaction and the quality of logistic services when engaging in online shopping.

Customer satisfaction is regarded as a vital measure for businesses and signifies the trust customers place in the services they utilize. The measurement of customer satisfaction encompasses various factors, including user interface quality (Eid, 2011), perceived security (Eid, 2011; Chang & Chen, 2009), perceived privacy (Eid, 2011), and perceived information quality (Park & Kim, 2003). Customer satisfaction results

from the purchasing process and the customers' experiences with products and services. Furthermore, it is a significant process that influences customer behavior, specifically their loyalty towards the utilized products and services (Pereira et al., 2016).

Quality E-Logistics services were crucial in ensuring customer satisfaction with online transactions (Liu et al., 2008), which in turn influenced customer loyalty (Bouzaabia et al., 2013). Consumers who have a negative impression of e-logistics services are less likely to make repeat purchases and more likely to report feeling uneasy about making large purchases in the future, according to research by Rao et al. (2011). The results of the study confirmed this. As a result, consumers have less faith in the products and are less committed to the brand as a whole. Multiple research (Cao et al., 2018; Huseyinoglu et al., 2018; Koufteros et al., 2014; Murfield et al., 2017) have shown that retailers place a premium on the quality of electronic services provided by LSPs after a transaction has been made. Customer satisfaction and loyalty may also be affected by the quality of the e-logistics service provided, according to studies by Murfield et al. (2017) and Rao et al. (2011).

3.1.2.2. Research hypotheses

Choi et al. (2013) defined customer satisfaction as consumers' overall appraisal of the product or service that they bought. E-commerce companies and consumers judged performance by customer satisfaction. Comparing expectations to performance is satisfaction. Hidayat et al. (2016) define customer satisfaction as the perceived gap between product expectations and performance after use. Thus, pleasure happens when actual performance equals or surpasses expectations and dissatisfaction occurs when it does not (Brilliant & Achyar, 2014). According to Pereira et al. (2017), unsatisfied customers are more likely to reject the present company's attempts to build a tighter connection and try to minimize their dependency on that shop. E-customer satisfaction a customer's faith in a service that makes them feel good was a significant business indicator. Customer satisfaction resulted from a customer's purchase and experience with goods and services and determined future consumer behavior, such as repurchase and loyalty (Pereira et al., 2016). When their main needs were

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addressed, online shoppers were pleased (Chow, 2015). Hult et al. (2019) contended the largest issue for online buying was customer service. "E-Customer Satisfaction" can be an important factor affecting online customer loyalty. Based on the above arguments, the study proposed the following hypothesis:

H1: E-Customer Satisfaction positively influences E - customer loyalty

E-Logistics integrates data and regulations into a single platform to display how the organization handles logistics, technology, the internet, and electronics (Imran et al., 2019). Data, technology, software, and informal rules automate supply chain logistics activities such quotation requests, shipping, warehousing, and follow-up (Gong & Kan, 2013). E-logistics reduces operational expenses, increases advertising revenue, speeds up customer service, and reduces inefficiencies (Iskandar & Ramantoko, 2017). Customer satisfaction depends on service quality (Ramanathan, 2010). A pleasant customer experience, which leads to satisfaction, helps a firm acquire and keep consumers. E-logistics customer satisfaction has numerous elements. Customer loyalty was impacted by consumer satisfaction with online transactions (Bouzaabia et al., 2013), which in turn was dependent on high-quality e-logistics services (Liu et al., 2008). According to a study by Rao et al. (2011), consumers who have an unfavorable opinion of e-logistics services are less likely to make repeat purchases and more likely to report feeling anxious about making significant purchases in the future. The study's findings supported this. Consumers thus have less confidence in the goods and are less dedicated to the brand as a whole. Research from many sources (Cao et al., 2018; Huseyinoglu et al., 2018; Koufteros et al., 2014; Murfield et al., 2017) has shown that retailers put a high value on the quality of electronic services offered by LSPs after a transaction has been completed. Studies by Murfield et al. (2017) and Rao et al. (2011) suggest that the caliber of the e-logistics service offered may also have an impact on customer satisfaction and loyalty. "E-Logistics Quality" plays a significant role in influencing both online customer satisfaction and online customer loyalty. Taking into consideration the points mentioned above, the research puts forward the subsequent hypothesis:

H2a: E-Logistics Quality positively influences E - customer satisfaction

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Gummerus et al. (2004) identified effective user interfaces and online enterprises' knowledge. Brilliant and Achyar (2014) (citing Gummerus et al., 2004) mentioned online user interfaces enhance customer-seller relations. Ethier et al. (2006) discovered that improving online customers' "environment" via the website's interface (the seller's "atmosphere") boosts sales. Thus, online users' satisfaction requires search ability, engagement, organization, and simplicity of navigation. A good website has straightforward navigation, nice aesthetics, intelligible information, and quick page loading. Zhang and von Dran (2001a, 2001b) emphasized cleanliness for online shoppers. Liang and Lai (2000) said promotion, cleanliness, and media influence website quality. Hygiene protects consumers during transactions, while promotions make the site enticing. Multimedia enhances data presentation. Researchers assessed websites using different criteria. These measures include checking website content, presentation, customer-supplier interactions, search mechanisms, security, technical features, diverse media, and many other factors (Zhang & von Dran, 2000; Grandon & Ranganathan, 2001; Koufaris et al, 2001). "User Interface Quality" as a key determinant impacting online customer satisfaction. It is presented the following hypothesis:

H3: User interface quality positively influences E - customer satisfaction

"Perceived Security" (PS) of e-commerce websites is the "customer's perception of security for the entire transaction (including payment methods) and mechanisms for storing and transmitting all personal information" (Chang and Chen, 2009, p.412). Due to the increased risk of transferring sensitive information like credit card information via e-commerce sites, inadequate security measures deter prospective online shoppers. Online clients worry most about transaction security since their personal information is at danger (Brilliant & Achyar, 2014). Consumer security assumptions affect online purchasing intention. Web security may affect customer risk behavior (Al-Adwan et al., 2018). Jin and Park (2006) say consumer pleasure requires security knowledge. Online consumers appreciate secure websites. E-commerce website security may boost client trust and happiness. Full encryption,

digital signatures, and third-party authentication may scientifically assure EC transaction security (Bhimani, 1996), but recent research reveals that consumers' online security perception is still a challenging challenge to tackle. There is limited study on consumer perception of internet security (Lee & Turban, 2001). Consumer security worries continue despite vendor security enforcement. PS research also suggests that educating electronic system users about security is vital.

H4: Perceived Security positively influences E - customer satisfaction

Yousafzai et al. (2003) defined "perceived privacy" (PP) as consumers' capacity to manage and monitor their data. To keep clients' internet trade data private, customers' confidential data is secured from future misuse by the firm (Mekovec & Hutinski, 2012). Westin and Clark (1968) showed perceived privacy as consumers knowing their personal information is protected from intrusion. Security and privacy impact customer satisfaction (Gummerus et al., 2004). Technology areas have explored privacy awareness. To maintain privacy, online shoppers submit payment card and other personal information (Belanger et al., 2002). The literature examines customers' online data security concerns. Internet companies desire secondary data control. Belanger et al. (2002, p. 249) said consumers worry about secondary data use since they have little control over whether their voluntarily online data is shared. Thus, internet privacy protects customer data. Sadeh et al. (2011) and Eid (2011) proved PP impacts customer satisfaction. Websites and shopping applications with privacy features satisfy customers. E-commerce success depends on consumer privacy. From the above arguments, the factor of perceived privacy can propose the hypothesis that:

H5: Perceived Privacy positively influences online customer satisfaction.

According to Nicolaou and McKnight (2006), p. 335, "the user's perception of the information's reliability, accuracy, completeness, and relevance constitutes its perceived quality". Park and Kim (2003) indicated perceived information quality as users' views of a website's service or product information. Users' information, service, and function expectations determine a website's quality. Study showed information system properties impact service quality ratings. Data quality (Lee et al., 2002; Wang

& Strong, 1996), information quality (Bovee, 2004), and "information integrity" (Boritz, 2004) are some of these criteria. "Perceived information quality" relates to consumers' views of an online storefront's data accuracy and timeliness. Kim and Niehm (2009) found that website content affects consumers' views of a firm. Online shoppers and service users utilize the website's information to assess product and service quality (Wang & Strong 1996). High-quality website content is crucial (Szymanski & Hise, 2000). Users get incorrect judgments from information gaps (Lukyanenko et al., 2019; 2014). The platform's information may turn consumers off. Unreliable or missing data may impair customer satisfaction (Kaplan et al., 2010; Wang et al., 1995). Hsu et al. (2018) discovered that accessible data availability makes online buyers happy. Yuan et al. (2013) discovered that better information makes online customers happy. Sadeh et al. (2011) discovered website usability is key to success. Online shops with reliable information will please clients. Therefore, based on the above arguments, the hypothesis of perceived information quality is proposed:

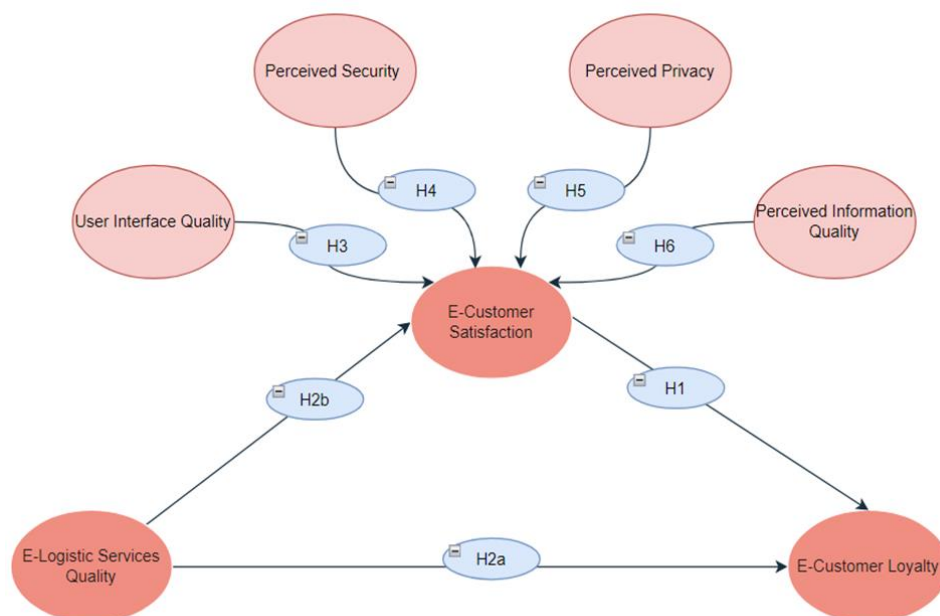*H6: Perceived information quality positively influences E - customer satisfaction*

Figure 3. 2: Initial research hypothesis

The structural model is evaluated to establish the nature of the relationship between the quality of logistic services (ELQ) and customer satisfaction (OCS) and loyalty (OCL) in online customers. The SPSS 24.0 and AMOS 24.0 software packages are utilized to process the collected data.

3.2. QUESTIONNAIRES DEVELOPMENT AND DATA COLLECTION

3.2.1. Methods of data collection

The main purpose of this study is to determine the influence of logistic service quality on the satisfaction and loyalty of online customers in the Mekong Delta, Vietnam. A structured questionnaire was used to collect data from 631 citizens residing in both urban and rural areas of the Mekong Delta. Purposeful sampling was employed to select respondents who possessed deep knowledge and involvement in implementing and developing strategies related to online shopping issues. All respondents selected had previous experience in online shopping on e-commerce platforms. Walk-ins were monitored through QR code-based data collection from 8th May 2023 to 8th June 2023. After data collection, the questionnaire was retrieved with a 96% response rate, which was considered suitable for data analysis. The questionnaire consisted of two parts, with the first part addressing control variables. The control variables included gender, age, education level, and region. The second part was assessed on a five-point Likert scale (1=strongly disagree to 5=strongly agree) and referred to 38 items used to measure the impact of various factors on the satisfaction and loyalty of Gen Z customers, based on previous studies (Eid, 2011; Chang & Chen, 2009). These items were categorized into the following dimensions: logistic service quality (14 items), user interface quality (4 items), security awareness (4 items), privacy awareness (4 items), perceived information quality (4 items), online customer satisfaction (4 items), and online customer loyalty (4 items).

Table 3. 1: Items of factors on Gen Z customer satisfaction and loyalty

Factor	Items	Code	Source
E-Logistics service quality	Packaging quality	ELQ 1	Eid (2011) and Chang and Chen (2009)
	Delivery staff service attitude	ELQ 2	
	Up-to-date information	ELQ 3	
	Convenient service 24/7	ELQ 4	
	Compared to traditional retailers, e-commerce has/had satisfied the needs	ELQ 5	
	Satisfaction with unique needs	ELQ 6	
	Receive the right product at the right time	ELQ 7	
	Trace transporting process and timely informed him/her	ELQ 8	
	Availabilities of message areas for customers to make comments and suggestions	ELQ 9	
	Safe and secure	ELQ 10	
	Knowledge to answer all queries	ELQ 11	
	Readiness to respond to customer's inquiries	ELQ 12	
	Customized the product/service for a specific customer	ELQ 13	
	Accurate information about the product	ELQ 14	
User interface quality	The website is easy to use	UIQ 1	Eid (2011) and Gummerus et al. (2004)
	The information on the website is attractively displayed	UIQ 2	
	The website is visually appealing	UIQ 3	
	The website does increase my search effectiveness	UIQ 4	

	The website has a mechanism to ensure the safe transmission of its users' information	PS 1	Eid (2011) and Chang and Chen (2009)
Perceived security	The website has sufficient technical capacity to ensure that the data I send cannot be modified by hackers	PS 2	
	Purchasing on the website will not cause financial risk	PS 3	
	The electronic payment on the website is safe	PS 4	
	The website abides by personal data protection laws	PP 1	Eid (2011)
Perceived privacy	The website only collects users' data that are necessary for its activity	PP 2	
	The website does not provide my personal information to others without your consent	PP 3	
	I feel safe when sending my personal information to the website	PP 4	
	The information on the website facilitates buying the products or services that it sells or markets	PIQ 1	Park and Kim (2003)
Perceived information quality	The website necessarily has to provide up-to-date product and service information	PIQ 2	
	The website provides relevant product/service information	PIQ 3	
	The website presents information that is easy to understand	PIQ 4	
Online customer satisfaction	The performance of the website meets my expectation	OCS 1	

|	The website must have sufficient experience in the marketing of the products and services that it offers	OCS 2	
	The website knows its users well enough to offer them products and services adapted to their needs	OCS 3	(Eid, 2011; Chang & Chen, 2009)
	The website must have the necessary resources to carry out its activities successfully	OCS 4	
Online customer loyalty	I will increase shopping on e-commerce platforms	OCL 1	
	I do recommend that others use electronic commerce services	OCL 2	(Eid, 2011; Chang & Chen, 2009)
	My preference for electronic commerce would not willingly change	OCL 3	
	Changing my preference for electronic commerce requires major rethinking	OCL 4	

3.2.2. Data analysis
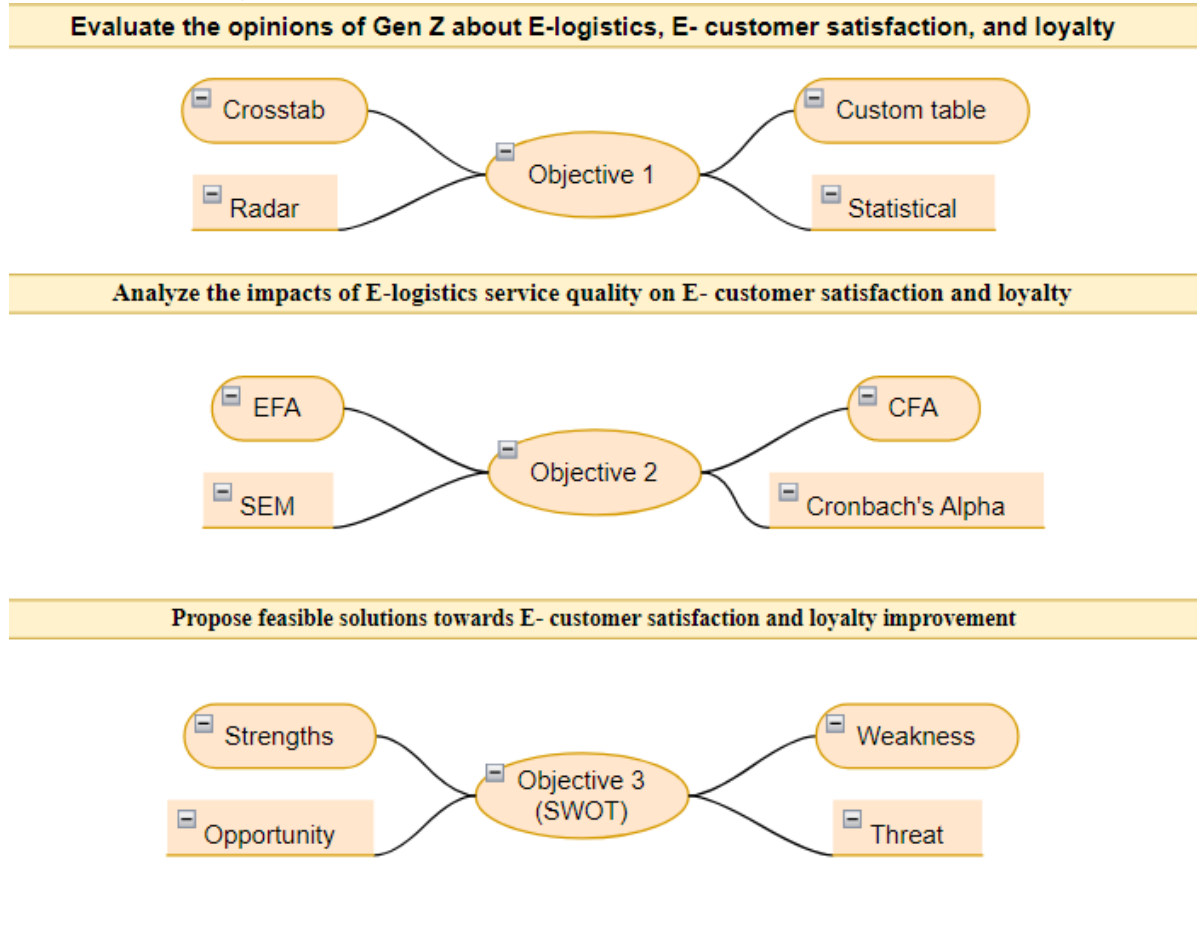
Figure 3. 3: Analytical framework

Objective 1: To evaluate the opinions of Gen Z about E-logistics, E- customer satisfaction, and loyalty

Statistical summarization encapsulates, estimates, presents, and depicts sample characteristics to achieve the first purpose. Tables and graphs provide statistical analysis, frequency distribution, percentage allocation, and narrative analysis of mean and standard deviation. The study uses maximum, minimum, and average values of the variables under consideration.

The crosstab test also determines whether the category variables are correlated. The crosstab test has been popular in economics and social sciences since the 1960s and 1970s. It analyzes two groups' interactions statistically. The chi-square test may determine the connection between two variables by examining their frequency or percentage distribution. The crosstabulation table from the chi-square test shows the

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statistical frequency relationship between the variables. Next, we'll read the most important table, the Chi-Square Tests. The two variables are related if the Pearson Chi-Square test's Asymptotic Significance (2-sided) result is less than 0.05. Sig values greater than 0.05 indicate no connection between variables, supporting the null hypothesis.

Researchers also utilize combined statistics to explain several variables and find relationships that frequency and mean cannot capture. It finds disparities in research participants' ideas, behaviors, and personalities. Custom Tables in integrated data might improve future management decisions by evaluating responder behavior.

Moreover, the research also utilizes radar charts to evaluate certain criteria in this objective. Radar charts, also known as spider charts or web charts, play a significant role in visualizing and comparing multiple variables or criteria. They are particularly beneficial when dealing with data that possess diverse dimensions or attributes. Radar charts enable the simultaneous visual comparison of multiple variables or criteria. By representing each variable as a separate axis or spoke radiating from a central point, it becomes easier to observe and compare the values associated with each variable. This allows for a quick assessment of the relative strengths and weaknesses across different entities or categories. It facilitates the identification of patterns and relationships between variables. By examining the shape and positioning of data points or lines within the chart, it becomes possible to discern distinct patterns or trends. This aids in identifying relationships and gaining insights into the similarities or differences among the variables. Moreover, radar charts effectively highlight deviations or outliers. When one or more variables significantly deviate from the average or expected values, they appear as outliers that extend beyond the typical range in the chart. This simplifies the identification and investigation of any unusual or noteworthy observations. Additionally, radar charts provide a visually appealing and concise means of presenting complex data. They offer a comprehensive overview of multiple variables in a single chart, enhancing the understanding and interpretation of the data for stakeholders, decision-makers, or audiences. The visual impact of the chart aids in effectively communicating key findings and insights. Overall, radar

charts serve as valuable tools for data analysis, comparison, and visualization. They allow for the exploration of patterns, relationships, and deviations in a concise and intuitive manner. By supporting decision-making processes and facilitating effective communication, radar charts provide a holistic view of multiple variables or criteria, contributing to informed decision-making and comprehensive data understanding.

Objective 2: To analyze the impacts of E-logistics service quality on E-customer satisfaction and loyalty

One of the most widely used measures of reliability in social science and organizational research is Cronbach's alpha reliability (Cronbach, 1951). A reliability test called Cronbach's Alpha Rule has been employed to assess the reliability, stability, and item structure of the questionnaire. As it also evaluates the internal consistency of the indices, Cronbach's alpha is a measure of "internal consistency" reliability (Cronbach, 1951). According to Nunnally (1978), a reliable scale should have a Cronbach's alpha value of 0.7 or higher. Hair et al. (2009) state that a unidimensional and reliable scale must meet the criterion of a Cronbach's alpha of 0.7 or higher, although a threshold of 0.6 is acceptable for initial exploratory investigations. The higher the Cronbach's alpha values, the more reliable the scale is considered to be.
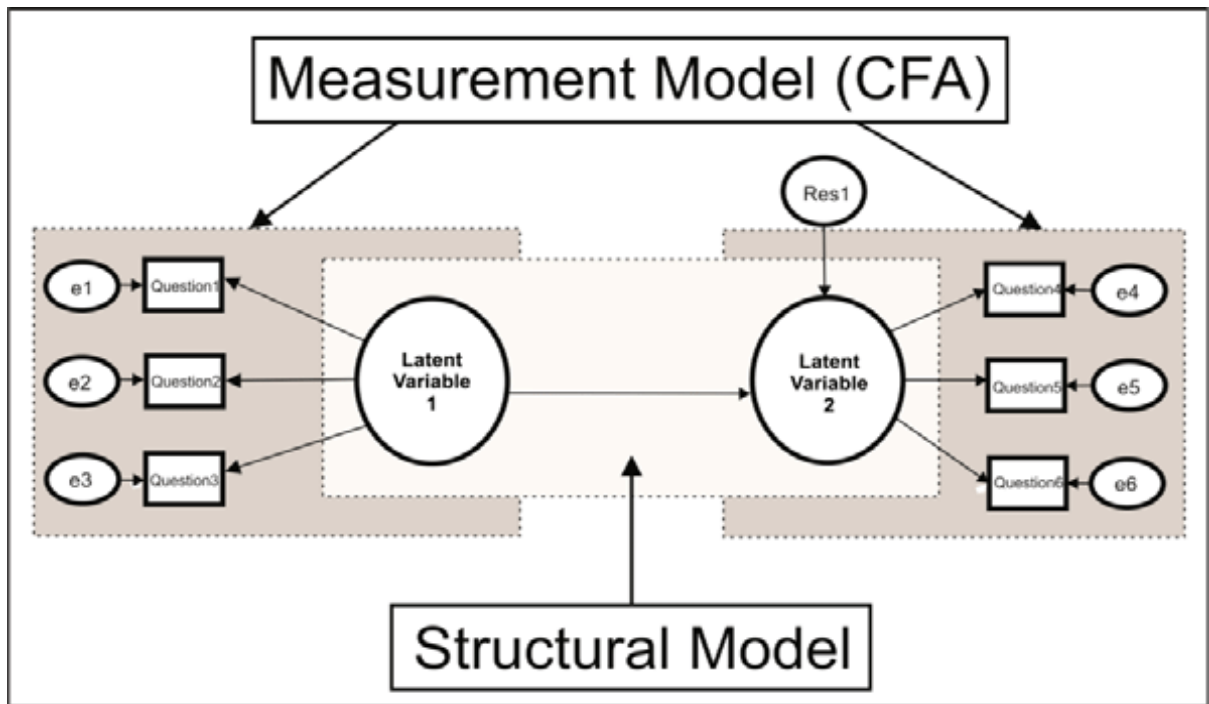
Figure 3. 4: Demarcation between measurement model and structural model

The Structural Equation Modeling (SEM) method can be traced back to the early 20th century. However, its full potential was not revealed by social scientists, particularly until the 1960s. This discovery was made in the 1960s. Based on this, Joreskog (1973) and Keesling (1972) expanded SEM into a broader concept that could be applied to all types of causal interactions. Bagozzi and Yi (1988) pioneered its use in economics, particularly in marketing research. Since then, its usage has become standard in most economic fields. The ideas of a theory, assumptions generated by the theory, observations, and measures inherent in the theory, and the formal arrangement of all these parts into a comprehensive representation constitute the structure of theory building (Bagozzi and Yi, 1998).

In this context, Structural Equation Modeling (SEM) provides a comprehensive approach to bridging the gap between philosophical and statistical traditions. It presents theoretical concepts as well as observations and applies rules to those terms. Additionally, it examines measurement error possibilities in both variables and equations. At the observed level, SEM considers manifest variables as indicators, and at the theoretical level, it takes into account unobserved, latent, or emergent variables such as theoretical structures. The relationships between structures and indicators can

be described by measurement models. These models determine how structures are evaluated by using indicators, thereby modeling the relationship between two indicators. In the structural model, equations are the "representatives" of the theoretical connections that exist between different structures. Once a theoretical model is developed, it can be tested based on real-world data. SEM is the current gold standard for multivariate statistical analysis of this process. The covariance of all considered observed variables in SEM analysis is based on covariance. This is a primary distinction compared to methods such as regression analysis that focus on the entire data set. The free parameters of all models are estimated by covariance matrices based on experience. An iterative process is used to minimize the differences between experienced covariance matrices and estimates. The main purpose of covariance-based SEM is confirmatory, as it is used to test the goodness of fit of previously established models. It requires a theoretical foundation, and its contribution to theory construction is found in the ability to assess measurement models, discriminate between different concepts, and theorize about the strength of causal relationships.

SEM is applied to theories once conceptual work has been completed to establish the nature of the relationship between latent and observed variables. Therefore, in cases where the indices fit poorly with the model, the testing of the structural model will not be guaranteed (Dursun and Kocagoz, 2010). This helps narrow the gap between the confirmatory strategy, where only one model is tested, and the exploratory approach, where several models are tried (Garetti and Taisch, 2009). Statistical such as the chi-square to degrees of freedom ratio (CMIN/DF), Tucker-Lewis Index (TLI), Goodness of Fit Index (GFI), Comparative Fit Index (CFI), and Root Mean Square Error of Approximation (RMSEA) have been included in the indices developed by Yu et al. (2013) to assess the model's fit with its data.

Finally, the structural model is evaluated to establish the nature of the relationship between the quality of logistic services (ELQ) and customer satisfaction (OCS) and loyalty (OCL) in online customers. The SPSS 26.0 and AMOS 24.0 software packages are utilized to process the collected data.

Objective 3: To propose feasible solutions towards E- customer satisfaction and loyalty improvement

In this study, the SWOT matrix was used to identify possible strategies. SWOT is an important tool for strategic planning and organizational goals. A SWOT analysis identifies, analyzes and evaluates possible internal and environmental variables and their impact. A SWOT analysis evaluates business processes in a company's strategic planning process. External factors affect product development, market segmentation and positioning, service provision, and acquisitions and sales. The internal analysis evaluates performance. Comparing and analyzing a company's past performance, key competitors, and the industry can help identify internal strategic variables. This study uses a case study technique that uses multiple data sources. We also interviewed key informants in this area in detail. The survey includes 7 external variables and 9 internal variables. Variable scales are defined using definitions. Strategists can formulate and evaluate different strategies by making modest judgments in the input matrix about the relative relevance of external and internal components (David, 2011)

CHAPTER 4

RESULTS AND DISCUSSION

This chapter will comprehensively examine and elucidate the outcomes and discoveries derived from the meticulous collection and rigorous analysis of data. It shall intricately portray the intricate interplay of perceptions and intricate correlations encompassing logistics service quality, the gratification experienced by online customers, and their enduring loyalty, and furthermore, expound upon strategically formulated remedies and resolutions to optimize and harmonize the dynamics of these aforementioned pivotal factors.

4.1. URBAN AND RURAL GEN Z SHOPPER'S OPINION ABOUT E-LOGISTICS, E- CUSTOMER SATISFACTION AND LOYALTY

Table 4.1 displays basic information of Gen Z shoppers for online shopping. There was a wide range of data pertaining to them. First, 55.9% of the respondents were female and 44.1% were male. Second, although the majority of Gen Z consumers in urban area do this kind of research (72.7%), just a minority of those in rural areas (27.3%). Third, there was a large disparity in the marital status of Gen Z consumers: 98.7% were single (including those who were dating) whereas just 1.3% were married. Fourth, the most striking aspect of the data is that 91.0% of Gen Z customers had a university degree, while just 5.2% and 3.5% had a high school and college level. Higher education is seen as crucial to a brighter future and more job prospects by members of Generation Z. This indicates that they are quite active and need more time for conventional shopping. E-logistics services are well adapted to meet the needs of Generation Z shoppers, who value expediency and versatility when making purchases online. They prefer shopping online since it saves them time and provides them with dependable, prompt delivery. In addition, members of this generation understand the importance of budgeting and saving money, so when they buy, they actively seek deals and discounts. Finally, the largest percentage in major of Gen Z, original professional is business, with 31.9%. About half of it comes from the language and service (Hospitality and Tourism) industries at 15.7% and 14.3%,

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respectively. E-commerce companies need to adapt their goods and services, as well as their marketing and sales approaches, to appeal to and meet the needs of the increasingly diversified consumers of today.

Table 4. 1: Demographic characteristics of Gen-Z

Description	Quantity	Percentage (%)
Gender		
Male	278	44.1
Female	353	55.9
Area		
Urban	459	72.7
Rural	172	27.3
Relationship status		
Single	406	64.3
Dating	217	34.4
Married	8	1.3
Education		
High school	33	5.2
College	22	3.5
University	574	91.0
Others	2	0.3
Major		
Business	201	31.9
Service (Hospitality and Tourism)	90	14.3
Information Technology	132	20.9
Language	99	15.7
Others	76	12.0

Source: Field Survey Data, 2023

Figure 4.1 displays a comparison of popular online purchasing sites of rural and urban Gen Z shoppers. The results of the Custom Tables by pearson chi-square test (Appendix 1) revealed significant differences among the online purchasing sites with Sig value = 0.017 less than 0.05. E-commerce platforms are the most popular among members of Gen- Z with commodity category diversity while social media and brand websites are limited in their product selection and search options. In e-commerce platforms, customers can readily access hundreds of thousands of items across countless brands and easily compare costs across several suppliers, all from the

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comfort of their own homes, on a variety of e-commerce platforms. E-commerce platforms will provide shoppers with greater protections and benefits than social media shopping. Therefore, it's likely that when Gen Z consumers make an online transaction, they invariably use an e-commerce site.
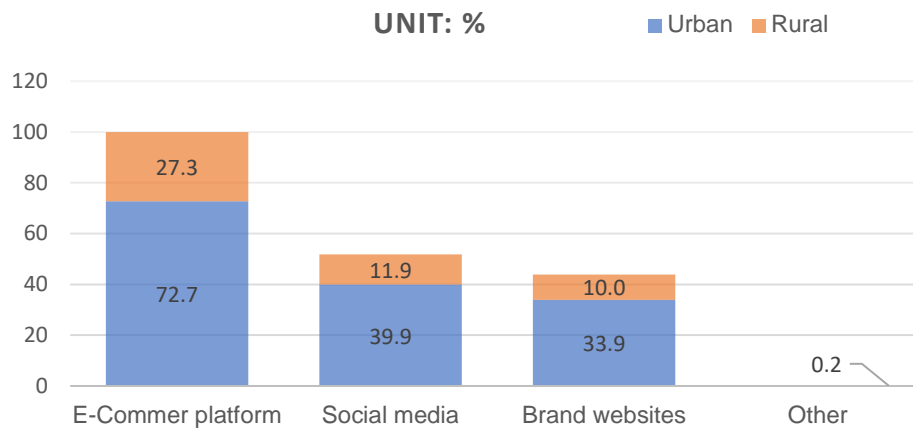

UNIT: % ■ Urban ■ Rural

	Urban	Rural
E-Commer platform	72.7	27.3
Social media	39.9	11.9
Brand websites	33.9	10.0
Other		0.2

Figure 4. 1: Popular platforms in online shopping

In urban and rural regions, Gen- Z uses Shopee and TikTok Shop the most for e-commerce (Figure 4.2). Shopee often offers deals, discounts, and other enticements. Customers may save money with competitive pricing for product diversity (clothes, gadgets, food, and toiletries). Shopee also offers safe payments, provides a buyer protection program for returns and exchanges with fast shipping partners. Depending on delivery method and area, buyers may get their items in a few days. However, Shopee faces e-commerce competition from TikTok Shop. TikTok Shop improves TikTok's online shopping experience. Short videos and other material on TikTok promote brands. Shopee has a search bar, customer reviews, secure payment processing, and live chat help. Both platforms provide something for everyone, but they don't have the same variety or service. In particular, shopee has delivery network spread over Vietnam.
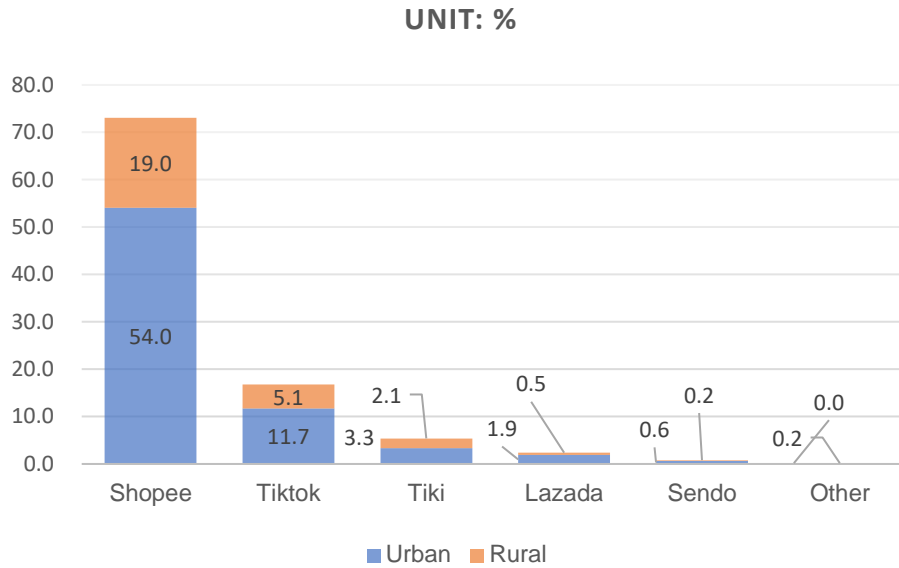
39

UNIT: %

Figure 4. 2: Popular e-commerce platforms in online shopping

Figure 4.3 reflects how Gen Z shopper approaches the first time online shopping. Overall, Gen Z purchases online early in urban and rural areas. Over 5-year group is the highest proportion approximately 25.5%, the second position is one-three year group about 25.3% and follows by the three-five-year group accounting for 23.5%. Thus, the Gen Z shopper group bought online 3-5 years ago made up approximately 50%. Gen Z can access internet-connected device quickly like smartphones or tablets anytime, anywhere. This created favorable conditions for Gen Z to maintain online shopping earlier and frequently.
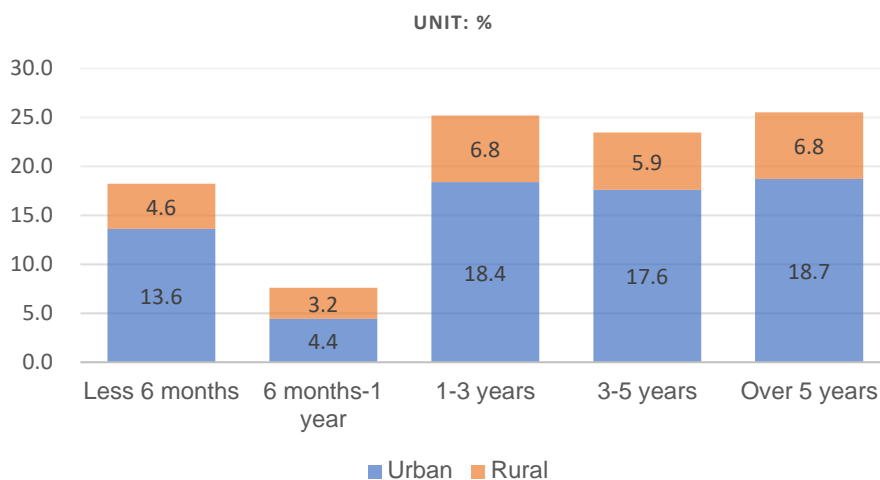
UNIT: %

Figure 4. 3: First time approach for online shopping

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Figure 4.4 presents the spending time of Gen-Z shopping online. The results show a significant difference in rural and urban Gen Z shopper's opinions related to spending time per month for online shopping by the Crosstabs analysis with Sig = 0.014 (Appendix 2). In general, Gen-Z in urban and rural areas spends time to shop online 3-6 times/month (Occasionally) approximately 48.6%, and less than 3 times/month (rarely) about 35.5%. Gen-Z is typically youngster in school, working part-time, or starting a profession. They have limited income and budget. Thus, they are limited their expenditure to purchase online products more frequently.
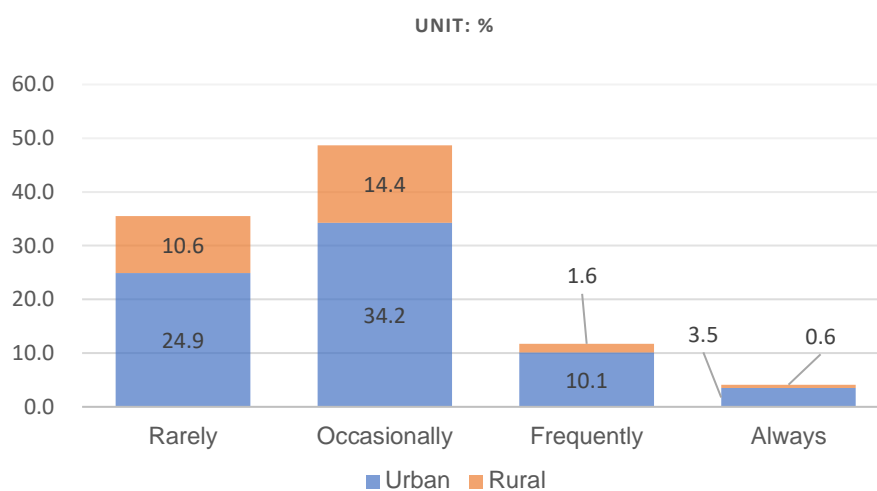
Figure 4. 4: Spending time per month for online shopping

In Figure 4.5, there is a difference in spending money for online shopping. The finding indicates a significant difference in rural and urban Gen Z shopper's ideas associated with spending money per month for online shopping by the Crosstabs analysis with Sig = 0.03 (Appendix 3). The spending percentage of Gen-Z shoppers in rural area are less than 500,000 VND/month (13.3%). This number of Gen-Z shoppers in urban area are 500,000 - 2 million VND/month (35.5%). This shows that Gen-Z shoppers in urban area spend money on online shopping more than those in rural areas.

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Figure 4. 5: Spending money per month for online shopping
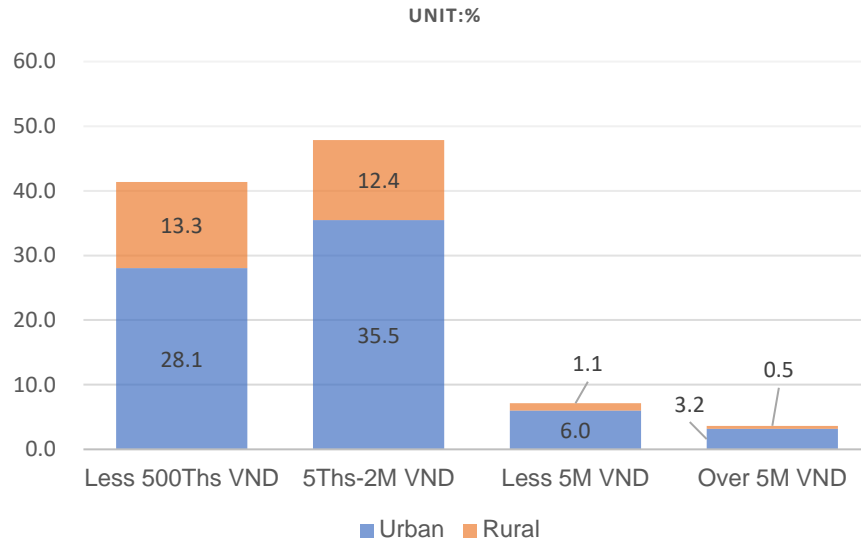
The bar chart 4.6 indicates that the average time spent online shopping per day among members of Gen Z is under two hours, focusing on less than one hour. This suggests that Gen Z shoppers don't devote a lot of time to shop online as well as search commodity information.
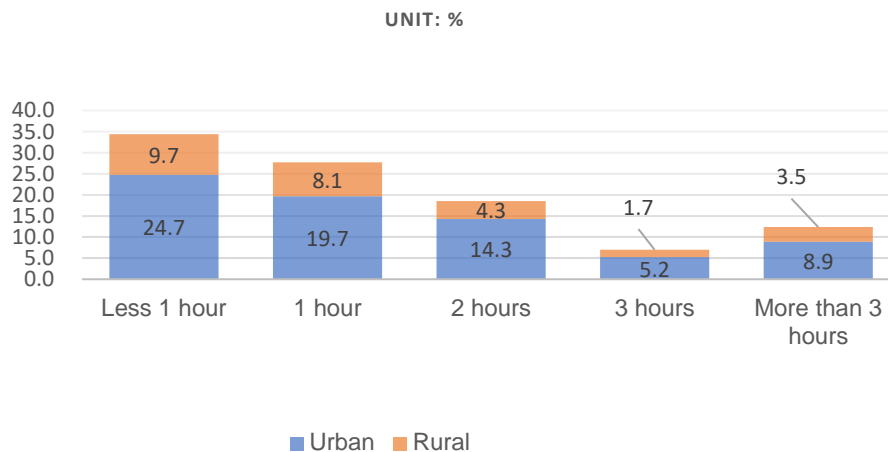
Figure 4. 6: Spending time for every-time purchasing online shopping

Figure 4.7 shows that the online consumption trends of both rural and urban Gen Z are focused on commodity category such as fashion clothing, health and beauty care, food and beverage with the percentage being 84.6%, 61.2%, and 40.1%, respectively. This is reason why the website of the e-commerce platform is designed to show the main products (fashion clothing, health and beauty care, food, and beverage). Gen Z

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shopper is target customers of e-commerce platforms. The analysis result of the Custom Tables by pearson chi-square test with sig = 0.000 (Appendix 4) showed significant disparity in rural and urban Gen Z shopper's shares about popular product and service category for online shopping.
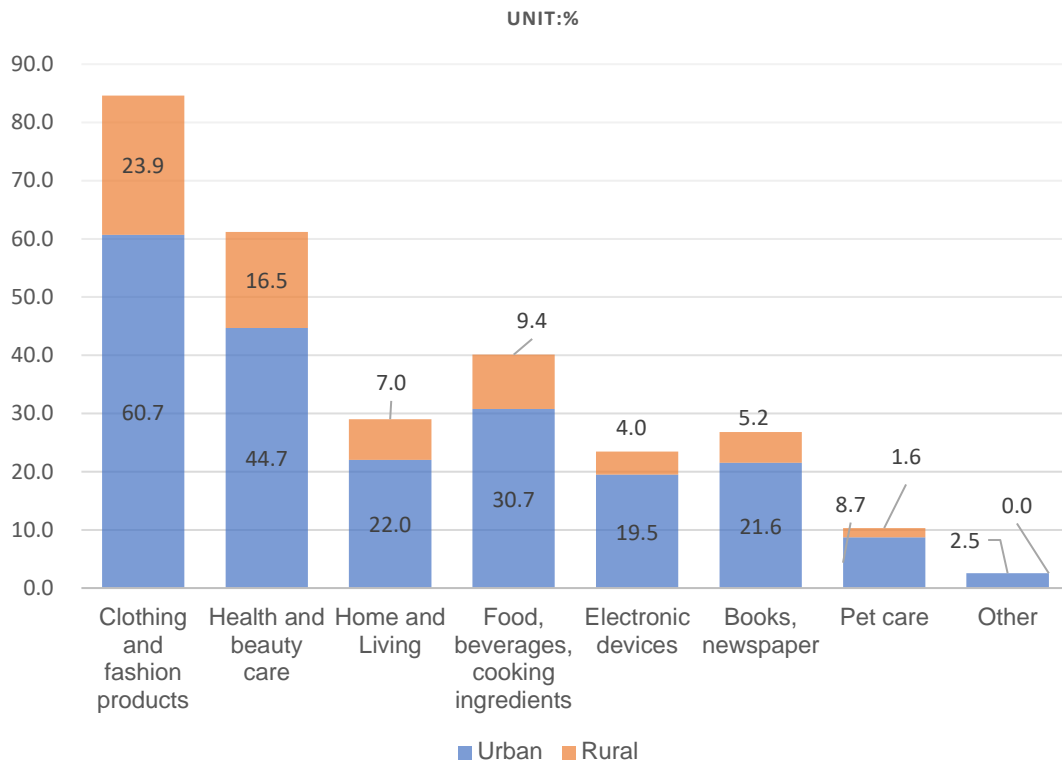
Figure 4. 7: Popular product/service category for online shopping

The radar chart (Figure 4.8) provides information on opinions of Gen-Z shopper about E-logistics quality (ELQ). Generally, rural Gen Z shopper was greater in the item of ELQ from "convenient service 24/7" (ELQ4), "Satisfaction with unique needs" ELQ6, "the safety and security" (ELQ10), and "Accurate information about the product" (ELQ14) than urban Gen Z shopper. By contrast, urban Gen Z shoppers evaluated "Customized the product/service for a specific customer" (ELQ13) higher than rural ones. Urban and rural Gen Z shopper groups are similar in that they are the same ideas on the items of ELQ1, ELQ2, ELQ3, ELQ5, ELQ7, ELQ8, ELQ9, ELQ11, and ELQ12, in which the item "Trace transporting process and timely informed him/her" (ELQ8) was evaluated the highest in all items of ELQ.

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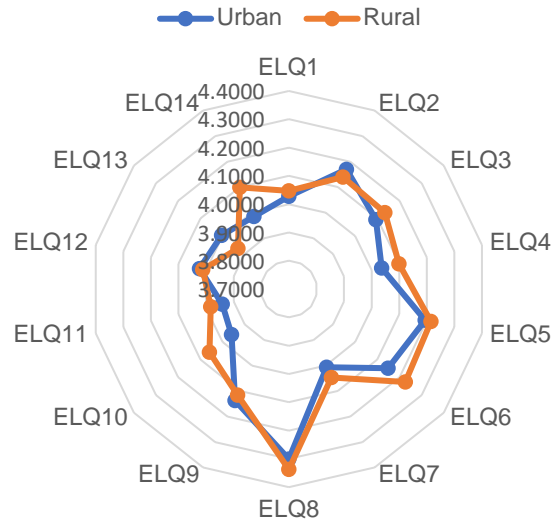
Figure 4. 8: Opinions of Gen-Z shoppers about E-logistics quality

Figure 4.9 demonstrates the ideas of Gen-Z shoppers related to user interface quality (UIQ). There was a considerable disparity in the evaluation of urban and rural Gen-Z shopper categories. Rural Gen-Z shopper category had the higher score in components of "the information on the website is attractively displayed" (UIQ2) and "the website is visually appealing" (UIQ3) while Urban Gen-Z shopper category was interested in "the website is easy to use" (UIQ1) and "the website does increase my search effectiveness" (UIQ4). The findings showed that rural Gen-Z shopper focuses on website interface and urban Gen-Z shopper concerns in website efficiency.

Figure 4. 9: Opinions of Gen-Z shoppers about user interface quality

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For the perceived security factor (PS) in Figure 4.10, rural Gen-Z shoppers profile continues to show their evaluation greater than urban ones in items "The website has a mechanism to ensure the safe transmission of its users' information" (PS1), "The website has sufficient technical capacity to ensure that the data I send cannot be modified by hackers" (PS2) and " Purchasing on the website will not cause financial risk" (PS3). The item of "The electronic pa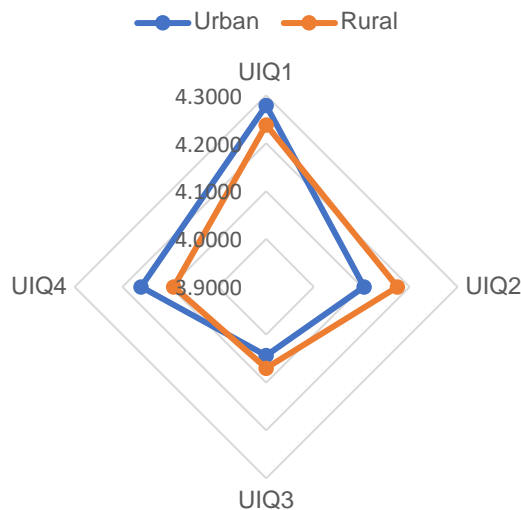yment on the website is safe" (PS4) witnessed a similar opinion in both urban and rural areas. The result indicated that urban Gen-Z shopper profile had security requirements stricter than rural ones.
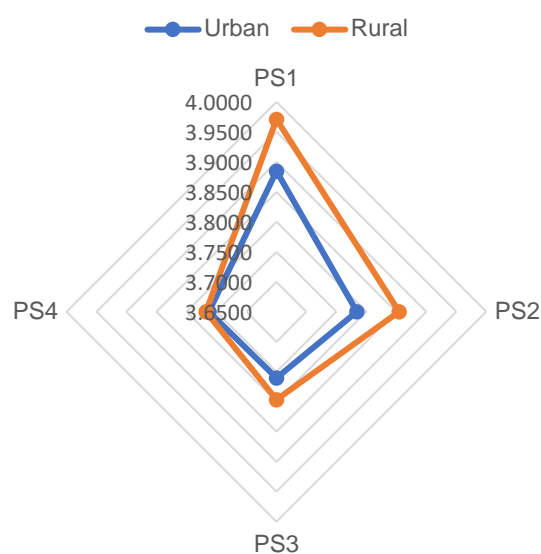
Figure 4. 10: Opinions of Gen-Z shoppers about perceived security

Similarly to perceived security factor (PS), in the perceived privacy (PP) factor (Figure 4.11), urban Gen-Z shoppers group required personal information security measures more rigorously than rural one. More specific, urban Gen-Z shoppers group evaluated the elements of "The website abides by personal data protection laws" (PP1), "The website only collects users' data that are necessary for its activity" (PP2), and "I feel safe when sending my personal information to the website" (PP4) less than rural one. The similar opinion "The website does not provide my personal information to others without your consent" (PP3) between urban and rural groups.

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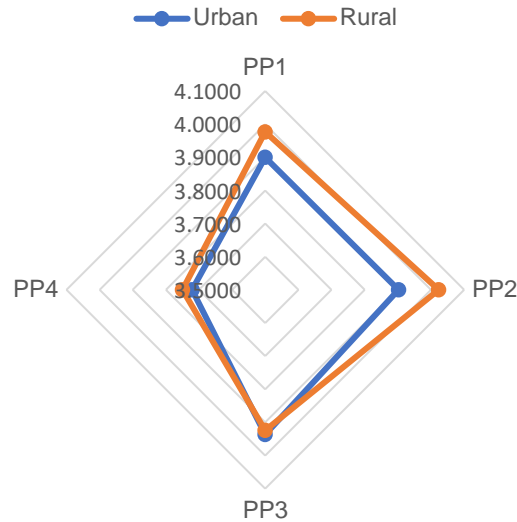
Figure 4. 11: Opinions of Gen-Z shoppers about perceived privacy

The radar chart 4.12 provides information about perceived information quality (PIQ), in which "The website provides relevant product/service information" (PIQ3) and "The website presents information that is easy to understand" (PIQ4) are the same ideas. There is a significant difference in "The information on the website facilitates buying the products or services that it sells or markets" (PIQ1) and "The website necessarily has to provide up-to-date product and service information" (PIQ2). Urban Gen-Z shopper appreciates PIQ1 whereas PIQ2 plays important role in rural Gen-Z shopper evaluation.
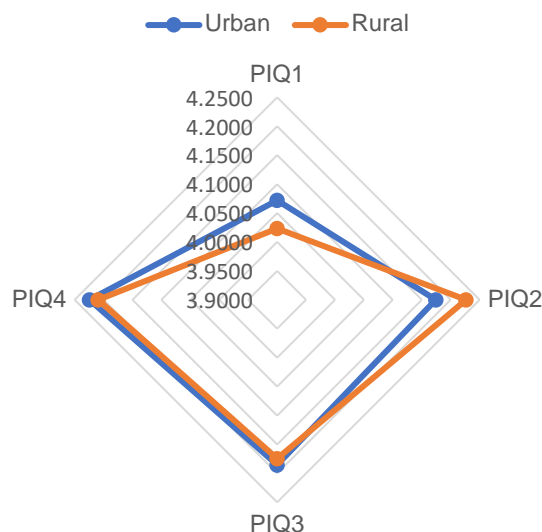
Figure 4. 12: Opinions of Gen-Z shoppers about perceived information quality

Information on online shopping satisfaction (OCS) from urban and rural Gen-Z shopper groups, shares is presented in Figure 4.13. Although, there is no significant difference in the items of "The website must have sufficient experience in the marketing of the products and services that it offers" (OCS2) and "The website must have the necessary resources to carry out its activities successfully" (OCS4) in urban and rural Gen-Z shopper's opinions, urban Gen-Z shopper group shows higher satisfaction level in the elements of "The performance of the website meets my expectation" (OCS1) and "The website knows its users well enough to offer them products and services adapted to their needs" (OCS3). As a result, urban Gen-Z shopper have higher expectations for the site's performance and expect a smooth, fast, and glitch-free experience. Gen Z in urban areas is quite flexible in finding products and services online. They can use many different websites and apps to compare and choose depending on performance and user experience. Therefore, website performance plays an important role in shopping decisions and creating satisfaction for urban Gen Z.
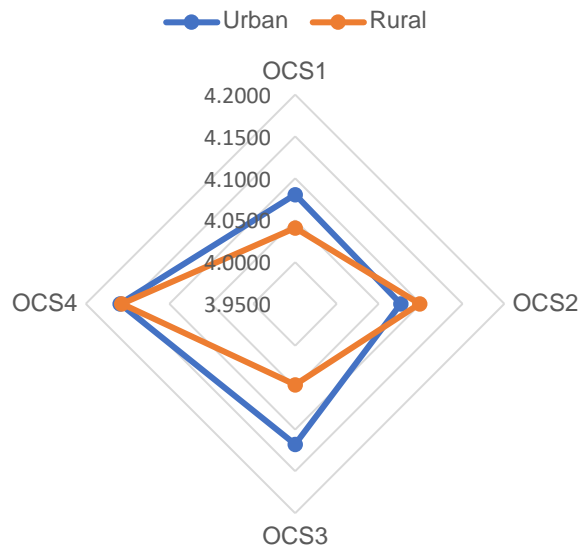
Figure 4. 13: Opinions of Gen-Z shoppers about satisfaction

In general, there is a disparity in awareness about online shopping loyalty (Figure 14). Rural Gen Z shopper category had the highest loyalty score in all components of "I will increase shopping on e-commerce platforms" (OCL1), "I do recommend that others use electronic commerce services" (OCL2), and "Changing my preference for electronic commerce requires major rethinking" (OCL4) compared to urban Gen Z

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shopper category. In particular, the largest difference is "My preference for electronic commerce would not willingly change" (OCL3). In rural area, e-logistics service is limited and Gen Z shoppers do not have several options. This leads to them use usually a few providers. Finding and testing new suppliers can be difficult and time consuming for rural consumers. As a result, they often maintain a relationship with a reliable e-logistics service provider that has served them well in the past. The loyalty level of the rural Gen Z shopper category was higher than urban one.
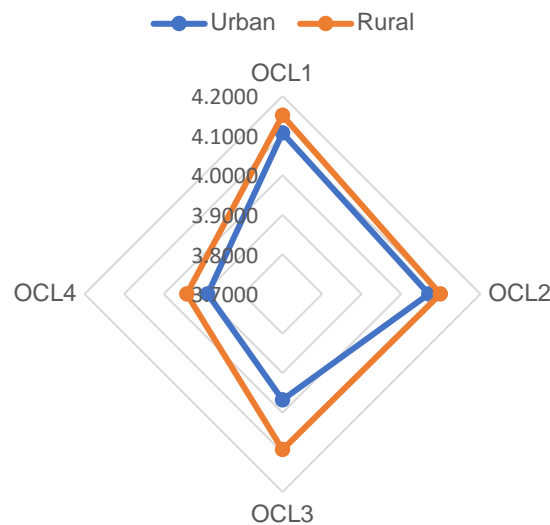
Figure 4. 14: Opinions of Gen-Z shoppers about loyalty

4.2. IMPACT OF E-LOGISTICS SERVICE QUALITY ON E-CUSTOMER SATISFACTION AND LOYALTY

Structural equation modeling (SEM) and other recent statistical approaches were used to determine the connections between variables (Wang and Rhemtulla, 2021). The assumptions were tested using SEM performed in AMOS.24. To ensure validity and reliability, a confirmatory factor analysis (CFA) was performed. Cronbach's alpha Table 4.2 provides a summary of load intervals and confidence estimates for each construct, including logistics service quality (0.910), customer satisfaction (0.910), loyalty (0.910), user interface quality (0.841), security perception (0.821), privacy perception (0.843), and information quality (0.868). The correlation between the observable and latent variables is robust since all Cronbach's alpha values are more than 0.7 (De Leeuwet al., 2019).

Table 4. 2: Factor loading and the Cronbach's α estimates (Cronbach's Alpha)

E-Logistics quality_ELQ (Cronbach's Alpha)		**0.910**
ELQ1	Packaging quality	0.905
ELQ2	Delivery staff service attitude	0.907
ELQ3	Up-to-date information	0.905
ELQ4	Convenient service 24/7	0.905
ELQ5	Compared to traditional retailers, e-commerce has/had satisfied the needs	0.906
ELQ6	Satisfaction with unique needs	0.904
ELQ7	Receive the right product at the right time	0.904
ELQ8	Trace transporting process and timely informed him/her	0.905
ELQ9	Availability of message areas for customers to make comments and suggestions	0.905
ELQ10	Safe and secure	0.906
ELQ11	Knowledge to answer all queries	0.901
ELQ12	Readiness to respond to customer's inquiries	0.903
ELQ13	Customized the product/service for a specific customer	0.902
ELQ14	Accurate information about the product	0.901
User interface quality_UIQ (Cronbach's Alpha)		**0.843**
UIQ1	The website is easy to use	0.810
UIQ2	The information on the website is attractively displayed	0.795
UIQ3	The website is visually appealing	0.780
UIQ4	The website does increase my search effectiveness	0.816
Perceived security_PS (Cronbach's Alpha)		**0.858**
PS1	The website has a mechanism to ensure the safe transmission of its users' information	0.829
PS2	The website has sufficient technical capacity to ensure that the data I send cannot be modified by hackers	0.806
PS3	Purchasing on the website will not cause financial risk	0.823
PS4	The electronic payment on the website is safe	0.820

Perceived privacy_PP (Cronbach's Alpha)		**0.868**
PP1	The website abides by personal data protection laws	0.820
PP2	The website only collects users' data that are necessary for its activity	0.828
PP3	The website does not provide my personal information to others without your consent	0.835
PP4	I feel safe when sending my personal information to the website	0.843
Perceived information quality_PIQ (Cronbach's Alpha)		**0.847**
PIQ1	The information on the website facilitates buying the products or services that it sells or markets	0.796
PIQ2	The website necessarily has to provide up-to-date product and service information	0.803
PIQ3	The website provides relevant product/service information	0.793
PIQ4	The website presents information that is easy to understand	0.830
Online customer satisfaction_OCS (Cronbach's Alpha)		**0.841**
OCS1	The performance of the website meets my expectation	0.788
OCS2	The website must have sufficient experience in the marketing of the products and services that it offers	0.778
OCS3	The website knows its users well enough to offer them products and services adapted to their needs	0.816
OCS4	The website must have the necessary resources to carry out its activities successfully	0.812
Online customer loyalty_OCL (Cronbach's Alpha)		**0.821**
OCL1	I will increase shopping on e-commerce platforms	0.827
OCL2	I do recommend that others use electronic commerce services	0.751
OCL3	My preference for electronic commerce would not willingly change	0.756
OCL4	Changing my preference for electronic commerce requires major rethinking	0.758

Source: Field Survey Data, 2023

Table 4.3's analytical findings reveal a clustering and disaggregation of variables across components compared to Table 4.2 Furthermore, ELQ4, ELQ7, ELQ9, ELQ10 and OCL1 are not included in the findings of the CFA analysis. This indicates that

the variables make a negligible contribution to the model or have a low correlation. The results of this research relied heavily on the perspectives of Gen-Z consumers and confirmatory factor analysis (CFA), with the latter yielding new components based on the aforementioned data gathering and variable separation procedures. This finding is consistent with what we know about Gen-Z and how they talk about the impact poor E-logistics service quality has on their happiness and loyalty. Combining the variables PS1, PS2, PS3, and PS4 from the perceived security factor with the variables PP1, PP2, PP3, and PP4 from the perceived privacy factor yields a new component, POS (Perceived Online Safety). E-logistics quality (ELQ) and COS office personnel capability are the two components of the E-logistics quality factor. The new online customer satisfaction variable is a combination of the two previous components, perceived information quality and customer satisfaction (with the company's website) overall. The standard of the user interface has not altered. By include formative elements, the study more accurately represents the opinions of its participants, allowing for a richer understanding of the interplay between its many components. This is a departure from, and an addition to, the prior research in this area. These novel considerations are crucial for expanding our comprehension of the model and its underlying relationships.
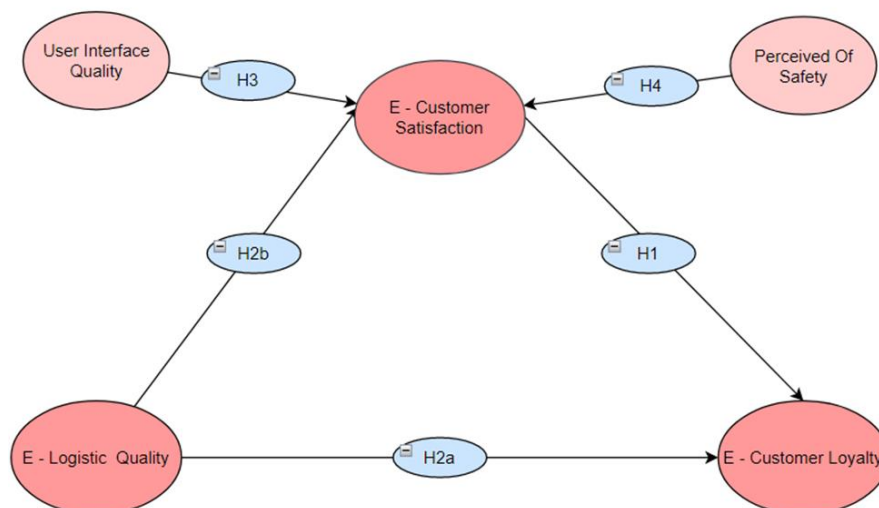

Figure 4. 15: Official research hypothesis

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The new research hypotheses are presented as follows:

H1: E-Customer satisfaction positively influences E - customer loyalty

H2a: E-Logistics quality positively influences E - customer satisfaction

H2b: E-Logistics quality positively influences E - customer loyalty

H3: User interface quality positively influences E - customer satisfaction

H4: Perceived online safety positively influences E - customer satisfaction

Table 4. 3: Scale of factors and test parameters in CFA

Items	Factors					
	1	2	3	4	5	6
Perceived online safety (POS)						
PP4	0.893					
PP1	0.800					
PS4	0.786					
PS2	0.785					
PS3	0.784					
PP3	0.765					
PP2	0.735					
PS1	0.631					
Online customer satisfaction (OCS)						
PIQ3		0.829				
OCS4		0.799				
PIQ4		0.759				
PIQ2		0.737				
OCS2		0.729				
PIQ1		0.667				
OCS1		0.574				
OCS3		0.526				
Capacity of office staff in e-logistic service center (COS)						
ELQ2			0.748			
ELQ3			0.733			
ELQ8			0.702			
ELQ5			0.677			
ELQ6			0.575			
ELQ1			0.504			
User interface quality (UIQ)						
UIQ2				0.792		
UIQ3				0.760		
UIQ1				0.693		
UIQ4				0.638		
E-logistic quality (ELQ)						
ELQ12					0.888	
ELQ13					0.751	
ELQ11					0.658	
ELQ14					0.649	

Online customer loyalty (OCL)	
OCL4	0.837
OCL3	0.772
OCL2	0.650
Parameters of test	**Result**
Kaiser-Meyer-Olkin (KMO)	0.967
Cumulative % (Initial Eigenvalues)	64.16
Bartlett's Test of Sphericity (Sig.)	0.000
Initial Eigenvalue	1.004

Source: Field Survey Data, 2023

Values in Table 4.3 for factor loading that are more than 0.5 are considered to be valid (Al-Lozi et al., 2018; Sung et al., 2019). Rimkeviciene et al. (2017) suggested a comparison method for evaluating covariance-based SEM's discriminant validity. All scores are within the acceptable range above 0.5, as determined by the Kaiser-Meyer-Olkin (KMO) test, which is used to examine measures of relationship performance and establish whether factor analysis for the scale is adequate. In that analysis, the KMO value needed to be more than 0.5 to be judged significant (0.967). The study also took out any component that had an eigenvalue larger than one thousand. Bartlett's test allows us to understand whether the variables in the factor are connected. Bartlett's test shows a statistically significant correlation between the observed variables in the factor (sig Bartlett's Test 0.05 (0.00)). The level of relationship between the factors and the observed variables is shown by the fact that all seven factor loading coefficients are higher than 0.50.

Once a weighted average has been calculated for each multivariate construct, the measurement procedure is complete. The SEM definition has been bolstered by a recommendation from the EFA. Items are recommended to be placed within the recommended dimensions (Figure 4.16) for evaluation. To evaluate the usefulness of the data sets utilized in this investigation, this study performed Confirmatory Factor Analysis (CFA) and Structural Equation Modeling (SEM) using the statistical software program SPSS and AMOS version 24.0. Multiple analyses were conducted to determine the data sets' usefulness for the model. Using the revision index, the study connected the covariance between elements E1 and E3. Figure 2 displays the covariance correlations between E3 and E5, E4 and E8, E12 and E14, and E20 and

E21, E15 and E13. This study discovers findings that are consistent with the prior ones when we include these new sets of variables.
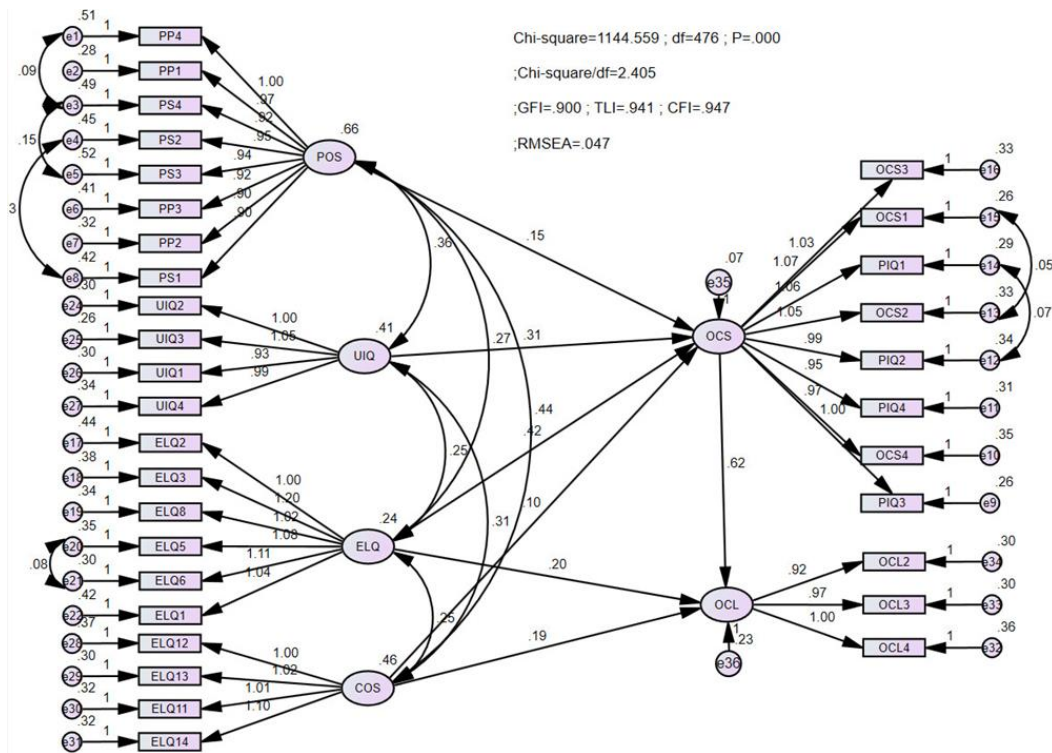
Figure 4. 16: SEM model of E-LSQ, online customer satisfaction and loyalty

A fit-generated structural model was developed once the investigation was finished; it had a p-value of 0.000 (p-values less than 0.01 are deemed significant), a chi-square/df value of 2.405, and a goodness-of-fit index (GFI) of 0.900 (more than 0.800). Baumgartner and Homburg (1995) indicate that although GFI cannot be less than 0.9, a value of 0.8 is still regarded acceptable. In this study, the GFI value is 0.900. Similarly, results such as a root mean square error of approximation (RMSEA) of 0.047 (less than or equal to 0.080) and a Tucker-Lewis index (TLI) of 0.941 (>0.900) are all considered to be within acceptable ranges. In light of these findings, the research model was tested, and the outcomes confirmed the model's sufficiency (Table 4.4).

Table 4. 4: Model fit indicators in SEM

Indicators	Cut-off values	Calculated values	Conclusion
Chi-square/df	≤ 3.000	2.405	Fit
CFI	≥ 0.900	0.947	Fit
GFI	≥ 0.900	0.900	Fit
TLI	≥ 0.900	0.941	Fit
RMSEA	≤ 0.080	0.047	Fit

Source: Field Survey Data, 2023
Note: Cut-off values adopted from Yu *et al.* (2013)

Table 4.5 displays the significance level as R=0.812. This suggests a strong positive correlation between OCS and POS, UIQ, ELQ, and COS in the perceptions of online shoppers. The degree of satisfaction with OCS has a favorable effect on after-sales support, the perception of online safety, the perception of user competence, and the perception of staff competence, as predicted (Table 4). We hypothesize that OCS positively affects users' perceptions of online safety, UIQ, and support received after the transaction. Table 4 indicates that there is a 0.148 level of online safety, a 0.308 level of quality in the user interface, a 0.423 level of quality in the logistical service, and a 0.104 degree of competence among employees. The P-value is less than 0.1, and all of these numbers are positive. Consistent with the results of a previous study by Eid (2011), we found that this strategy had a positive effect on the degree of satisfaction felt by online consumers. In addition to expanding upon the aforementioned foundational aspects (POS, UIQ), our study also incorporates additional modern features (ELQ, COS) that are in line with modern needs and expectations. Since these considerations are more contemporary, they are more suited to the present realities and requirements.

Table 4. 5: Factors influence on online customer satisfaction

Relationship	Estimate β	S.E	C.R	P – value	Hypothesis Result
OCS <== POS	0.148	0.037	4.013	***	Accepted
OCS <== UIQ	0.308	0.053	5.846	***	Accepted
OCS <== ELQ	0.423	0.081	5.218	***	Accepted
OCS <== COS	0.104	0.055	1.911	0.056	Accepted
$R^2 = 0.812$ (OCS)					

Source: Field Survey Data, 2023

Note: *, **, and *** are levels of significance at $P < 0.05$, $P < 0.01$, and $P < 0.001$, respectively.

$$OCS = 0.148 \, POS + 0.308 \, UIQ + 0.423 \, ELQ + 0.104 \, COS \quad (1)$$

The efficacy of online customer satisfaction is shown by Equation (1), which highlights the importance of four factors (perceived online quality, user interface quality, logistics service quality, and staff competency in E-logistic service center). Perceived online quality, user interface quality, logistical service quality, and staff capacity in E-logistic service center have a favorable effect on customers' satisfaction, as shown by the original sample value of 0.148; 0.308; 0.423; 0.104.

This finding contributes to verify prior findings. According to SEM regression, "the quality of E-Logistics services plays an important role in customer satisfaction when making online purchases" (Liu et al., 2008). E-logistics quality influences customer satisfaction (Murfield et al., 2017; Rao, 2011). Barshan et al. (2017) found that pampered customers return. Most research agree that good service keeps customers happy (Gil et al., 2008). Wang (2015) benefits from customer-satisfied logistics. Yumurtac et al. (2018) found that after-sales support boosts client loyalty. Liu et al. (2010) discovered that post-sale service satisfaction reflects service quality. Kilibarda and Andrejic (2016) found that rating the after-sales help business favorably enhanced customer satisfaction. Politis et al. (2014) related after-sales support, service quality, and customer behavior. Lasserre (2017) suggests that after-sales support may boost e-commerce consumer happiness. The research reveals that E-Logistics quality influences online purchasers' experiences and that effective after-sales service offers enterprises an edge.

This research demonstrated that good user interfaces increase consumer satisfaction. This result is similar to the past researches. For example, Hidayat et al. (2016) found that product user interface trumped reputation for customer happiness. Gummerus et al. (2004) said a well-designed user interface may show online companies' knowledge and trustworthiness. Brilliant & Chyar (2014) recommend updating the website's user interface to increase buyer-seller communication and consumer satisfaction. Ethier et al. (2006) found that user-friendly websites may boost revenue. Easy search, interaction, organizing, and navigation are included. Website aesthetics impact cleanliness and user enjoyment, Zhang, von Dran, Small, and Barcellos found. Promotion, cleanliness, and media impact website quality. Al-Adwan et al. (2018) found that practicality and simplicity increased consumer confidence. These studies imply beauty, simplicity, utility, clear organization, data security, and information quality may increase consumer satisfaction. Website quality and attractiveness depend on advertising and maintenance. The interface has improved online commerce and customer confidence.

This customer satisfaction assessment is unique. Security and privacy affect consumer satisfaction, according to Chang and Chen (2009). The study used PS and PP to demonstrate how "perceived online safety" (POS) affects customers' satisfaction. Our investigation confirmed Brilliant and Achyar (2014)'s finding that privacy makes consumers satisfied. PS and PP help e-commerce succeed. Information system researchers have shown that end-user security knowledge is crucial. Yousafzai et al. (2003) describe privacy awareness as online data protection. (Mekovec & Hutinski, 2012). Security and privacy affect customer satisfaction (Gummerus et al., 2004). Belanger et al. (2002) evaluated customers' worries about providing personal and financial data online. Online data security literature exists. Online enterprises must protect secondary data. Since clients have little influence over secondary data usage, Belanger et al. (2002, p. 249) raised concerns. Online privacy laws restrict user data. Sadeh et al. (2011) and Eid (2011) validated PP's effect on customer satisfaction. Secure internet buying has helped firms please customers. Internet shoppers' privacy is becoming important.

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Few previous studies have examined how staff competence affects online customer satisfaction because it mixes PS and PP. Research on staff competence and online consumer interactions may benefit others. Few research have addressed this topic. Online shoppers' experiences are affected by four primary aspects. Understand every question first. This demands a deep grasp of the company's offerings and the ability to communicate them to customers. The poll found that competent and friendly personnel make satisfied consumers. Next is fast customer service. Well-trained, prepared, and fast-responding staff may make customers happier. Staff attentiveness and preparation build customer confidence.Third, we customized our services for each customer. Online shops require more personalization than ever. Employees that go above and beyond for consumers build customer loyalty. Fourth and last was product description accuracy. Digital comparisons and alternatives provide customers with more choices. Accurate product descriptions increase sales and customer satisfaction. This study covers these concerns. Online customer help is planned. The research found that these factors greatly affect online buyers' pleasure and may help companies build trust with their customers, stand out in a competitive market, and succeed.

Table 4. 6: Factors influence on online customer satisfaction and loyalty

Relationship	Estimate β	S.E	C.R	P – value	Hypothesis Result
OCL <== OCS	0.621	0.113	5.507	***	Accepted
OCL <== ELQ	0.204	0.137	1.490	0.136	Not accepted
OCL <== COS	0.192	0.077	2.486	0.013	Accepted
R^2 = 0,584 (OCL)					

Source: Field Survey Data, 2023
Note: *, **, and *** are levels of significance at $P < 0.05$, $P < 0.01$, and $P < 0.001$, respectively.

$$OCL = 0.621 \, OCS + 0.192 \, COS \quad (2)$$

According to the findings of the research shown in Table 4.6, there is a correlation that can be characterized as both positive and considerable between online customer loyalty (OCL), online customer satisfaction (OCS), and staff competence in e-logistic service center (COS). According to the available research, online customer loyalty

has an impact not only on the enjoyment of consumers but also on the productivity of businesses. As a result, the study hypothesizes that the level of online customer loyalty has a positive correlation with the level of staff expertise. According to Table 4.6, the connection between online customer loyalty (OCL) and online customer satisfaction and staff competency are 0.621 and 0.192, and the significance level (P-value) for this correlation is 0.00, which is less than 0.01.

In growing countries like Vietnam, buyers are more loyal to online businesses that assure their satisfaction (Beg et al., 2018; Guo et al., 2012). If shoppers want to retain consumers, Ndubisi and Wah (2007) advised understanding what they want. Cerri (2012) also highlighted that brands require a unique offering and long-term customer relationships to build loyalty. Yoo and Bai (2013) suggested that business managers focus on customer happiness and service to understand repurchase behavior and loyalty. Yen et al. (2022) and Phan et al. (2021) found several variables affect customer satisfaction and loyalty. These include need identification, website staff technical help, and customer care. In Vietnam's young market, after-sale service excellence builds brand loyalty. Choi et al. (2013) also argued that customer satisfaction is a comprehensive measure of product and service quality. Like traditional markets, e-commerce success is measured by buyer-seller satisfaction. In conclusion, pleased internet shoppers are more likely to return. By meeting customer needs, providing excellent products and services, improving after-sales assistance, and building lasting relationships, businesses may boost customer loyalty.

This academic study emphasizes staff competency's role in maintaining online consumers' four most important traits. Knowledge and expression first. Experienced employees who can adequately convey the company's services are appreciated. When a company's personnel can meet all their demands and provide accurate information, customers feel supported and trust it. The second concern is response time. Staff are ready to assist clients. Being prepared and responsive helps build client trust and relationships. The third is customization. Internet sellers now require personalized service. When informed and attentive staff members meet their demands, customers are more loyal and attached to a firm. Finally, digital alternatives and comparisons

give customers greater flexibility. Employees who answer consumers' inquiries honestly and informatively build customer loyalty. In conclusion, a company's experience, communication skills, timeliness, capacity to tailor products/services, and availability of accurate information affect online consumer loyalty. This research shows that these four factors influence customer loyalty.

4.3 STRATEGIC SOLUTIONS FOR IMPROVING E-CUSTOMER SATISFACTION AND LOYALTY

Table 4.7 shows items of the internal and external factors for SWOT analysis. Internal factor includes strengths (ST1, ST2, ST3, ST4) and weaknesses (WK1, WK2, WK3, WK4). External factor comprises opportunities (OP1, OP2, OP3, OP4) and threats (TH1, TH2, Th3).

Table 4. 7: Internal and external factors of SWOT matrix

Internal factors	
Strengths	
S1	Easy and convenient access
S3	Linking different types of e-logistics services for customers' choice
S3	Saving time
S4	Providing many promotion campaigns, discounts, and other marketing strategies easily
S5	Offering different payment methods
Weaknesses	
W1	High cost for ensuring safety and security system
W2	Human resource know and use technology for e-logistics service
W3	Transport cost is still high
W4	Overloading in trending and seasonal time
External factor	
Opportunities	
O1	Diversity of customers both domestic and abroad
O2	Strongly increasing growth of E-commerce
O3	Many supporting technologies and applied programs for e-logistics service system development
OP4	Many priorities in digital transforming policy in many countries
Threats	
T1	Higher intensity of competition
T2	Increasing service quality requirements from customers
T3	Transportation to rural and remote locations is difficult

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Internal factors and external factors are grouped into four strategies, giving the business a broader view, and helping the company to create and maintain a competitive advantage. This study only focuses on examining the e-logistics service quality factor that affects the satisfaction and loyalty of Gen Z, as potential customers. Due to the increasing level of competition among businesses in the field of e-logistics, a thorough investigation into the factors that have a significant impact on customer loyalty is necessary. The suggested strategies can also be applied to businesses, in part can help improve and build trust and satisfaction of customers. This article suggests 23 activities belonging to 4 strategic groups that can establish a competitive advantage, drive customer loyalty, and thrive in the rapidly growing e-commerce landscape for companies.

SWOT analysis generates possible solutions and alternatives. The SWOT analysis provides four possible strategies: expansion (SO), diversification (ST), stability (WO) and defense (WT). The SWOT analysis helps to create strategic plans to achieve the goals of the business. This aids in solving problems. Most implementations of the SWOT model take the form of a two-dimensional coordinate table, with each of the four regions displaying a distinct set of strategies.

Table 4. 8: The SWOT matrix

SO Strategies (Expansion)	WO Strategies (Stability)
S124O123: Expand the market, attract new customers (SO1) **S3O4:** Time-saving strategy (SO2)	**W2O3:** Human Resources Training Strategy (WO1) **W13O4:** Cost Minimization Strategy (WO2)
ST Strategies (Diversification)	**WT Strategies (Defensive)**
S5T2: Enhance security and information safety for payment methods (ST1) **S4T12:** Utilize advantages to enhance competitiveness and meet customer requirements (ST2)	**W13T12:** Cost Reduction Strategy to Enhance Competitiveness (WT1)

Activity for expansion strategies

Expand the market, and attract new customers (SO1)

Activity 1: Promote new e-logistics services through online marketing campaigns and social media.

Activity 2: Develop services and products that match the needs and desires of online customers.

Activity 3: Building loyalty programs, namely Loyalty Points Program, Level-Based Membership Benefits Program, and After-Sales Service Program such as repair, maintenance, and support techniques.

Time-saving strategy (SO2)

Activity 4: Accelerating digital transformation in logistics has the potential to save significant time. Specifically, Digital Transformation will optimize workflow, Enhance monitoring capabilities, Speed up the delivery process, and Reduce administrative processing time.

Activity for diversification strategies

Enhance security and information safety for payment methods (ST1)

Activity 5: Manage and protect personal information by complying with personal data protection regulations such as GDPR (General Data Protection Regulation)

Activity 6: Apply data protection measures such as encryption, access control, and regular backups.

Activity 7: Provide information and guide customers on security measures when making online payments, including detecting fake websites, creating strong passwords, and not sharing personal information excessively.

Activity 8: Manage access, limit access to payment data, and control users to ensure that only authorized individuals can access and process payment information.

Activity 9: Third-party security audits, working with external audit firms and security experts to assess the security of payment systems, applications, and processes.

Utilize advantages to enhance competition and meet customer requirements (ST2)

Activity 10: Collect and thoroughly research your competitors, especially their pricing and promotion strategies. This helps to get an overview of the market and find ways to differentiate yourself.

Activity 11: Leverage the partner network to build and grow a network of logistics-related partners such as manufacturers, suppliers, or transporters. This can help you get more favorable prices to provide to customers.

Activity for stability strategies

Human resources training strategy (WO1)

Activity 12: The company's experts and senior officials must take the lead, actively participate in courses, update knowledge about new trends and technologies, and train to improve human resources.

Activity 13: Create a training plan as set out goals, define rewards for employees who achieve their goals after the course, provide tools to help complete the training then develop it formally to ensure employees have access to training on a regular basis, and training is not overlooked and forgotten when you are busy.

Activity 14: Open training courses such as training on the latest electronic transportation management system to ensure that e-logistics staff can understand and have knowledge on how to effectively use and optimize the tools advanced technology.

Activity 15: Provide different types of training such as face-to-face lectures, group discussions, short videos or online learning. Not everyone learns the same way, so it's important to tailor advanced methods to meet the needs of your employees. So that they feel interested and complete the training to the fullest and best.

Cost minimization strategy (WO2)

Activity 16: Digital transformation to optimize workflow and reduce operational waste. Through automation and integrated information, unnecessary, repetitive, or manual tasks can be eliminated, reducing unnecessary costs.

Activity 17: Using smart technologies like IoT and big data helps to optimize resource usage and increase efficiency, resulting in reduced operating costs.

Activity 18: Using information management and data analysis technologies, businesses can accurately forecast demand and quantify inventory. Improved forecasting and inventory management capabilities help avoid overstocking or understocking, thereby reducing unnecessary costs in storage, management, and inventory.

Activity 19: Using smart technology and software to help find the shortest route, choose the right mode of transportation, and arrange the optimal cargo. This reduces distance and travel time, saves fuel, and reduces transportation costs.

Activity for defensive strategies

Cost reduction strategy to enhance competitiveness (WT1)

Activity 20: Optimize transportation resource usage by matching cargo volume with vehicle capacity to optimize resource usage. This includes optimizing vehicle placement and enhancing cooperation, sharing transport resources with partners to reduce costs, and optimizing resource utilization.

Activity 21: Review and evaluate current shipping processes to identify areas for improvement and optimization. Consider factors such as route, schedule, choice of transportation method, packing and arrangement of goods to minimize travel time and distance, thereby reducing transportation costs.

Activity 22: Take advantage of many transport channels, combine the use of many modes of transport such as road, sea, and air to promote the advantages of each mode and reduce transportation costs. Sometimes, using a combined shipping method can be more cost-effective and efficient than using a single method.

Activity 23: Using outsourced transportation services. Transportation providers can provide scale, expertise, and existing infrastructure, helping to reduce costs and increase efficiency.

CHAPTER 5

CONCLUSION AND RECOMMENDATION

The study was carried out using a quantitative method, primary data was collected from 631 people living and working in the Mekong Delta, Vietnam who participated in online shopping on e-commerce sites. To evaluate the reliability and validity of the structure, we use structural equation modeling (SEM) and validation (CFA). These methods are built on the same basic principles as the general approaches with correlations between items and latent structures as inputs for statistical testing and estimation.

5.1. CONCLUSION

The study found that the Shopee channel on e-commerce platforms was the most appealing to both urban and rural members of Gen Z. In this study, approximately 50% of Gen Z shoppers used e-commerce site between three and five years ago, and more than 84.1% of Gen Z shoppers shopped online less than 6 times/month. Gen Z consumers in urban regions spend 500,000 - 2 million VND monthly (35.5%), while those in rural area spend less than 500,000 VND monthly (13.3%). Gen Z shoppers spend the most money on commodities (84.6%), which included fashionable clothes, health and beauty care, and food and beverages. Customers of Gen Z who live in large cities are more interested with how quickly a website loads than those who live in rural areas. The security requirements of urban Gen Z consumers are higher than those of rural consumers. Gen Z customers in urban area is more concerned about protecting their privacy than those in rural areas. Online shopping loyalty was higher for rural Gen Z shopper than urban Z shopper.

This study presents on relevant literature to provide a theoretical framework proposing a connection between the quality of an e-logistics provider's service and the satisfaction and loyalty of its youngest customers, Gen-Z. Perceived online safety (POS), capacity of office employees in e-logistic service center (COS), user interface quality (UIQ), and e-logistic quality (ELQ) are all factors included in this research into e-commerce customers' satisfaction with e-logistics service providers. Online

customer satisfaction and office staff capacity in an e-logistic service center were shown to be significant predictors of Gen-Z customers' loyalty to online shopping. E-logistics service quality, such as e-logistics quality, user interface quality, perceived security, perceived privacy, and perceived information quality, is assessed using the current literature. This study's findings suggest that the quality of e-logistics services in Vietnam's Mekong Delta has been reorganized to take into account factors such as perceived online safety, user interface quality, e-logistic quality, and capacity of office staff in e-logistic service center. This study adds to the literature on developing market customer satisfaction and loyalty online, as seen by the findings.

Additionally, the SWOT analysis proposed 7 strategic solutions with 23 actions to provide viable options in the strategies of expansion (SO), diversification (ST), stability (WO), and protection (WT).

5.2. RESEARCH CONTRIBUTION

5.2.1. Theoretical applications

This study is conducted to provide a theoretical framework, to supplement knowledge to better understand the significance of the relationship between E-logistic service quality, customer satisfaction, and loyalty of the young customer segment, Gen Z in the Mekong Delta. The results show that the factors of E-Logistic service quality such as user interface quality (UIQ), perceived online safety (POS), capacity of office employees in e-logistic service centers (COS), and E-logistic quality (ELQ) have a positive impact on electronic customer satisfaction for E-Logistics service providers. In addition, the study also shows that the level of satisfaction with the quality of electronic services of online shoppers (OCS) and office staff capacity (COS) also have a significant effect on increasing customer loyalty to Gen Z electronics.

In addition, it builds on the findings of many earlier studies, the results of this study provide a comprehensive review and help bridge the gap with existing literature. Proposing a new model is appropriate to the needs of the current situation, specifically emphasizing the elements of E-logistic service quality, perceived online safety, and capacity of office employees in e-logistic service centers. Other

researchers may suggest alternative models on this topic based on their findings, using the results of the current study as a basis.

All these factors have been discovered to encourage researchers to exploit more factors to improve the satisfaction and loyalty of electronic shoppers. From there, businesses can deepen their understanding and develop strategic methods of E-Logistics quality management in the future to improve user experience and increase competitive advantage in the context of E-Commerce is changing comprehensively to maintain its growth and development momentum.

5.2.2. Practical applications

For practical purposes, after performing the analysis, we have proposed several ideas to effectively promote the quality of E-logistics services that businesses are aiming for and solve some remaining problems to improve customer satisfaction and loyalty through the quality of the buying experience.

First, most Vietnamese businesses have invested extensively in improving the quality of their e-logistics services in recent years, highlighting the importance of sustained development in business. The role of service quality is always emphasized, so it is necessary to build an optimized logistics system in the business, this contributes to creating a premise for the development of the company's operation chain, contributing to achieving success in the competitive e-commerce market. At the same time, managers must actively seek more knowledge about logistics and update information on market trends as well as demand and consumer behavior for products sold online, which will have a positive impact on business performance. Today, the information gap is increasingly narrowing, through the collection of surveys from consumers, the majority of them agree that aspects of E-logistics are one of the key factors affecting purchase decisions and these will be valuable sources of information in the process of orienting the development strategy of the business. Moreover, organizations can implement a variety of management measures, promoting statements of commitment to providing the best buying experience to customers, and product and service development plans to meet consumer expectations. In addition,

managers need to have a clear understanding of the responsiveness of logistics aspects and by all means communicate those attributes to their customers, employees, and partners, contributing to building and maintaining their competitive position in the market.

Second, this study verifies that enhancing E-logistics service quality will have a positive impact on customer satisfaction. There is an intermediate relationship between E-logistics service quality and satisfaction and between satisfaction and loyalty of shoppers. While satisfaction emphasizes innovation from great ideas to the logistics system to deliver the best buying experience for customers, loyalty emphasizes building values and relationships long-term with customers, to create core value for the business while enhancing competitive position. Therefore, businesses need to encourage innovation in the logistics system, promote satisfaction and encourage building strong relationships with customers. Create goals and strategies to help the company get a solid foundation, combine fully equipped with logistics capabilities, and create practical values for the process of integration with the e-commerce economy in Vietnam.

Third, when businesses balance 4 factors E-Logistics service quality, User interface quality, Perceived online safety, and capacity of office employees in e-logistic service centers into the customer's experience journey when coming to them, it will contribute to helping businesses enhance advantages, promote customers' desire to return to experience, significantly increase revenue, and position the brand in the market. However, businesses that want to achieve success need to be ready to have a strategy to expand markets, attract new customers, invest in human resources, equipment, and new technology, focus on quality and improve productivity, ensure cost optimization, create opportunities for innovation and business expansion of the enterprise, and enhance the reputation of the company. Moreover, the government needs to have policies to promote the e-commerce business environment. The improvement of the legal system is a prerequisite to protect consumers and e-commerce businesses, to ensure a fair and transparent online business environment. Specifically, state agencies need to issue laws related to electronic transactions,

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protect the interests of consumers and ensure the safety of online transactions. In addition, the Government can provide financial support programs, loans, and tax incentives to encourage online businesses to invest in technology development, advertising and improve competitiveness. on the market. When businesses have investment capital, they can ensure the balance between profit and quality of service provided to customers. Because online shoppers today are not only interested in price and product quality but also have high requirements for purchase experience, and reliability of transaction information security. These policies are also an important legal basis for building a growth strategy for the E-commerce industry in Vietnam in the future, creating competitive advantages, and helping businesses achieve their goal of expanding the market ahead of the trend business and shopping grow explosively in the future.

On the other hand, for society, this research also has some positive implications. First, this essay provides information on E-Logistics service quality and its influence on customer satisfaction and loyalty Generation Z, is the dominant generation for future spending needs. This helps society better understand the important role of E-Logistics services in business operations and creates credibility for future generations of customers, which is the premise for the next generation of Alpha. Second, by improving the quality of E-Logistics services, the essay contributes to creating a favorable business environment for both businesses and customers. It can contribute to promoting the sustainable development of the economy, improving the efficiency of freight transport in the region, and improving the quality of life of communities in the Mekong Delta region.

5.3. Limitations and Future Research

Although there have been efforts to conduct research with the important theories mentioned, some limitations still exist. However, these limitations can be addressed by expanding future research. Firstly, this study only focuses on understanding the factors affecting customer satisfaction and loyalty of gen Z, so we cannot test and determine whether the results of this study are valid for customers, other customer groups or not. In the future, it is possible to implement a more diverse audience so

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that it can be compared and can reflect the entire behavior of different customer groups, bringing more value to the business.

Second, the way of feeling will be different in the perception of each individual. As this study was conducted only in the Mekong Delta, Vietnam, the results may not be accurate in other countries. Consumer surveys in countries other than Vietnam will enrich the research.

Ultimately, Generation Z consumers in different regions, countries, and cultures will perceive differently so in future research we will continue to expand our approaches and analytical method to examine and compare the e-logistics service quality satisfaction of Generation Z consumers across different regions, countries, and cultures.

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Submissions Kurdishstudies <submissions@kurdishstudies.info>   lúc 15:50 10 tháng 8, 2023
Đến: Truong Hong Vo Tuan Kiet 009651 <thvtkiet@ctu.edu.vn>

Dear Author,

Greetings of the day! On behalf of the editorial team of the Kurdish Studies Journal, we are pleased to inform you that your manuscript titled "*Influences of E-Logistics Service Quality On Gen-Z Customer Satisfaction and Loyalty in Mekong Delta, Vietnam*" has been accepted for publication in our journal.

First and foremost, we would like to extend our heartfelt congratulations on the acceptance of your work. The reviewers and the editorial board were impressed by the quality and significance of your research, and we believe that your contribution will be of great value to our readers and the wider research community.

As we aim to maintain high-quality standards, we believe that your valuable insights and commitment to excellence will significantly enhance the impact of your work in the field.

We would like to express our gratitude for selecting the Kurdish Studies Journal as the platform to disseminate your research findings. Your contribution is instrumental in advancing our understanding and we are honored to have your work featured in our journal.

Once again, congratulations on the acceptance of your manuscript, and we look forward to working with you on the final steps towards its publication.

Regards,

Editorial Office

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APPENDICES

1. Questionnaire

Questionnaire For Influences Of E-Logistics Service Quality On Gen-Z Customer Satisfaction and Loyalty in Mekong Delta, Vietnam

Dear Sir / Madam,

My name is _____**,** and I am an international business student at FPT University. I am researching the impact of E-logistics service quality on Gen-Z customer satisfaction and loyalty in the Mekong Delta, Vietnam. Our research needs to collect approximately 600 respondents to carry out graduating thesis.

In the next pages, You will find a questionnaire related to the impact of E-logistics service quality on a board of short questions. Most questions will focus on E-logistics service quality, Gen-Z customer satisfaction, and loyalty. Hopefully, you can spare 5-7 minutes to complete this questionnaire. Your help is necessary and is very much appreciated!

PART 1: GENERAL INFORMATION

1. Full name: _____

2. **Age:** _____

3. Gender: ☐ Male ☐ Female

4. Marriage: ☐ Single (1) ☐ Dating (2) ☐ Married (3) ☐ Other: _____(4)

5. Your hometown (province): ………………………….

6.Where do you live?

☐Urban such as: Town, City (1)

☐Rural: Other areas mentioned above (2)

7. Your level of education is:
☐High school (1)
☐College (2)
☐University (3)
☐Other (please specify): _____ (4)

8. Your major is:
☐International business (1)
☐Business administration (2)
☐Hospitality management (3)
☐Media communication (4)
☐Tourism (5)
☐Information technology (6)
☐Language (7)
☐Other (please specify): _____ (8)

PART 2: SURVEY ON TRENDS AND SHOPPING BEHAVIOR OF ONLINE SHOPPERS

9. What platform do you usually use to shop online? (Multiple choices)
☐Brand's website (1)
☐E-commerce platforms (Shopee, Lazada, Tiki, TikTok Shop,...) (2)
☐Social media platforms (Facebook, Zalo, Instagram,...) (3)
☐Other (4)_____

10. If question 9, you choose item number (2). Please choose the e-commerce platform you prefer to shop online (Most used to buy, only one option):
☐Shopee (1)
☐TikTok Shop (2)
☐Lazada (3)
☐Tiki (4)
☐Sendo (5)
☐Other (please specify): _____ (6)

11. How long ago did you first start shopping online?
☐Less than 6 months ago (1)
☐6 months - 1 year (2)
☐1 - 3 years (3)
☐3 - 5 years (4)
☐More than 5 years ago (5)

12. How often do you shop online per month?
☐Rarely (0-2 times/month) (1)
☐Occasionally (3-6 times/month) (2)
☐Frequently (7-10 times/month) (3)
☐Always (>10 times/month) (4)

13. How much do you spend on average per month to shop online?
☐Less than 500,000 VND (1)
☐500,000 - 2,000,000 VND (2)
☐Less than 5,000,000 VND (3)
☐More than 5,000,000 VND (4)

14. How much time do you usually spend on average for one online shopping session?
☐Less than 1 hour (1)
☐1 hour (2)
☐2 hours (3)
☐3 hours (4)
☐More than that (5)

15. Which product/service category do you usually shop online for the most?

☐Clothing and fashion products (1)

☐Health and beauty care (2)

☐Home and living (3)

☐Food, beverages, cooking ingredients (4)

☐Mobile phones, laptops, and electronic devices (5)

☐Books, newspapers (6)

☐Pet care (7)

☐Other _____(8)

PART 3: IMPACT OF FACTORS ON GEN-Z CUSTOMER SATISFACTION AND LOYALTY

Please read the following statement and indicate your opinion. Please only mark **X** in the one column that you have chosen for each statement

(1 = totally disagree 2 = disagree   3 = no idea   4 = agree   5 = completely agree)

No.	Scale	1	2	3	4	5	sources
	E-Logistics service quality_ELSQ						Eid (2011) and Chang and Chen (2009)
1	Packaging quality	☐	☐	☐	☐	☐	
2	Delivery staff service attitude	☐	☐	☐	☐	☐	
3	Up-to-date information	☐	☐	☐	☐	☐	
4	Convenient service 24/7	☐	☐	☐	☐	☐	
5	Compared to traditional retailers, e-commerce has/had satisfied the needs	☐	☐	☐	☐	☐	
6	Satisfaction with unique needs	☐	☐	☐	☐	☐	
7	Receive the right product at the right time	☐	☐	☐	☐	☐	
8	Trace transporting process and timely informed him/her	☐	☐	☐	☐	☐	
9	Availabilies of message areas for customers to make comments and suggestions	☐	☐	☐	☐	☐	
10	Safe and secure	☐	☐	☐	☐	☐	
11	Knowledge to answer all queries	☐	☐	☐	☐	☐	
12	Readiness to respond to customer's inquiries	☐	☐	☐	☐	☐	
13	Customized the product/service for a specific customer	☐	☐	☐	☐	☐	
14	Accurate information about the product	☐	☐	☐	☐	☐	

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	User interface quality_UIQ						Eid (2011) and Gummerus et al. (2004)
1	The website is easy to use	☐	☐	☐	☐	☐	
2	The information on the website is attractively displayed	☐	☐	☐	☐	☐	
3	The website is visually appealing	☐	☐	☐	☐	☐	
4	The website does increase my search effectiveness	☐	☐	☐	☐	☐	
	Perceived security_PS						Eid (2011) and Chang and Chen (2009)
1	The website has a mechanism to ensure the safe transmission of its users' information	☐	☐	☐	☐	☐	
2	The website has sufficient technical capacity to ensure that the data I send cannot be modified by hackers	☐	☐	☐	☐	☐	
3	Purchasing on the website will not cause financial risk	☐	☐	☐	☐	☐	
4	The electronic payment on the website is safe	☐	☐	☐	☐	☐	
	Perceived privacy_PP						Eid (2011)
1	The website abides by personal data protection laws	☐	☐	☐	☐	☐	
2	The website only collects users' data that are necessary for its activity	☐	☐	☐	☐	☐	
3	The website does not provide my personal information to others without your consent	☐	☐	☐	☐	☐	
4	I feel safe when sending my personal information to the website	☐	☐	☐	☐	☐	
	Perceived information quality_PIQ						Park and Kim (2003)
1	The information on the website facilitates buying the products or services that it sells or markets	☐	☐	☐	☐	☐	
2	The website necessarily has to provide up-to-date product and service information	☐	☐	☐	☐	☐	
3	The website provides relevant product/service information	☐	☐	☐	☐	☐	
4	The website presents information that is easy to understand	☐	☐	☐	☐	☐	
	Online customer satisfaction_OCS						

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		1	2	3	4	5
1	The performance of the website meets my expectation	☐	☐	☐	☐	☐
2	The website must have sufficient experience in the marketing of the products and services that it offers	☐	☐	☐	☐	☐
3	The website knows its users well enough to offer them products and services adapted to their needs	☐	☐	☐	☐	☐
4	The website must have the necessary resources to carry out its activities successfully	☐	☐	☐	☐	☐
	Online customer loyalty_OCL					
1	I will increase shopping on e-commerce platforms	☐	☐	☐	☐	☐
2	I do recommend that others use electronic commerce services	☐	☐	☐	☐	☐
3	My preference for electronic commerce would not willingly change	☐	☐	☐	☐	☐
4	Changing my preference for electronic commerce requires major rethinking	☐	☐	☐	☐	☐

PART 4: SWOT ANALYSIS OF E-LOGISTCS SERVICES

Please only mark **X** in the one column that you have chosen for each statement

(1 = totally disagree 2 = disagree 3 = no idea 4 = agree 5 = completely agree)

No.	Scale	1	2	3	4	5
	Strengths					
1	Easy and convenient access	☐	☐	☐	☐	☐
2	Linking different types of e-logistics services for customers choice	☐	☐	☐	☐	☐
3	Saving time	☐	☐	☐	☐	☐
4	Providing many promotion campaigns, discounts, and other marketing strategies easily	☐	☐	☐	☐	☐
5	Offering different payment methods	☐	☐	☐	☐	☐
	Weaknesses					
1	High cost for ensuring safety and security system	☐	☐	☐	☐	☐
2	Human resource know and use technology for e-logistics service	☐	☐	☐	☐	☐
3	Transport cost is still high	☐	☐	☐	☐	☐
4	Overloading in trending and seasonal time	☐	☐	☐	☐	☐
	Opportunities					
1	Diversity of customers both domestic and abroad	☐	☐	☐	☐	☐
2	Strongly increasing growth of E-commerce	☐	☐	☐	☐	☐

3	Many supporting technologies and applied programs for e-logistics service system development	☐	☐	☐	☐	☐
4	Many priorities in digital transforming policy in many countries	☐	☐	☐	☐	☐
	Threats					
1	Higher intensity of competition	☐	☐	☐	☐	☐
2	Increasing service quality requirements from customers	☐	☐	☐	☐	☐
3	Transportation to rural and remote locations is difficult	☐	☐	☐	☐	☐

Thank you for your answer!

2. Data Fields
ANALYSIS DIRECTIVE

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00	278	44.1	44.1	44.1
	1.00	353	55.9	55.9	100.0
	Total	631	100.0	100.0	

RS

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	406	64.3	64.3	64.3
	2.00	217	34.4	34.4	98.7
	3.00	8	1.3	1.3	100.0
	Total	631	100.0	100.0	

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Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	33	5.2	5.2	5.2
	2.00	22	3.5	3.5	8.7
	3.00	574	91.0	91.0	99.7
	4.00	2	.3	.3	100.0
	Total	631	100.0	100.0	

Major

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00	33	5.2	5.2	5.2
	1.00	121	19.2	19.2	24.4
	2.00	80	12.7	12.7	37.1
	3.00	7	1.1	1.1	38.2
	4.00	54	8.6	8.6	46.8
	5.00	29	4.6	4.6	51.3
	6.00	132	20.9	20.9	72.3
	7.00	99	15.7	15.7	88.0
	8.00	76	12.0	12.0	100.0
	Total	631	100.0	100.0	

ANALYSIS CROSSTAB

Area * Frequency Crosstabulation

| | | | Frequency | | | | |
			Rarely (0-2 times/month)	Occasionally (3-6 times/month)	Frequently (7-10 times/month)	Always (>10 times/month)	Total
Area	Urban	Count	157	216	64	22	459
		% within Frequency	70.1%	70.4%	86.5%	84.6%	72.7%
	Rural	Count	67	91	10	4	172
		% within Frequency	29.9%	29.6%	13.5%	15.4%	27.3%
Total		Count	224	307	74	26	631
		% within Frequency	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	10.574[a]	3	.014
Likelihood Ratio	11.841	3	.008
Linear-by-Linear Association	6.466	1	.011
N of Valid Cases	631		

| | | | Spending | | | | |
			Less than 500,000 VND	500,000 - 2,000,000 VND	Less than 5,000,000 VND	More than 5,000,000 VND	Total
Area	Urban	Count	177	224	38	20	459
		% within Spending	67.8%	74.2%	84.4%	87.0%	72.7%
	Rural	Count	84	78	7	3	172
		% within Spending	32.2%	25.8%	15.6%	13.0%	27.3%
Total		Count	261	302	45	23	631
		% within Spending	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	8.957[a]	3	.030
Likelihood Ratio	9.602	3	.022
Linear-by-Linear Association	8.695	1	.003
N of Valid Cases	631		

ANALYSIS CUSTOMS TABLE

		SCN							
		Brand's website		E-commerce platforms (Shopee, Lazada, Tiki, TikTok Shop,...)		Social media platforms (Facebook, Zalo, Instagram,...)		Other	
		Table N %	Count	Table N %	Count	Table N %	Count	Table N %	Count
Area	Urban	33.9%	214	72.7%	459	39.9%	252	0.2%	1
	Rural	10.0%	63	27.3%	172	11.9%	75	0.2%	1

Pearson Chi-Square Tests

		SCN
Area	Chi-square	11.995
	df	4
	Sig.	.017[*,b,c]

Results are based on nonempty rows and columns in each innermost subtable.

◆ Custom Tables

Table 1

		SPD							
		Clothing and fashion products	Health and beauty care	Home and living	Food, beverages, cooking ingredients	Mobile phones, laptops, and electronic devices	Books, newspapers	Pet care	Other
		Count	Count	Count	Count	Count	Count	Count	Count
Area	Urban	383	282	139	194	123	136	55	16
	Rural	151	104	44	59	25	33	10	0

Pearson Chi-Square Tests

		SPD
Area	Chi-square	35.257
	df	8
	Sig.	.000[*]

Results are based on nonempty rows and columns in each innermost subtable.

*. The Chi-square statistic is significant at the .05 level.

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ANALYSIS CRONBACH ALPHA

Reliability Statistics

Cronbach's Alpha	N of Items
.910	14

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
ELSQ1	53.1078	59.766	.587	.905
ELSQ2	52.9794	60.414	.533	.907
ELSQ3	53.0365	59.305	.601	.905
ELSQ4	53.0872	59.048	.603	.905
ELSQ5	52.9414	60.198	.574	.906
ELSQ6	52.9715	59.796	.631	.904
ELSQ7	53.1236	58.613	.622	.904
ELSQ8	52.8304	60.157	.602	.905
ELSQ9	53.0095	59.413	.598	.905
ELSQ10	53.1553	57.868	.581	.906
ELSQ11	53.1886	57.531	.708	.901
ELSQ12	53.1204	58.097	.647	.903
ELSQ13	53.1569	58.006	.680	.902
ELSQ14	53.1252	57.268	.688	.901

Reliability Statistics

Cronbach's Alpha	N of Items
.887	8

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
OCS1	28.4406	20.967	.719	.867
OCS2	28.4279	20.979	.680	.871
OCS3	28.4120	21.252	.648	.874
OCS4	28.3518	21.549	.623	.876
OCL1	28.3914	21.162	.632	.875
OCL2	28.4326	20.728	.687	.870
OCL3	28.5087	20.815	.651	.874
OCL4	28.6070	20.588	.634	.876

Reliability Statistics

Cronbach's Alpha	N of Items
.847	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
PIQ1	12.5911	4.109	.708	.796
PIQ2	12.4612	4.154	.691	.803
PIQ3	12.4675	4.259	.716	.793
PIQ4	12.4295	4.464	.626	.830

Reliability Statistics

Cronbach's Alpha	N of Items
.868	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
PP1	11.5975	6.590	.749	.820
PP2	11.5832	6.774	.731	.828
PP3	11.5848	6.589	.709	.835
PP4	11.7892	6.205	.698	.843

Reliability Statistics

Cronbach's Alpha	N of Items
.858	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
PS1	11.3376	7.180	.680	.829
PS2	11.4422	6.768	.735	.806
PS3	11.4754	6.780	.696	.823
PS4	11.4818	6.885	.702	.820

Reliability Statistics

Cronbach's Alpha	N of Items
.843	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
UIQ1	12.3170	4.741	.655	.810
UIQ2	12.4612	4.509	.690	.795
UIQ3	12.5341	4.414	.724	.780
UIQ4	12.4422	4.571	.642	.816

ANALYSIS EFA

Rotated Component Matrix[a]

	Component			
	1	2	3	4
PP4	.795			
PS4	.748			
PS3	.733			
PP1	.725			
PS2	.714			
PP2	.695			
PP3	.677			
PS1	.618			
UIQ4		.712		
UIQ3		.667		
PIQ4		.656		
UIQ2		.651		
UIQ1		.647		
PIQ2		.615		
PIQ3		.601		
PIQ1		.598		
ELSQ5			.687	
ELSQ6			.660	
ELSQ8			.658	
ELSQ3			.633	
ELSQ2			.609	
ELSQ9			.555	
ELSQ4			.517	
ELSQ12				.761
ELSQ13				.645
ELSQ11				.642
ELSQ14				.603

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.814
Bartlett's Test of Sphericity	Approx. Chi-Square	986.672
	df	6
	Sig.	.000

Communalities

	Initial	Extraction
OCS1	1.000	.707
OCS2	1.000	.734
OCS3	1.000	.630
OCS4	1.000	.641

Extraction Method: Principal Component Analysis.

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.786
Bartlett's Test of Sphericity	Approx. Chi-Square	914.029
	df	6
	Sig.	.000

Communalities

	Initial	Extraction
OCL1	1.000	.499
OCL2	1.000	.712
OCL3	1.000	.702
OCL4	1.000	.698

Extraction Method: Principal Component Analysis.

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Pattern Matrix[a]

	Component 1	2	3	4	5	6
PP4	.893					
PP1	.800					
PS4	.786					
PS2	.785					
PS3	.784					
PP3	.765					
PP2	.735					
PS1	.631					
PIQ3		.829				
OCS4		.799				
PIQ4		.759				
PIQ2		.737				
OCS2		.729				
PIQ1		.667				
OCS1		.574				
OCS3		.526				
ELSQ2			.748			
ELSQ3			.733			
ELSQ8			.702			
ELSQ5			.677			
ELSQ6			.575			
ELSQ1			.504			
ELSQ4						
UIQ2				.792		
UIQ3				.760		
UIQ1				.693		
UIQ4				.638		
ELSQ12					.888	
ELSQ13					.751	
ELSQ11					.658	
ELSQ14					.649	
OCL4						.837
OCL3						.772
OCL2						.650

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ANALYSICS SEM

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