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Beyond delivery speed? Understanding customer satisfaction and loyalty among young courier users in Malaysia

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ABSTRACT

This study investigates customer satisfaction and loyalty in the courier service industry by focusing on young consumers in a developing-country context. Although courier services are a major contributor to national income, the factors influencing service quality remain unclear, particularly in developing countries. The primary objective is to examine the influence of the Service Quality (SERVQUAL) dimensions on customer satisfaction and the relationship between satisfaction and customer loyalty. In addition, the study explores the moderating role of perceived value towards the behaviour of young consumers. A quantitative research design was adopted, and data were collected via a structured survey administered to 169 young courier service users. The measurement and structural models were analysed using Smart PLS 4.0 to ensure the reliability and validity of the findings. The SERVQUAL dimensions, including reliability, assurance, and empathy, were tested as key predictors of customer satisfaction. The results reveal that SERVQUAL dimensions significantly influence young consumers' satisfaction with courier services. Customer satisfaction was also found to have a strong and positive impact on customer loyalty. It indicates that satisfied consumers are more likely to continue using and recommending a particular courier provider. However, the moderating effect of perceived value on the satisfaction, such as loyalty relationship was insignificant. It suggests that perceived value does not significantly alter this dynamic within the studied context. This study contributes to the growing literature on Malaysia's courier service sector by highlighting the critical role of service quality in young consumer's satisfaction and loyalty. The findings provide practical implications for courier service providers and policymakers to enhance service delivery, strengthen customer retention, and support sustainable industry growth.

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1. INTRODUCTION

The global logistics industry has grown increasingly complex and competitive due to globalisation, technological advancement, and expanding international trade. Businesses now require comprehensive end-to-end logistics solutions to support supply chain efficiency and cross-border transactions (Placek, 2023). The Asia-Pacific region has emerged as the largest logistics market globally. Strategically located in ASEAN, Malaysia is well-positioned to strengthen its role as a regional logistics hub (MIDA, 2021). In Malaysia, the courier industry has experienced significant development, particularly during and after the COVID-19 pandemic, which accelerated digital adoption and online shopping behaviour. The volume of domestically delivered courier items increased dramatically from 109.14 million in 2017 to 737.36 million in 2021, reflecting the sector's rapid expansion (Mordor Intelligence, 2023).

The Malaysian courier industry is highly competitive and fragmented, with more than 100 service providers operating in the market. Major players compete based on pricing, delivery speed, reliability, service quality, and technological integration. Despite strong growth, the industry faces ongoing challenges, including rising operational costs, regulatory compliance requirements, service failures, and increasing customer expectations. Complaints, particularly regarding late deliveries, highlight the need for improved service performance. In such an environment, service quality and customer satisfaction become critical determinants of business sustainability and long-term competitiveness (Lim et al., 2022).

A particularly important segment driving courier service demand in Malaysia is young consumers aged 18 to 35. This demographic represents a significant proportion of the population and is characterised by high digital literacy, frequent internet usage, and strong engagement with online shopping platforms (Nor & Rahim, 2021). For instance, young consumers are highly connected through social media and rely heavily on online reviews and digital feedback when making purchase decisions. They prioritise convenience, speed, reliability, and seamless service experiences. From a literature perspective, there is limited academic research examining satisfaction and loyalty among young consumers in developing countries. Most existing studies focus on other service sectors such as hospitality, food services, or tourism (Tuncer et al., 2021; Lim et al., 2022). Given the distinctive characteristics of young consumers and their influence on digital commerce, there is a need to better understand the factors shaping their satisfaction and loyalty towards courier services in Malaysia.

Service quality is widely recognised as a key determinant of customer satisfaction. The SERVQUAL model (Parasuraman et al., 1988) identifies five dimensions of tangibility, reliability, responsiveness, assurance, and empathy. In the courier industry, reliability, responsiveness, and assurance are especially important for timely delivery and customer trust. Customer satisfaction reflects how well services meet or exceed expectations, leading to positive attitudes and continued usage. Customer loyalty represents a long-term commitment to repurchase and maintain relationships, reducing switching behaviour. Studies show satisfaction strongly predicts loyalty (Naini et al., 2022; Raza et al., 2020). Although its moderating role in Malaysia remains unclear, perceived value may influence loyalty by shaping benefit–cost evaluations.

Given the gaps in the literature and practice, rising customer complaints, and the strong influence of young consumers on e-commerce, this study aims to assess the determinants of customer satisfaction and loyalty among young consumers in Malaysia's courier industry. Specifically, it seeks to assess the impact of the five SERVQUAL dimensions on customer satisfaction, evaluate the relationship between customer satisfaction and customer loyalty, and examine whether perceived value moderates this relationship. The

objectives of this research are threefold. First, it aims to assess the influence of SERVQUAL dimensions on young consumers' satisfaction with courier services. Second, it seeks to evaluate the direct relationship between customer satisfaction and loyalty. Third, it examines the moderating effect of perceived value in this relationship.

This study contributes both practically and theoretically. From a practical perspective, the findings provide courier service providers with insights into the expectations and preferences of young consumers, enabling them to design targeted strategies to enhance satisfaction and retention. In a highly competitive market, understanding satisfaction drivers can help firms differentiate their services and build stronger customer relationships. From a theoretical perspective, this study extends service quality and customer behaviour literature by focusing specifically on young consumers within the courier industry context. It enriches understanding of how service quality dimensions influence satisfaction and how satisfaction translates into loyalty. Additionally, it evaluates the role of perceived value as a moderating variable, contributing to the refinement of existing service quality models.

2. LITERATURE REVIEW

2.1 Service Quality Theory and the SERVQUAL Model

Service quality is conceptualised as the discrepancy between customer expectations and perceived service performance. Parasuraman et al. (1988) operationalised this concept through the SERVQUAL model, which identifies five dimensions of tangibility, reliability, responsiveness, assurance, and empathy. The model remains one of the most widely applied frameworks in service research due to its diagnostic capability and adaptability across sectors. Tangibility refers to the physical and technological aspects of service delivery, including facilities, equipment, and personnel appearance (Huang et al., 2019). In the courier industry, tangibility includes packaging conditions, tracking systems, delivery uniforms, and digital interfaces. Although courier services are largely intangible, these visible cues shape perceptions of professionalism and organisational credibility.

Reliability represents the ability to deliver promised services accurately and consistently (Lim et al., 2022). In courier services, this dimension is particularly critical, as it encompasses on-time delivery, proper handling of parcels, and operational consistency. Reliability directly influences trust formation and significantly determines overall satisfaction. Responsiveness reflects the willingness to assist customers promptly and address service issues efficiently (Balbin-Romero et al., 2022). Given the time-sensitive nature of parcel delivery, responsiveness in complaint resolution, tracking updates, and customer communication plays a crucial role in shaping customer experiences. Assurance relates to employees' knowledge, courtesy, and ability to instil confidence. Customers must trust courier providers with their goods; therefore, perceived professionalism and competence strengthen assurance. Empathy refers to individualised attention and personalised care (Yaacob et al., 2022). Flexible delivery options, customer-centric communication, and sensitivity to service disruptions contribute to empathetic perceptions. Past literature confirms that improvements in these dimensions positively influence customer satisfaction (Raza et al., 2020). Nonetheless, the relative importance of each dimension may vary depending on context and demographic characteristics. For young consumers, digital responsiveness and real-time tracking may carry greater weight than traditional service attributes.

2.2 Consumer Behaviour

Consumer behaviour theory explains how individuals evaluate services and form behavioural intentions (Duralia, 2024). In courier services, positive evaluations of service quality shape favourable attitudes, which subsequently drive loyalty behaviours. An analysis of consumer behaviour in the U.S. before and during the Covid-19 pandemic revealed a substantial surge in online shopping during the crisis (Mason et al., 2020). The decision to buy online and utilise courier services concurrently is influenced by consumers' attitudes. Their acceptance of online purchasing as a transaction medium serves as an indicator of these attitudes. Additionally, consumers form perceptions about specific online merchants and their delivery service providers (Jahng et al., 2001). As consumer behaviour in online purchasing continues to evolve, the demand for courier services is on the rise.

2.3 Customer Satisfaction

In the courier context, satisfaction is shaped by delivery speed, accuracy, problem resolution, staff behaviour, and overall service efficiency (Djan & Adawiyyah, 2020). Satisfaction is cumulative rather than transactional. Repeated positive experiences strengthen favourable attitudes, whereas repeated service failures erode trust. Given the intense competition in Malaysia's courier industry, maintaining high satisfaction levels is essential for reducing switching behaviour. Empirical studies consistently demonstrate that customer satisfaction functions as a mediator between service quality and customer loyalty. Thus, improving service quality dimensions is expected to enhance satisfaction, thereby fostering loyalty.

2.4 Customer Loyalty

Customer loyalty refers to a customer's commitment to continue using a service provider despite alternative options. It manifests as repeat purchases, resistance to switching, and positive word of mouth (Zaid & Patwayati, 2021). In service industries, loyalty is economically significant because retaining customers is less costly than acquiring new ones. Loyal customers also contribute to brand advocacy and long-term profitability (Krishnan, 2021). In courier services, loyalty may depend on reliability, service consistency, perceived pricing fairness, and overall trust. Research strongly supports a positive relationship between customer satisfaction and loyalty. However, satisfaction alone may not always guarantee loyalty, particularly in highly competitive markets where alternatives are readily available.

2.5 Perceived Value as a Moderating Variable

Perceived value represents customers' evaluation of benefits relative to costs incurred (Cela et al., 2024). It reflects a trade-off between monetary, time, and effort investments and the quality, convenience, and reliability received (Liew et al., 2025). For young consumers, perceived value is particularly important given their price sensitivity and high expectations for service efficiency. Even when satisfied, customers may switch providers if they perceive superior value elsewhere. Scholarly debate continues regarding whether perceived value acts as a direct predictor of loyalty or as a moderating variable. This study conceptualises perceived value as a moderator that may strengthen or weaken the relationship between satisfaction and loyalty. When perceived value is high, the impact of satisfaction on loyalty is expected to be stronger.

2.6 Hypothesis Development

Tangibility refers to the physical evidence and facilities provided by a service provider that are perceptible to customers. In operational terms, it encompasses the tangible elements of the service encounter, such as the provider's physical environment, facilities, and equipment (Rajabi, Sharifpour, & Kavooosi, 2021). Past literature indicates that tangibility strongly influences customer satisfaction with product consumption in developed countries (Nguyen et al., 2018). Hence, the proposed hypotheses are:

H1: Tangibility positively influences customer satisfaction.

Reliability epitomises the consistency and dependability of service delivery over time and across different service encounters. Operationally, reliability refers to the extent to which a service provider consistently fulfils its promises and commitments to customers (Akbar & Tzokas, 2020). This encompasses factors such as the service provider's ability to deliver services accurately, on time, and as promised, fostering trust and confidence among customers. Lim et al. (2022) found that reliability affects customer satisfaction when dining in a traditional restaurant. With all that is being stated, it is postulated that:

H2: Reliability positively influences customer satisfaction.

Responsiveness refers to a service provider's willingness and promptness in addressing customer needs, inquiries, and concerns. Operationally, it is defined as the speed and readiness with which the provider delivers assistance and resolves customer issues (Ding & Zhang, 2020). Timely responses and efficient problem resolution enhance customers' perceptions of service quality and overall satisfaction. This dimension is a key component, as it defines the promptness and accuracy of service quality, highlighting the speed and timeliness of service delivery (Balinao et al., 2021). Hence, this study suggested that:

H3: Responsiveness positively influences customer satisfaction.

Assurance relates to the competence, credibility, and reliability of service personnel, as well as their ability to instil trust and confidence in customers. Operationally, it is defined by the knowledge, courtesy, and professionalism demonstrated by service providers during customer interactions (Liang et al., 2022). This includes factors such as personnel's expertise, their ability to convey reliability and trustworthiness, and their communication effectiveness. As such, this study proposed that:

H4: Assurance positively influences customer satisfaction.

Empathy refers to the ability of service providers to understand and respond to customers' individual needs, preferences, and concerns with sincerity and compassion. Operationally, it encompasses the extent to which providers demonstrate understanding, attentiveness, and care toward customers' emotions and issues (Pérez, Rodriguez, & Revilla, 2020). This involves actively listening to customers, acknowledging their unique circumstances, and tailoring services to address their specific needs. Hence, the next hypothesis that can be posited is as follows:

H5: Empathy positively influences customer satisfaction.

Customer satisfaction is widely defined as a customer's emotional response arising from performance evaluation. It occurs when perceived service performance meets or exceeds expectations (Bachri et al., 2023). Long-term customer loyalty increases the number of customers who consume the service provider's goods or services with satisfaction, helping retain customers and prevent them from switching to rivals in the same industry (Lim et al., 2022). Considering the evidence provided in the literature, it is proposed that:

H6: Customer satisfaction positively influences customer loyalty.

Perceived value refers to customers' assessment of the benefits they receive relative to the costs they incur (Cela et al., 2024). It reflects the trade-off between monetary, time, and effort investments and the quality, convenience, and reliability obtained (Liew et al., 2025). Past studies have shown that perceived value strongly influences tourist satisfaction and loyalty in the tourism industry (Keshavarz & Jamshidi, 2018). Due to this, this study suggested that:

H7: Perceived value moderates the relationship between customer satisfaction and customer loyalty, such that the relationship is stronger when perceived value is high.

2.7 Research Framework

Figure 1 presents the research framework of the study.

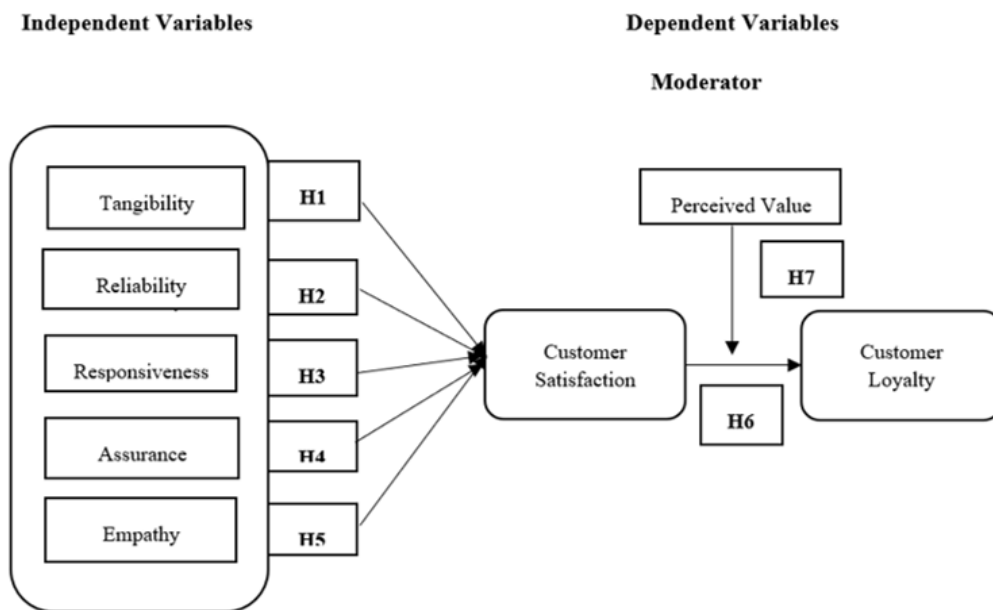


Fig. 1. Research framework

3. METHODOLOGY

3.1 Research Design

This study employs a quantitative research design with a cross-sectional survey. A quantitative design is appropriate because the study aims to examine relationships among theoretically established constructs derived from the SERVQUAL framework and consumer behaviour theories. This design facilitates the statistical testing of hypotheses and the assessment of structural relationships between variables. A cross-sectional approach was employed as data were collected at a single point in time to capture respondents' perceptions of their courier service experiences without manipulating any variables (Lim et al., 2023).

The target population comprises Malaysian young consumers aged 18–35 years who have used courier services within a recent and specified period. This demographic was selected for its high involvement in online shopping and digital transactions. Purposive sampling, a nonprobability sampling method, was adopted to ensure that only respondents who met the criteria were included (Creswell & Plano Clark, 2023). This ensured that participants possessed relevant experiential knowledge to evaluate service quality and satisfaction.

3.2 Data Collection

Data were collected through an online questionnaire distributed via digital platforms such as social media and messaging applications. The required sample size was determined based on SEM guidelines and statistical power considerations, which recommend a minimum of 200 respondents for models with multiple constructs to ensure stable parameter estimation. A larger sample enhances reliability and generalisability (Ma et al., 2025). Data were collected using a structured questionnaire developed from validated instruments used in previous studies. All variables were measured using multi-item scales to ensure content validity and reliability. A five-point Likert scale was used for all measurement items to facilitate standardised assessment of respondents' perceptions.

3.3 Data Analysis

Data were analysed using Partial Least Squares Structural Equation Modelling (PLS-SEM), which is suitable for examining complex relationships among multiple latent constructs and for prediction-oriented research models. PLS-SEM is also appropriate for this study as it allows simultaneous assessment of the measurement model and structural model, while being less restrictive in terms of data normality assumptions.

Prior to the main analysis, the dataset was screened for missing values, outliers, normality, and multicollinearity. Missing data and outliers were examined to ensure the quality of the dataset. Multivariate normality was assessed using Mardia's skewness and kurtosis, while multicollinearity was evaluated using the variance inflation factor (VIF).

The analysis was conducted in two main stages. First, the reflective measurement model was assessed to examine the reliability and validity of the constructs. Indicator reliability was evaluated through factor loadings, while internal consistency reliability was assessed using Cronbach's alpha, composite reliability, and rho_A. Convergent validity was examined using Average Variance Extracted (AVE). Discriminant validity was assessed using the Fornell–Larcker criterion and the Heterotrait–Monotrait ratio (HTMT). The recommended threshold values from Hair et al. (2014) were used to determine the adequacy of the measurement model.

Second, the structural model was assessed to test the proposed hypotheses. Path coefficients were examined to determine the strength and direction of relationships among the constructs. The significance of the hypothesised relationships was tested using bootstrapping with 10,000 resamples. The explanatory power of the model was assessed using the coefficient of determination (R^2), while predictive relevance was examined using Stone–Geisser's Q^2 . Effect sizes were assessed using f^2 to determine the relative contribution of each predictor construct.

Finally, given the use of a self-administered questionnaire, procedural and statistical remedies were employed to mitigate potential common method bias. Procedural controls included anonymity assurance, separation of predictor and criterion constructs, and the use of validated scales, while statistical tests were also conducted to assess whether common method variance posed concerns.

4. RESULTS

4.1 Demographic Data of the Respondents

A total of 169 valid responses were obtained from young Malaysian consumers aged 18–35. As shown in Table 1, the sample was predominantly female (67.5%), with the largest age group being 21–25 years old (37.3%). Most respondents resided in Sarawak (76.3%) and held a bachelor's degree (54.4%). In terms of courier service experience, 69.8% had used a courier service within the past three months, indicating that the respondents had relevant experience with delivery services.

Table 1. Demographic Profile of the Respondents

Demographic Profile	Category	Frequency (N=169)	Percentage (%)
Gender	Male	55	32.5
	Female	114	67.5
Age	18 – 20 years old	34	20.1
	21 – 25 years old	63	37.3
	26 – 30 years old	27	16
	31 – 35 years old	45	26.6
Ethnicity	Malay	33	19.5
	Chinese	97	57.4
	Indian	3	1.8
	Bumiputera Sabah	2	1.2
	Bumiputera Sarawak	31	18.3
	Others	3	1.2
Current state of residence	Kuala Lumpur	13	7.7
	Penang	6	3.6
	Sabah	10	5.9
	Sarawak	129	76.3
	Others	11	6.5
Marital Status	Single	129	76.3
	Married	35	20.7
	Divorced	3	1.8
	Others	2	1.2

Current Occupational status	Unemployed	9	5.3
	Student	75	44.4
	Own Business	10	5.9
	Government sector	16	19.5
	Private sector	56	33.1
	Early Retirement	2	1.2
	Others	1	0.6
Gross Monthly Expenses	Less than RM 1000.00	57	33.7
	RM 1001.00 to RM 2000	21	12.4
	RM 2001.00 to RM 3000	25	14.8
	RM 3001.00 to RM 4000	20	11.8
	RM 4001.00 to RM 5000	16	19.5
	RM 5001.00 and above	30	17.8
Highest level of education	SPM (and equivalent)/below	17	10.1
	Diploma and equivalent	35	20.7
	Bachelor degree and equivalent	92	54.4
	Master's degree and equivalent	23	13.6
	PhD and equivalent	0	0
	Others	2	1.2
Past experiences of using courier service	3 months	118	69.8
	6 months	20	11.8
	9 months	7	4.1
	12 months	19	11.2
	Others	5	3

4.2 Data Screening

All 169 responses were complete and met the inclusion criteria. No extreme outliers were detected. The data showed non-multivariate normality, as indicated by Mardia's multivariate skewness ($\beta = 7.625$, $p < .01$) and kurtosis ($\beta = 57.300$, $p < .01$). In addition, all variance inflation factor (VIF) values were within acceptable thresholds, indicating no multicollinearity concerns.

4.3 Measurement Model Assessment

The measurement model demonstrated satisfactory reliability and validity. As shown in Table 2, all factor loadings exceeded 0.70. Cronbach's alpha values ranged from 0.85 to 0.93, while composite reliability values ranged from 0.877 to 0.953, indicating good internal consistency. The Average Variance Extracted (AVE) values ranged from 0.690 to 0.872, confirming convergent validity.

Discriminant validity was also established. As presented in Table 3, the Fornell–Larcker criterion showed that the square root of AVE for each construct was higher than its correlations with other constructs. In addition, all HTMT values were below 0.85, further confirming discriminant validity.

Table 2. Reflective Measurement Model: Factor Loadings, Cronbach Alpha, CR and AVE

Construct	Item	Factor Loadings	Cronbach Alpha	Composite Reliability	AVE	Convergent Validity	rho_A
Tangibility	T1	0.865	0.877	0.916	0.731	Yes	0.879
	T2	0.886					
	T3	0.802					
	T4	0.864					
Reliability	R1	0.824	0.87	0.918	0.69	Yes	0.892
	R2	0.799					
	R3	0.857					
	R4	0.84					
	R5	0.833					
Responsiveness	Re1	0.817	0.863	0.906	0.708	Yes	0.873
	Re2	0.87					
	Re3	0.875					
	Re4	0.801					
Assurance	A1	0.78	0.85	0.899	0.691	Yes	0.852
	A2	0.841					
	A3	0.903					
	A4	0.797					
Empathy	E1	0.817	0.892	0.895	0.701	Yes	0.895
	E2	0.83					
	E3	0.887					
	E4	0.896					
	E5	0.749					
Customer Satisfaction	CS1	0.932	0.927	0.953	0.872	Yes	0.917
	CS2	0.947					
	CS3	0.923					
Customer Loyalty	CL1	0.909	0.917	0.877	0.858	Yes	0.917
	CL2	0.937					
	CL3	0.933					
	PV1	0.897		0.92	0.794	Yes	0.87
Perceived Value	PV2	0.91	0.87				
	PV3	0.865					

Note: Criteria: Composite Reliability > 0.708 (Hair et al., 2014), AVE > 0.5 (Hair et al., 2014)

Table 3. Discriminant Validity (Fornell–Larcker and HTMT Summary)

Criterion	Result
Fornell–Larcker	For every construct, $\sqrt{\text{AVE}}$ exceeded its correlations with other constructs → Supported
HTMT	All inter-construct HTMT ratios < .85 → Supported

4.4 Structural Model Assessment

The structural model demonstrated strong explanatory and predictive power. The R^2 value for customer satisfaction was 0.749, while the R^2 value for customer loyalty was 0.824. The Q^2 values for customer satisfaction (0.700) and customer loyalty (0.722) were both above zero, indicating substantial predictive relevance.

The hypothesis testing results are presented in Table 4. Reliability had a significant positive effect on customer satisfaction ($\beta = .175, p = .049$), supporting H2. Assurance also significantly influenced customer satisfaction ($\beta = .228, p = .025$), supporting H4. Empathy was the strongest predictor of customer satisfaction ($\beta = .366, p < .001$), supporting H5. However, tangibility and responsiveness did not significantly influence customer satisfaction; therefore, H1 and H3 were not supported.

Customer satisfaction had a significant positive effect on customer loyalty ($\beta = .606, p < .001$), supporting H6. However, perceived value did not significantly moderate the relationship between customer satisfaction and customer loyalty ($\beta = -.026, p = .287$), indicating that H7 was not supported.

Table 4. Structural Paths, Effect Sizes, and Model Fit Statistics (PLS-SEM)

Hypothesis	Path	β (Std.)	SE	t	p	f^2	Decision
H1	Tangibility $\rightarrow$ CS	.103	.065	1.661	.097	.008	Not supported
H2	Reliability $\rightarrow$ CS	.175	.086	1.972	.049	.037	Supported
H3	Responsiveness $\rightarrow$ CS	.073	.102	0.640	.522	.037	Not supported
H4	Assurance $\rightarrow$ CS	.228	.102	2.241	.025	.036	Supported
H5	Empathy $\rightarrow$ CS	.366	.089	4.188	<.001	.106	Supported
H6	CS $\rightarrow$ CL	.606	.061	9.886	<.001	.825	Supported
H7	PV $\times$ CS $\rightarrow$ CL	-.026	.024	1.066	.287	.005	Not supported

Overall, the findings indicate that reliability, assurance, and empathy are important determinants of customer satisfaction, with empathy having the strongest influence. Customer satisfaction plays a substantial role in enhancing customer loyalty. However, perceived value did not strengthen the relationship between customer satisfaction and customer loyalty in this study.

5. DISCUSSIONS

The findings demonstrate partial support for the SERVQUAL dimensions as significant predictors of customer satisfaction within the Malaysian courier service context. Consistent with prior research (Lim et al., 2022), reliability significantly influenced customer satisfaction and emerged as the strongest predictor. As courier services are directly linked to the fulfilment of online purchases, timely and accurate delivery plays a critical role in shaping customer evaluations. Young consumers, who frequently engage with e-commerce platforms, exhibit low tolerance for delays and communication gaps, reinforcing the importance of operational efficiency. Assurance and empathy further contributed to satisfaction, with empathy emerging as the strongest predictor. This supports the premise that relational aspects such as courtesy, competence, and personalised attention shape customer experiences (Liang et al., 2022; Yaacob et al., 2022). The strong positive relationship between customer satisfaction and loyalty reinforces established

service marketing theories (Zaid & Patwayati, 2021; Bachri et al., 2023). Satisfied consumers demonstrated greater intentions to repurchase and recommend courier services, illustrating the central role of satisfaction in fostering behavioural commitment and reducing switching tendencies.

Nevertheless, tangibility and responsiveness were also found not to significantly influence customer satisfaction. Such findings are in opposition to the past literature, which highlighted that both dimensions of SERVQUAL strongly influenced customer satisfaction (Nguyen et al., 2018; Lim et al., 2022). Young consumers may be less concerned with physical environments or facilities and more focused on delivery outcomes, such as speed and reliability. They may also prefer self-service options such as automated notifications and chatbots, which reduces the direct influence of responsiveness on satisfaction. In addition, perceived value did not moderate the relationship between satisfaction and loyalty. This finding contrasts with the past literature (Keshavarz & Jamshidi, 2018). When satisfaction is strong, moderation effects may become insignificant because the main relationship is already stable and dominant among the users of courier services. Young consumers tend to make decisions based on convenience and service outcomes, such as delivery success, rather than evaluating value trade-offs deeply. Overall, the results partially support the integrated research framework and highlight the complex interplay between service quality, satisfaction, perceived value, and loyalty. The findings highlight the need for courier service providers to enhance operational reliability, assurance, and empathy while ensuring customer satisfaction in service delivery.

6. CONCLUSIONS AND FUTURE RESEARCH

This study offers several theoretical contributions. The study extends the SERVQUAL model to the Malaysian courier service industry, a setting that has received limited academic attention. Also, the study incorporates perceived value as a moderating variable rather than only a direct predictor, providing further insight into the satisfaction-to-loyalty mechanism. Although the moderating effect of perceived value was not supported, the finding contributes to service marketing theory by showing that customer satisfaction may have a strong direct influence on loyalty regardless of perceived value. Apart from this, by focusing on young consumers, the study contributes to demographic-specific service research, highlighting the expectations of digital-native customers in modern e-commerce environments. Overall, the findings advance service marketing theory by integrating quality, satisfaction, and value perspectives within the logistics context.

The findings provide practical insights for courier service providers in competitive markets. Since empathy emerged as the strongest predictor of customer satisfaction, courier service providers should place greater emphasis on customer care, personalised assistance, and responsive problem handling. Reliability also remains an important driver of satisfaction. Thus, firms should improve operational efficiency, ensure accurate parcel handling, and ensure timely delivery through route optimisation, robust infrastructure, and real-time tracking systems. Assurance and empathy further highlight the need for well-trained frontline staff to build trust. Finally, targeting young, digitally engaged consumers requires seamless mobile apps, real-time notifications, and a strong social media presence to enhance experience and loyalty.

Despite its contributions, this study has limitations. Its cross-sectional design restricts causal inference, suggesting the need for longitudinal research. Self-reported data may involve response bias, so future studies could include objective measures. The focus on young Malaysian consumers limits generalisability, and examining courier services broadly overlooks differences across providers. Future research could

extend this study by using longitudinal designs, comparing demographic groups, and examining moderators such as trust, switching costs, or brand image. Applying the framework to other logistics contexts and adopting mixed-method approaches may provide deeper insights into consumer experiences.

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8. CONFLICT OF INTEREST STATEMENT

The authors agree that this research was conducted without any self-benefit, commercial, or financial conflicts, and declare no conflicts of interest with the funders.

9. AUTHORS' CONTRIBUTIONS

Belinda Lim Kim Moi: Conceptualisation, investigation, data collection, literature review, and writing original draft; **Lim Tze Yin:** Conceptualisation, writing original draft, writing review and editing; **Voon Mung Ling:** Methodology, formal analysis, investigation, and writing original draft; **Nur Hidayah Safarudin:** Validation, writing review and editing, formatting, and reference checking; **Wong Kai Lu:** Conceptualisation, writing original draft, writing review and editing, supervision, and writing of implications, limitations and future study.

10. DECLARATION OF GENERATIVE AI IN THE WRITING PROCESS

During the preparation of this work, the author(s) used Microsoft Copilot and ChatGPT to enhance the clarity and quality of the writing. After using this too, the author(s) reviewed and edited the content as needed and take(s) full responsibility for the content of the publication.

11. DATA AVAILABILITY/ SUPPLEMENTARY MATERIALS

The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

12. ETHICS STATEMENT

In accordance with the university policy in effect at Universiti Malaysia Sarawak (UNIMAS) at the time this research was conducted, formal ethics committee approval was not required for this study. Informed consent was obtained from all participants prior to data collection. Participation was voluntary, and the confidentiality and anonymity of participants and their responses were strictly maintained throughout the study.

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