

RESEARCH ARTICLE

Are customers satisfied with Shopee Express delivery service? A survey in Malaysia

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Abstract - The rapid growth of the e-commerce industry has increased the demand for courier services in Malaysia. These services play a crucial role in ensuring fast and efficient product delivery. However, a rise in complaints from online shoppers regarding issues during the parcel delivery process by Shopee Xpress has led to customer dissatisfaction. This study examines the factors influencing online shoppers' satisfaction with Shopee Xpress delivery services in Malaysia using the SERVQUAL model. Data collected from 134 respondents in Peninsular Malaysia was analysed through Pearson correlation and multiple regression analysis. The findings revealed that three out of five variables—price, reliability, and responsiveness—positively impact online shoppers' satisfaction, while assurance and empathy showed no significant influence. Price emerged as the strongest predictor of customer satisfaction, followed by reliability. This study enhances the understanding of the key factors affecting customer satisfaction with Shopee Xpress delivery services in Malaysia. Future research is recommended to include a more diverse sample of respondents to improve the accuracy of data analysis and to compare delivery services from different providers across Malaysia.

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1. Introduction

Online purchases have become Malaysians' preferred choice over shopping in physical stores. Despite the challenges posed by COVID-19, the e-commerce sector has thrived, enabling many businesses, particularly small and medium-sized enterprises (SMEs), to remain operational. The rapid growth of the e-commerce industry presents substantial opportunities for supply chain companies, particularly logistic service providers (LSPs) specialising in parcel delivery (Siali et al., 2018). The pandemic further accelerated the demand for courier services as consumers increasingly opted for online shopping over physical purchases. Delivery services play a crucial role in e-commerce, representing the final stage of order fulfilment and the most critical touchpoint in the supply chain from the customer's perspective (Rizal & Idris, 2024). LSPs must ensure that parcels are delivered on time and in excellent condition, as any damage or loss is unacceptable. Customer satisfaction is vital for a company's long-term success, as it reflects the quality of service provided. This is particularly important for online sellers, as customer reviews and feedback can directly impact future sales (Hui et al., 2023). Customer satisfaction is defined as the proportion of customers whose experiences with a company's products or services exceed their expectations (Siali et al., 2018). Understanding the factors that influence customer satisfaction enables online sellers to improve their performance (Loo & Asrah, 2022). Dissatisfied customers often leave negative feedback, while satisfied ones are more likely to provide positive reviews. The increased demand for delivery services has also led to a rise in delivery-related issues, such as delays, lost, or damaged parcels. Over the past two years, there have been numerous complaints about courier services (Hui et al., 2023). For instance, an entrepreneur reported finding their products damaged and discarded in a trash bin after a customer complained about late delivery (Roslan, 2021). While some Malaysian online shoppers report satisfactory experiences with reliable delivery services, others have faced issues with damaged parcels and poor handling. Positive delivery experiences, including fast shipping and excellent customer service, can enhance customer satisfaction and foster long-term loyalty (Mustakim et al., 2022).

Shopee Xpress is a division of Shopee Mobile Malaysia Sdn. Bhd., which launched operations in Malaysia in 2021 during the COVID-19 pandemic. It was established to meet the growing customer demand driven by increased online purchases on e-commerce platforms like Shopee and the need for additional logistics services (Sabilla et al., 2023). During the pandemic, consumers turned to online shopping to minimise physical contact with retailers, leading to a surge in shipments. Existing delivery service providers, including J&T, National Courier, DHL, and Ninja Van, struggled to handle the rising volume of parcels, resulting in warehouse overload. To address this issue, Shopee Malaysia introduced Shopee Xpress as an in-house courier service to enhance Shopee's logistics capabilities, enabling consumers to enjoy fast delivery at a low shipping cost (Che Hamat et al., 2024). Instead of relying on third-party logistics providers such as J&T Express and DHL eCommerce, Shopee's updated supply chain strategy utilises a dedicated internal department to fulfil orders directly within the same facility (Mock et al., 2022). Mock et al. (2022) used the SERVQUAL model and found that the reliability of courier services has a positive influence on consumer satisfaction, thus increasing the likelihood that consumers will continue using Shopee Xpress. Meanwhile, Che Hamat et al. (2024) compared service quality and customer satisfaction with logistics service providers (LSPs) in Pasir Mas and reported notable differences between J&T Express and Shopee Xpress in two key dimensions: physical evidence and assurance, rather than in reliability and responsiveness. This suggests that Shopee Xpress received more positive attention from users compared to J&T Express. Additionally, Hui et al. (2023) concluded that price, reliability, assurance, and empathy all positively affect customer

satisfaction with e-commerce delivery services. However, responsiveness showed no significant impact on satisfaction. Among the variables, assurance emerged as the most influential predictor, followed by empathy.

The LSP sector remains fragmented and underexplored, particularly in the post-pandemic period. Most studies using the SERVQUAL model were conducted before or during the pandemic, which may not reflect current consumer perceptions post-pandemic (Hui et al., 2023). Furthermore, a few studies (e.g., Siali et al., 2018) integrate price as a variable into the SERVQUAL model. This limits the generalisability of the findings. This study aims to address existing gaps in LSP efficiency by examining the factors that influence online shoppers' satisfaction with Shopee Xpress delivery services in Malaysia. Data were collected from a broader demographic across Peninsular Malaysia, encompassing respondents of various ages and backgrounds. The study adopted SERVQUAL's five dimensions, assurance, convenience, reliability, responsiveness, and empathy, while integrating price as an additional variable to assess its effect on customer satisfaction. This paper is organised as follows: Section 1 introduces the background of the study, highlighting the growing trend of online shopping in Malaysia and the importance of delivery services in shaping customer satisfaction. Section 2 covers the literature review and the development of the study's hypotheses. Section 3 outlines the methodology, including survey design and data collection. Section 4 presents the empirical findings and discussions. Finally, Section 5 provides the conclusion, discusses the study's implications and limitations, and suggests directions for future research.

1.1 Literature Review

1.1.1 Developments in e-commerce logistics

Last-mile delivery refers to the final stage in the logistics process, in which service providers transport parcels to the recipient's specified location, typically their home or workplace. The primary objective of last-mile logistics is to ensure that items reach customers as quickly as possible while maintaining product integrity and condition (Zainuddin et al., 2022). The COVID-19 outbreak significantly disrupted traditional delivery practices, prompting businesses to shift their strategies towards technology-driven solutions that support e-commerce growth. This shift has had a profound impact on last-mile delivery, particularly for e-commerce companies. During movement control restrictions across Southeast Asian countries such as Singapore, Thailand, Vietnam, Malaysia, and Indonesia, consumers increasingly turned to online platforms for their purchases. As a result, demand for third-party logistics (3PL) providers, such as courier, express, and parcel (CEP) services, rose sharply among retailers and business owners. Malaysia's e-commerce sector generated RM918.2 billion in income during the first nine months of 2024, with the second quarter recording the highest value at RM309.8 billion (MIDA, 2024). This growth has significantly boosted the expansion of e-commerce platforms such as Shopee, Lazada, and Zalora over the past two years, thus increasing public demand for courier services (Hui et al., 2023).

Online shoppers in the post-COVID era hold high expectations regarding parcel delivery (Mock et al., 2022). Many third-party logistics providers faced new challenges, including intensifying competition to deliver exceptional customer service and win customer loyalty. Consequently, the rapid expansion of e-commerce and advances in technology have prompted the increased outsourcing of logistics services to specialised LSPs. These companies manage, coordinate, and deliver logistics services on behalf of their clients. Malaysia is home to a wide range of LSPs, including Shopee Xpress, GDEX, DHL, POS Malaysia, J&T, KGW Logistics, Ninjavan, and Lalamove, each offering distinct logistics solutions (Zainuddin et al., 2022). However, the growing volume of online purchases has also led to operational challenges, particularly in parcel handling. Consumers faced challenges with Shopee Xpress services, including damaged or lost parcels and extended delivery times (Che Hamat et al., 2024). According to Cai (2022) several Shopee Xpress customers, they reported receiving damaged packages, with a video circulating online showing delivery personnel mishandling parcels. Similarly, an incident where a Shopee Xpress deliveryman was caught on CCTV throwing a parcel into a customer's home also led to public criticism (Wong, 2020).

1.1.2 Customer satisfaction

Customer satisfaction refers to the extent to which a company's product, service, or overall experience meets or exceeds customers' expectations, desires, and needs (Hui et al., 2023). It reflects how customers perceive and evaluate the value they receive compared to their initial expectations (Indra Wibowo, 2022). With access to extensive information, modern consumers can analyse delivery service companies, compare product and service quality across competitors, and review feedback from previous customers. Customer satisfaction is crucial for a company's survival, as it provides business owners and marketers with valuable data to monitor and enhance their operations. It reflects consumers' judgments of the quality and performance associated with their experience. Service quality is directly linked to the quality of products or services provided, which significantly shapes customer satisfaction (Tang et al., 2022). An increase in the perceived quality of a product or service also leads to the rise in customer satisfaction. Highly satisfied customers are more likely to repeat purchases (Siali et al., 2018) and contribute to reduced churn, increased retention, and enhanced company reputation (Tang et al., 2022).

1.1.3 SERVQUAL model

SERVQUAL, an acronym for "Service Quality", emphasises the importance of understanding and improving the quality of services provided to customers. Developed by Parasuraman, Zeithaml, and Berry in 1988, the SERVQUAL model is widely recognised and frequently used across various industries to assess service quality (Che Hamat et al., 2024; Rizal & Idris, 2024). It is a prominent research tool for evaluating service quality.

Initially, the SERVQUAL model identified ten dimensions for measuring service quality: reliability, tangibles, competence, responsiveness, security, courtesy, communication, understanding, access, and credibility. However, these dimensions were later refined and reduced to five key dimensions: reliability, responsiveness, tangibles, assurance, and empathy. The remaining seven dimensions were integrated into the assurance and empathy categories, while reliability, responsiveness, and tangibles remained distinct (Hui et al., 2023).

Several studies have applied the SERVQUAL model across different sectors. For instance, Rizal and Idris (2024) the SERVQUAL model was employed as the research framework to explore the relationship between logistics service quality and customer satisfaction among e-commerce users in Sabah. The findings revealed that assurance and empathy are positively associated with customer satisfaction, suggesting that trust, professionalism, and personalised service significantly enhance customer experience. In contrast, the dimensions of tangibility, reliability, and responsiveness exhibited comparatively weaker correlations with customer satisfaction. Another study by Loo and Asrah (2022) examined the factors influencing customer satisfaction with J&T Express services in Johor and found that none of the SERVQUAL dimensions met customer expectations. Siali et al. (2018) used four SERVQUAL dimensions to evaluate customer satisfaction with a leading courier service in Malaysia. Their findings indicated that reliability, responsiveness, assurance, empathy, and price positively influence customer satisfaction with parcel delivery services. Similarly, (Hui et al., 2023) found that all SERVQUAL variables, except responsiveness, positively impact customer satisfaction with e-commerce delivery services.

1.2 Hypotheses Development

1.2.1 Reliability and customer satisfaction

Reliability refers to the ability to deliver services as promised, with consistency and accuracy. In the context of courier services, this involves the timely and dependable delivery of parcels, precise tracking and handling of shipments, adherence to scheduled delivery times, and reducing lost or damaged items (Kosamu & Mwanza, 2025). Hui et al. (2023) found a positive relationship between reliability and customer satisfaction, indicating that customers view reliability as a crucial factor influencing their overall satisfaction.

Reliability ensures that parcel delivery services consistently meet their delivery commitments. Customers expect their shipments to arrive on time and in good condition. Reliable and consistent delivery fosters customer trust, enhances satisfaction, and encourages repeat service use (Siali et al., 2018). When delivery services are dependable, customers feel more confident in choosing them for future shipping needs. Reliable delivery providers also strive to minimise delays and disruptions. In cases where unexpected issues arise, such as weather conditions or logistical challenges, dependable companies proactively communicate with customers, provide updates, and take steps to resolve problems. This approach helps reduce the impact of disruptions while maintaining customer satisfaction (Siali et al., 2018). Previous studies consistently highlight reliability as a significant factor influencing customer satisfaction. Based on this discussion, the following hypothesis is proposed:

H1: The reliability of parcel delivery services positively influences customer satisfaction.

1.2.2 Assurance and customer satisfaction

In the context of measuring customer satisfaction, assurance refers to a service provider's ability to build trust, confidence, and credibility with customers regarding the quality and delivery of their services. It involves providing customers with a sense of security and assurance that their needs will be met and that the service provider is competent in fulfilling their promises (Mock et al., 2022).

In parcel delivery services, assurance is specifically defined by four key attributes: competence, courtesy, trustworthiness, and security (Tang et al., 2022). This includes effective communication, knowledgeable and courteous staff, transparent processes, and fulfilling commitments made to customers. Chia et al. (2023) highlighted key aspects of assurance that influence customer perceptions and satisfaction with parcel delivery services, namely proactive updates on delivery status, accurate tracking information, responsive customer support, and timely resolution of service issues. Based on this discussion, the following hypothesis is proposed:

H2: Assurance of parcel delivery services positively influences customer satisfaction.

1.2.3 Empathy and customer satisfaction

Empathy reflects a company's ability to provide caring, individualised attention to its customers. It involves offering personalised support through representatives who understand customer needs and deliver assistance during business hours (Chia et al., 2023). As one of the SERVQUAL dimensions, empathy encompasses both physical and social aspects, such as ease of contact, proper communication with customers, actively listening to their feedback, and understanding their preferences and needs. The way a company demonstrates care and provides personalised attention plays a key role in making customers feel valued and appreciated, which reflects the empathy dimension of service quality. When customers perceive this individualised attention, they are more likely to remain loyal and continue doing business with the company. This indicates that empathy is a significant factor influencing customer satisfaction (Siali et al., 2018).

In parcel delivery services, empathy signifies a customer-focused approach in which service providers actively listen to and respond to customer concerns. This emotional engagement contributes significantly to enhanced customer satisfaction. Empathy also plays a vital role in effectively handling service issues such as delivery delays or damaged parcels. Empathetic service staff can greatly improve the overall customer experience by actively listening, showing

understanding, and providing prompt solutions. When service providers address customer complaints with genuine care, it reassures customers that their concerns are acknowledged, ultimately leading to greater loyalty and satisfaction. This suggests that the lack of empathy among employees can lead to customer loss; therefore, it is essential to foster compassion within the organisation (Tang et al., 2022). Based on previous research emphasising empathy’s significant impact on customer satisfaction, the following hypothesis is proposed:

H3: *Empathy for parcel delivery services positively influences customer satisfaction.*

1.2.4 Responsiveness and customer satisfaction

Responsiveness, as measured by customer satisfaction, refers to a service provider’s ability to promptly and willingly address customer inquiries, requests, and complaints, demonstrating attentiveness and efficiency in meeting customer needs (Parasuraman et al., 1985). According to Tang et al. (2022), responsiveness typically refers to how promptly and effectively staff assist customers and address their concerns or issues. This reflects the staff’s ability to deliver services efficiently and promptly, ensuring that customers receive timely assistance. Responsiveness can be evaluated based on the time taken to provide a response or solution. In essence, responsiveness involves meeting customer needs by delivering the required services as efficiently and promptly as possible.

In the parcel delivery service sector, responsiveness plays a crucial role in customer satisfaction. Prompt replies to customer inquiries and complaints, efficient management of urgent deliveries or special requests, proactive updates on delivery status and potential delays, and readily accessible customer support via multiple channels, such as phone, email, and online chat, can all lead to higher satisfaction levels (Kosamu & Mwanza, 2025). When problems such as delivery delays or damaged parcels arise, responsive service providers take swift action to resolve the situation, thereby preserving or even enhancing customer satisfaction (Rizal & Idris, 2024). Based on prior research highlighting the significant influence of responsiveness on customer satisfaction, the following hypothesis is proposed in H4.

H4: *Responsiveness of parcel delivery services positively influences customer satisfaction.*

1.2.5 Price and customer satisfaction

Price is a key determinant of customer satisfaction. Consumers frequently assess whether the price they pay corresponds to the value or quality of the goods and services they receive. Dissatisfaction may arise when the perceived quality does not justify the cost (Hui et al., 2023). Although lower prices are generally attractive to consumers, subpar quality, even when affordable, can lead to negative experiences. Price affects not only perceptions and satisfaction levels but also purchase intentions. Previous research has explored price sensitivity, perceptions of pricing fairness, and the likelihood that customers will switch service providers due to price differences (Wong et al., 2023).

In the context of parcel delivery services, customers judge pricing based on the overall value offered. Elements such as delivery speed, reliability, convenience, and the quality of customer service all contribute to whether the price is seen as fair and reasonable (Siali et al., 2018). To maximise satisfaction, customers often compare prices across service providers to identify the most cost-effective option. Providing competitive and fair pricing that aligns with service quality can enhance customer satisfaction by reinforcing the perception of good value for money (Mock et al., 2022). Building on previous studies that underscore the strong impact of price on customer satisfaction, the following hypothesis is proposed in H5. Figure 1 illustrates the research framework of this study, which outlines the operationalisation of the research constructs drawn from previous studies.

H5: *Price of parcel delivery services positively influences customer satisfaction.*

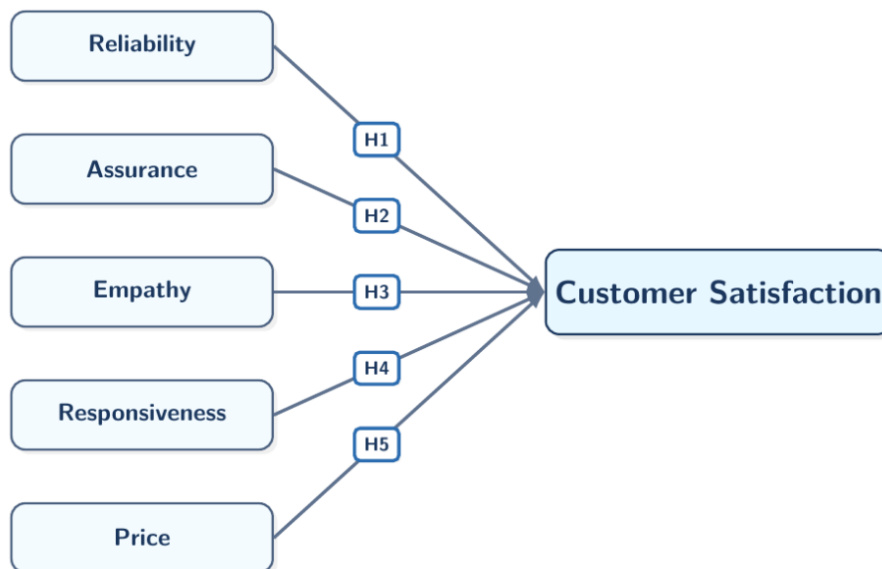


Figure 1. Research framework

2. Materials and Methods

2.1 Survey Design

A quantitative approach was adopted for this research. Data were collected using a self-administered questionnaire, and the link was made available online via social media platforms such as WhatsApp, Telegram, and Instagram. An online survey was chosen for its simplicity for researchers and respondents and its accessibility to the public, enabling participation from individuals with diverse backgrounds and experiences (Hui et al., 2023). The questionnaire was divided into three sections. Section A collected demographic information, including age, gender, ethnicity, employment status, monthly household income, living area, and frequency of Shopee Xpress use. Section B focused on respondents' perceptions of Shopee Xpress service performance across five dimensions: pricing (5 items), reliability (5 items), responsiveness (5 items), assurance (5 items), and empathy (5 items). Section C assessed respondents' satisfaction with Shopee Xpress services using five items. Respondents rated all 30 items using a 5-point Likert scale, ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). Sections B and C were adopted from Siali et al. (2018).

2.2 Survey Population and Sampling

The target respondents of this study were customers who had used e-commerce platforms to purchase products and received parcel delivery services through Shopee Xpress, and who were currently or permanently residing in Peninsular Malaysia. This target population was deemed appropriate due to Peninsular Malaysia's large population size and the higher volume of online purchases compared to Sabah and Sarawak. Additionally, the ease of shopping on e-commerce platforms and the fast, widely available Internet in Peninsular Malaysia further justified this focus. Screening questions were used to confirm whether respondents had prior experience with Shopee Xpress parcel delivery during their e-commerce purchases. The minimum required sample size for this study was determined using G*Power for a multiple regression analysis with five predictors. With an assumed significance level (α) of 0.05, power ($1-\beta$) of 0.80, and a medium effect size ($f^2 = 0.15$), the recommended minimum sample size was calculated to be 134 respondents. This ensures sufficient statistical power to detect significant relationships among the variables in the proposed model. Furthermore, the voluntary response sampling method was employed as the data was collected online from voluntarily participating individuals. Data analysis was conducted using Partial Least Squares Structural Equation Modelling (PLS-SEM) in SmartPLS.

3. Results and Discussion

3.1 Demographic Profile of Respondents

The age distribution showed that most respondents were young adults between the ages of 20 to 30 years (39.6%) and 31 to 40 years (26.9%). The gender distribution was relatively balanced, with 55.2% female and 44.8% male. Most respondents were Malay (65.7%), followed by Chinese (17.9%), Indian (11.9%), and others (4.5%). This diversity supports a broad representation of demographic groups within the sample. A vast majority of the respondents were employed (56%), followed by students (27.6%), unemployed individuals (10.4%), job seekers (3.7%), and retirees (2.2%). Further analysis of their monthly income revealed that most respondents earned RM4,000 or less (54.5%) and between RM4,000 and RM9,999 (42.5%), with a small minority earning RM10,000 or more (3%). This reflects an economic diversity among the respondents. The living area analysis showed an even split, with 59% residing in urban areas and 41% in rural locations. Insights into online shopping behaviour revealed varied purchasing frequencies: the largest group shopped online 3 to 5 times per year (34.3%), followed by 6 to 10 times (27.6%), more than 10 times (20.9%), and less than 3 times (17.2%). Finally, the analysis of Shopee Xpress usage denoted that 29.1% used the service less than 3 times per year, 27.6% used it 3 to 5 times, 24.6% used it 6 to 10 times, and 18.7% used it more than 10 times.

3.2 Measurement Model Assessment

The proposed research framework, encompassing both the measurement and structural models, was evaluated using PLS-SEM. To evaluate the reflective measurement model, it is essential to assess the reliability of both indicators and constructs, followed by an examination of convergent and discriminant validity. Indicator reliability is confirmed when each item's loading on its corresponding latent variable exceeds 0.50. Construct reliability, on the other hand, is established when the composite reliability (CR) of each construct is greater than 0.70 (Hair et al., 2017). Table 1 displays the convergent validity results for the constructs. The factor loadings for all measurement items range from 0.560 to 0.896. Cronbach's alpha (CA) values range from 0.783 to 0.920, CR values fall between 0.847 and 0.940, while the Average Variance Extracted (AVE) ranges from 0.587 to 0.759. These results meet the recommended thresholds, indicating that the measurement model demonstrates adequate convergent validity and is robust enough for further structural analysis (Hair et al., 2017).

Table 2 presents the assessment of discriminant validity using the Heterotrait-Monotrait (HTMT) ratio. As noted by Franke and Sarstedt (2018), HTMT evaluates discriminant validity using a maximum acceptable correlation threshold of 0.90, rather than assuming perfect correlations among construct measurements. While an HTMT value approaching 0.90 may signal a potential concern, it does not automatically indicate a violation of discriminant validity. All constructs recorded HTMT values below 0.9, thus meeting the acceptable threshold criterion. This indicates that each construct represents a distinct and independent concept.

Table 1. Convergent validity

| Constructs | Items | Loadings | CA | CR | AVE |
|----------------------------|-------|----------|-------|-------|-------|
| Reliability (RE) | RE1 | 0.896 | 0.783 | 0.847 | 0.587 |
| | RE2 | 0.844 | | | |
| | RE3 | 0.560 | | | |
| | RE4 | 0.722 | | | |
| Responsiveness (RES) | RES1 | 0.848 | 0.896 | 0.923 | 0.706 |
| | RES2 | 0.880 | | | |
| | RES3 | 0.838 | | | |
| | RES4 | 0.822 | | | |
| | RES5 | 0.813 | | | |
| Assurance (ASSU) | ASSU1 | 0.804 | 0.893 | 0.921 | 0.701 |
| | ASSU2 | 0.874 | | | |
| | ASSU3 | 0.870 | | | |
| | ASSU4 | 0.789 | | | |
| | ASSU5 | 0.846 | | | |
| Empathy (EMP) | EMP1 | 0.833 | 0.896 | 0.923 | 0.706 |
| | EMP2 | 0.879 | | | |
| | EMP3 | 0.792 | | | |
| | EMP4 | 0.857 | | | |
| | EMP5 | 0.838 | | | |
| Price (PRI) | PRI1 | 0.860 | 0.920 | 0.940 | 0.759 |
| | PRI2 | 0.865 | | | |
| | PRI3 | 0.883 | | | |
| | PRI4 | 0.884 | | | |
| | PRI5 | 0.863 | | | |
| Customer satisfaction (CS) | CS1 | 0.836 | 0.895 | 0.923 | 0.706 |
| | CS2 | 0.875 | | | |
| | CS3 | 0.865 | | | |
| | CS4 | 0.840 | | | |
| | CS5 | 0.781 | | | |

Notes: CA = Cronbach’s alpha; CR = composite reliability; AVE = average variance extracted.

Table 2. Discriminant validity analysis

| Constructs | ASSU | CS | EMP | PRI | RE | RES |
|------------|------|------|------|------|------|-----|
| ASSU | | | | | | |
| CS | .748 | | | | | |
| EMP | .888 | .840 | | | | |
| PRI | .688 | .888 | .830 | | | |
| RE | .557 | .605 | .493 | .398 | | |
| RES | .863 | .826 | .827 | .697 | .664 | |

3.3 Structural Model Assessment

This study investigates the influence of key service quality factors on customer satisfaction with Shopee Xpress delivery services in Malaysia. The hypothesised model examined five predictor variables—Assurance (ASSU), Empathy (EMP), Price (PRI), Reliability (RE), and Responsiveness (RES)—and their influence towards the dependent variable, Customer Satisfaction (CS). The hypothesis testing results are presented in Table 3 and Figure 2, which outline the direct relationships among these variables. Hypothesis 1 (H1) proposed that assurance positively influences customer satisfaction. However, the analysis yielded a non-significant result ($\beta = -0.012$; $p > 0.05$; $t = 0.124$), thereby failing to support the hypothesis. This suggests that assurance does not play a significant role in determining customer satisfaction in the context of Shopee Xpress. The plausible explanations are either that customers lack confidence in the company’s ability to ensure secure, reliable delivery, or that they are used to trusting Shopee Xpress to handle and deliver their parcels reliably to their intended destination. This finding diverges from previous literature (e.g., Rizal & Idris, 2024; Hui et al., 2023), which established assurance as a critical determinant of satisfaction in courier services.

Hypothesis 2 (H2) posited that empathy would have a positive effect on customer satisfaction. The results were again non-significant ($\beta = 0.145$; $p > 0.05$; $t = 1.329$), indicating that the perceived level of care and attention from Shopee Xpress staff does not significantly influence customer satisfaction. This outcome contradicts earlier studies (e.g., Rizal & Idris, 2024; Hui et al., 2023; Siali et al., 2018), which identified empathy as a meaningful contributor to customer

satisfaction in similar service contexts. In contrast, Hypothesis 3 (H3), which asserted that price has a significant impact on customer satisfaction, was supported ($\beta = 0.482$; $p < 0.05$; $t = 4.114$). This strong positive relationship indicates that competitive pricing and free shipping options are instrumental in enhancing customer satisfaction. These findings are consistent with the results of Siali et al. (2018), reinforcing the importance of fair and attractive pricing strategies for courier services operating in Malaysia's competitive logistics market. These findings, however, contradict those of Mock et al. (2022), who found that the price charged by Shopee Xpress for delivery services does not have a significant impact on consumer satisfaction. A possible explanation for this outcome is that Shopee Xpress may already offer its services at a relatively low price. The findings indicate that most consumers are not particularly concerned about the cost of Shopee Xpress deliveries and perceive the service quality to be consistent with the price paid.

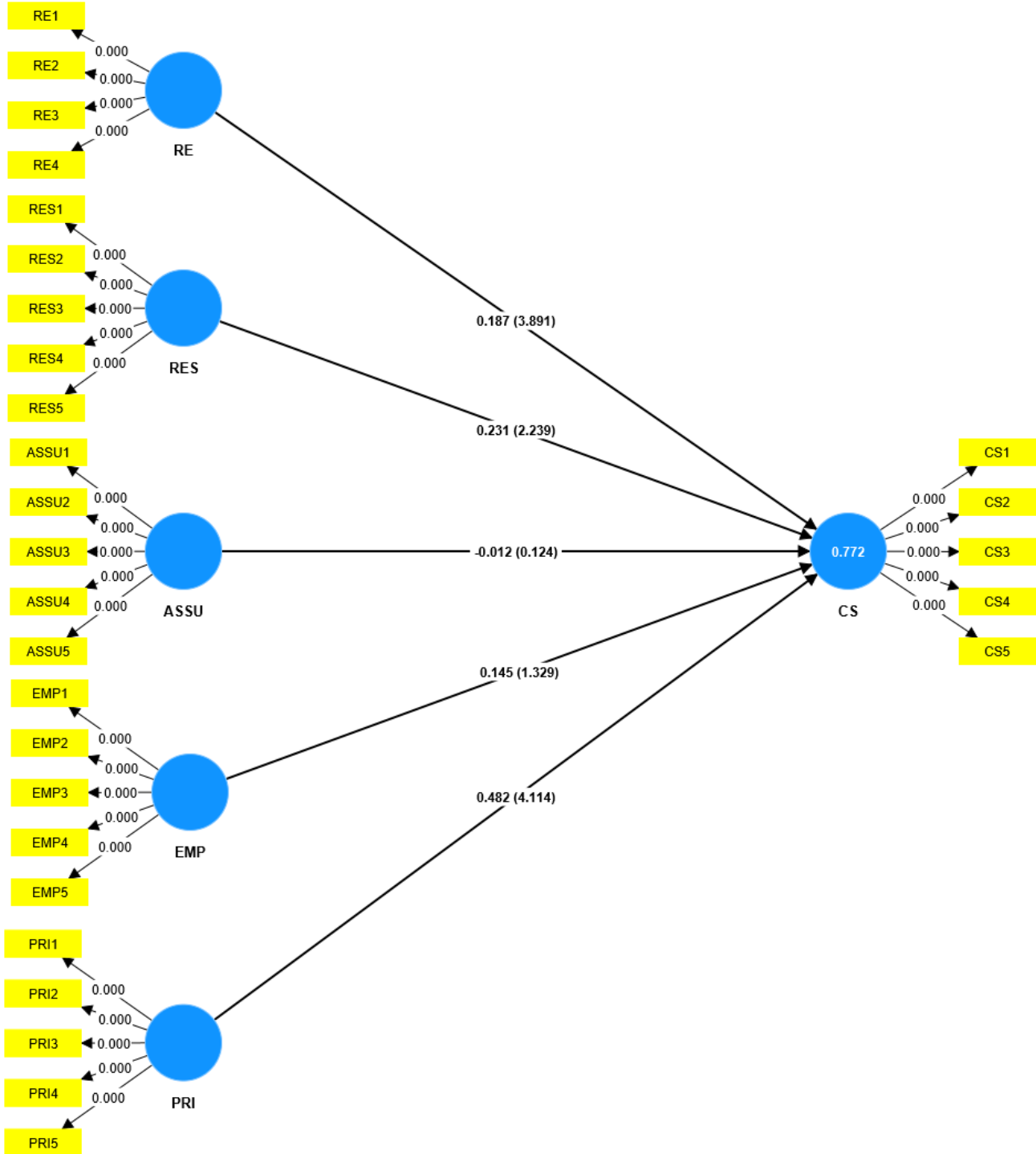


Figure 2. Direct effect results

Hypothesis 4 (H4) examined the influence of service reliability on customer satisfaction and was also supported by the data ($\beta = 0.187$; $p < 0.05$; $t = 3.891$). This confirms that reliable delivery performance, including timely delivery, accurate tracking, and effective communication, contributes positively to customer satisfaction. These findings align with those of Mock et al. (2022), which similarly underscored the importance of reliability in assessing courier service quality.

They noted that reliable parcel service offered by Shopee Xpress is characterised by precise order processing, punctual delivery, damage-free handling, and efficient, consistent order fulfilment. However, Rizal and Idris (2024) they Che Hamat et al. (2024) presented a contrasting finding, suggesting that customers' decision-making in this context is primarily influenced by emotional and interpersonal factors. Finally, Hypothesis 5 (H5), which proposed that responsiveness significantly influences customer satisfaction, was validated ($\beta = 0.231$; $p < 0.05$; $t = 2.239$). The results suggest that customer satisfaction is positively associated with service personnel's responsiveness, particularly their willingness to assist and resolve delivery-related issues. A study Che Hamat et al. (2024) discovered that responsiveness significantly influences customer perceptions of Shopee Xpress, but the dimension was relatively weak. Notably, this finding is in contrast with Hui et al. (2023) that of Rizal and Idris (2024), who reported responsiveness as a non-significant predictor of customer satisfaction in the context of parcel delivery services.

Table 3. Results of hypothesis testing

| Hypothesis: Structural Path | Standard Beta | Standard Error | T-value | p-value | Effect Size (f^2) | Explanatory Power (R^2) | Results |
|-----------------------------|---------------|----------------|---------|---------|-----------------------|-----------------------------|-------------|
| H1: ASSU \rightarrow CS | -0.012 | 0.094 | 0.124 | 0.451 | 0.00 | | Unsupported |
| H2: EMP \rightarrow CS | 0.145 | 0.109 | 1.329 | 0.092 | 0.023 | | Unsupported |
| H3: PRI \rightarrow CS | 0.482 | 0.117 | 4.114 | <0.001 | 0.421 | 0.772 | Supported |
| H4: RE \rightarrow CS | 0.187 | 0.048 | 3.891 | <0.001 | 0.099 | | Supported |
| H5: RES \rightarrow CS | 0.231 | 0.103 | 2.239 | 0.013 | 0.071 | | Supported |

4. Conclusions

This research examined the factors influencing online shoppers' satisfaction with Shopee Xpress delivery services in Malaysia using the SERVQUAL model. The rapid increase in online shopping, especially during and after the COVID-19 pandemic, has highlighted the importance of efficient, reliable, and customer-focused delivery services. The findings of this study provide empirical support for the proposed model, affirming that price, reliability, and responsiveness are significant predictors of customer satisfaction towards courier services offered by Shopee Xpress in the post-COVID-19 era. In contrast, assurance and empathy did not have a significant impact on customer satisfaction. This contrasts with prior studies, which reported that both assurance and empathy positively affect customer satisfaction. It may suggest that Shopee Xpress customers are dissatisfied with aspects related to assurance and empathy. For instance, although Shopee Xpress promises to deliver parcels in good condition, many customers have reported receiving damaged packages, likely due to poor handling during delivery. Similarly, empathy appears to be lacking, as customer service representatives and delivery personnel may be unresponsive or inattentive to customers' concerns or complaints.

This study provides valuable insights and practical recommendations for Shopee Xpress and other courier service providers, highlighting the critical importance of aligning service delivery with customer expectations to enhance satisfaction in an increasingly competitive e-commerce landscape. Actionable strategies for service improvement include investing in employee training to strengthen their ability to handle customer inquiries effectively and adopting technology to improve service transparency and foster customer trust. Courier service providers are also encouraged to adopt automation and pursue continuous innovation. One effective method for enhancing delivery efficiency and timeliness is route optimisation, which uses software or route-planning tools to identify the fastest, most efficient delivery routes for drivers. Accordingly, it is vital to invest in the ongoing development and enhancement of both internal systems and external services to meet rapidly evolving consumer demands. From an academic perspective, this study contributes to the existing literature on service quality and customer satisfaction in e-commerce and parcel delivery, offering deeper insights into consumer behaviour in the post-pandemic, digital-economy era. However, this study is not without limitations. First, the sample size was limited by a low response rate, and the demographic composition was uneven, particularly by ethnicity, with a predominance of Malay respondents. Second, the study focused solely on Shopee Xpress, limiting the ability to compare customer satisfaction across different courier services in Malaysia. Subsequent research should aim to include a larger sample size by employing more diverse and widespread data collection methods and targeting participants from various demographic groups. Additionally, comparative studies across multiple delivery service providers would offer a more comprehensive view of customer satisfaction trends in the Malaysian parcel delivery industry.

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Declaration of Competing Interests

The authors declare no conflicts of interest.

CRedit Authorship Contribution Statement

Muhammad Amirul Aiman Mohamed: Conceptualisation; Methodology; Validation; Formal analysis; Data curation; Investigation; Visualisation; Writing - original draft
 Suzyyana Mat Dahan: Conceptualisation; Methodology; Formal analysis; Visualisation; Writing - review & editing; Project administration; Supervision
 Fatimah Mahmud: Methodology; Validation; Validation; Writing - review & editing
 Gusman Nawanir: Investigation; Writing - review & editing

Availability of Data and Materials

The data supporting this study's findings are available on request from the corresponding author.

Ethics Declarations

This study did not involve human or animal participants, nor did it require ethical approval.

Generative Artificial Intelligence Declarations

The authors claim that artificially intelligent-assisted technologies in the form of generative AI were not used to generate content, ideas, or theories. AI is only used to enhance readability and refine the language. This was used with extreme human control and oversight. The authors take full responsibility for reviewing and approving the content.

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