

Trust, Value, and the Engaged Consumer: Modelling Loyalty in Thailand's Ecommerce Logistics Ecosystem

Piyachat Jarutirasarn,

Ramkhamhaeng University, Bangkok, Thailand 10240

Thanawatdech Thirapatsakun*

*Committee for PhD Dissertation Examination, independent scholar,
Bangkok, Thailand*

The growing demand for expedited courier, express, and parcel delivery services is primarily driven by customers' evolving expectations for flexibility, reliability, and transparency in their delivery options. This study applies the S-O-R framework to examine the moderating influence of customer experience on the relationship between customer engagement and loyalty within Thailand's e-commerce logistics sector. Data were collected from 500 online retailers who had previously employed courier, express, and parcel delivery services, yielding valid responses suitable for analysis. The research employed a structural equation modelling approach grounded in a conceptual framework to test the proposed hypotheses. The PLS-SEM technique was applied to assess the research models. Findings indicate that customer experience both strengthened and moderated the effect of customer engagement on consumer loyalty ($\beta = -0.097$, $p = 0.049$) and exerted a moderating influence on the association between customer engagement and intentions to continue service use ($\beta = -0.192$, $p = 0.000$). The SRMR value was 0.087, and the NFI value was 0.877. Assessment of the structural model suggests that the proposed model demonstrates a robust fit and clearly delineates the relationships among the variables. The results highlight a nuanced dynamic, in which a positive customer experience diminishes the effect of engagement on continued usage, reflecting a 'satisfaction-sufficiency' phenomenon in digitally sophisticated emerging markets.

Keywords: Logistics Service, Courier, Express, and Parcel Delivery Services, Online Shop Businesses, Emerging Markets, E-Commerce Logistics, Thailand

Introduction

The global retail e-commerce sector is witnessing substantial expansion, with sales anticipated to reach \$5.8 trillion in 2023 and \$8 trillion by 2027, largely propelled by rapid digitalisation, particularly within the Asia-Pacific region (Chevalier, 2024). Southeast Asia, with Thailand at the forefront, is emerging as a vibrant market, reshaping shopping and delivery practices (Bank, 2023; Solidiance, 2023). Major operators such as Thailand Post, Flash Express, DHL, and FedEx play a pivotal role in the growing courier, express, and parcel delivery segment, which is projected to expand at an annual rate of 7.20% from 2024 to 2030, driven by increasing online retail activity (DHL, 2024; FedEx, 2025; Intelligence, 2025). These companies are continually enhancing their services to improve operational efficiency and bolster customer engagement in an intensely competitive environment.

Despite this growth, there remains a need for deeper investigation into how service quality, perceived value, trust, and satisfaction influence customer engagement and loyalty, particularly in the evolving delivery market. Prior research has highlighted a notable gap in B2B studies, which diverge from the majority of previous B2C-focused investigations (Radwan, 2022). This study explores the impact of customer experience on engagement, loyalty, and continued service usage, utilising the stimulus-organism-response (S-O-R) framework alongside the cognitive-affective-conative (CAC) model (Lim & Kim, 2020). Current literature on measuring customer experience in last-mile delivery remains limited, tending to focus primarily on operational efficiency and service quality. Previous logistics studies have predominantly emphasised these operational and service dimensions, with inadequate attention to behavioural outcomes stemming from customer engagement, particularly in emerging markets characterised by unique cultural and technological features.

This study addresses this deficiency by drawing on Limrachanoth and Lalaeng (2023), who found that value proposition, pain alleviation, and value enhancement significantly influence customer loyalty at PTT's LPG gas stations. Consumer lifestyle typologies—such as Innovators, Believers, Makers, and Survivors—were also found to have a substantial effect on loyalty. Additionally, Chaysiri et al. (2023) investigated causal factors shaping customer satisfaction, service quality, and experience management in private hospitals in Thailand, revealing that satisfaction, service quality, and experience management directly affect loyalty, while service quality and experience management exert indirect effects. Accordingly, the present study examines how customer experience moderates the relationships among service quality, perceived value, trust,

customer satisfaction, and the sufficiency of customer engagement.

Literature Review

Stimuli-Organism-Response

The S-O-R model examines how environmental stimuli influence human cognition, emotional responses, and behavioural outcomes. Jacoby (2002) emphasises that external factors trigger internal processes that ultimately guide specific actions. Abbott et al. (2023) employed this framework to explore customer involvement and purchasing intentions within e-commerce, utilising it to analyse impulsive online behaviours. The model is equally applicable to the courier, express, and parcel delivery sector, thereby supporting research within this industry. The consumer behaviour framework further incorporates cognitive, affective, and conative dimensions, as illustrated by Ding and Lee (2024) through the CAC model. According to S-O-R theory, an individual's emotional state, which reflects attitudes and perceptions of service, significantly shapes affective responses. Moreover, customer experiences act as a moderating factor in the relationships between customer engagement, loyalty, and intentions to continue using services.

Customer Engagement

Customer engagement in marketing refers to the emotional bonds and overall satisfaction that customers experience with a firm (Gumparathi & Patra, 2020). This strategy promotes active participation from customers, encompassing activities such as providing feedback and co-creating offerings, setting it apart from conventional marketing approaches. Research by Honora et al. (2023) emphasises the significance of the expanding courier, express, and parcel delivery sector, as well as the role of service touchpoints, in shaping customer engagement. Collectively, these studies enhance the comprehension of customer engagement, which is a critical element of effective brand management. Within Thailand's courier industry, key determinants of engagement include service quality, perceived value, trust, and satisfaction, with higher service quality and favourable perceptions exerting a positive influence (Alkrajji & Ameen, 2022).

Trust in Service

Trust in service (TS) refers to the customer's confidence in a service provider's reliability, integrity, and ability to fulfil commitments (Yuen et al., 2018). Upadhyay et al. (2021) highlight the critical role of integrity and

trust in service providers, noting that fairness and social benevolence are particularly significant in e-commerce and logistics, where services are often intangible (Suhan et al., 2022). Oliveira et al. (2017) underline that equitable delivery pricing and accountability are essential for preventing theft and maintaining customer trust. Honora et al. (2023), observe that service failures erode trust and diminish engagement, whereas consistent and dependable services encourage repeat patronage and brand advocacy. In the logistics context, trust reduces risks associated with delays or mishandling, increasing the likelihood of active customer participation in the service relationship (Vivek et al., 2012).

Trust is a pivotal construct that can be categorised into two forms, as identified by Johnson and Grayson (2005): cognitive trust, reflecting confidence in the provider's competence, and affective trust, representing the emotional bond between customer and provider. Affective trust, which alleviates customer anxiety, is predominantly fostered through timely delivery, secure handling of packages, transparent tracking systems, and responsive support, especially in urgent scenarios. However, deeper engagement beyond these operational assurances is also crucial (Aziz et al., 2025). Within Thailand's courier, express, and parcel delivery sector, reliable and trustworthy services promote repeat transactions and reinforce brand loyalty. Based on these insights, a hypothesis is proposed to guide the study.

H1. Trust in Service (TS) has a positive effect on Customer Engagement (CE).

Service Quality

Y. Liu (2024) notes that digital transformation has altered customer expectations, making service quality a key differentiator, particularly within Thailand's highly competitive courier industry. Service quality assumes critical importance among major providers such as Kerry Express, Flash Express, and Thailand Post. Customers place particular value on attributes including reliability, efficient handling of complaints, real-time tracking, and timely delivery. Delivering high service quality—which encompasses reliability, responsiveness, trustworthiness, empathy, and visual appeal—enhances customers' perceptions and attitudes toward the service, thereby reinforcing the provider–customer relationship.

The cognitive mechanism operates as follows: consistently high service quality leads customers to view the provider as competent and dependable, strengthening confidence in future interactions and reducing perceived uncertainty (Kumar et al., 2019). The emotional mechanism involves the generation of positive affective experiences, such as reassurance and appreciation, elicited by quality service, which subsequently promotes greater engagement and advocacy (Jusufobašić & Stević, 2023). Within the Stimulus–Organism–Response (S–O–R) framework, service quality functions as a stimulus affecting internal

cognitive and affective states. In contrast, inconsistent service quality may provoke engagement based on situational necessity rather than genuine commitment, yielding outcomes that are less sustainable. This suggests that perceived service quality is essential for fostering long-term engagement (Zeithaml, 2000). Based on these considerations, the following hypothesis is proposed.

H2. Service Quality (SQ) has a positive effect on Customer Engagement (CE).

Perceived Value

Perceived value, understood as a customer's evaluation of the benefits obtained relative to the costs incurred, constitutes a critical determinant within Thailand's growing e-commerce sector, particularly in the courier, express, and parcel delivery industry. Factors shaping perceived value include delivery speed, convenience, quality of customer care, and personalised service, as highlighted by Correa et al. (2021). Beyond functional advantages, perceived value encompasses both cognitive appraisals, such as cost-benefit considerations, and affective gratifications, including reassurance and satisfaction, which collectively act as strong drivers of deeper customer engagement (Mbango, 2019).

Through the lens of Expectancy-Value Theory, Eccles and Wigfield (2002) argue that customers are more inclined to engage when they anticipate positive outcomes from their interactions and regard those outcomes as meaningful, particularly in terms of psychological mechanisms. Perceived value enhances motivation by reinforcing both utilitarian benefits, such as efficiency and reliability, and hedonic benefits, including enjoyment and emotional security. According to Self-Determination Theory (Ryan & Deci, 2000), service providers who offer personalised experiences and proactive support can foster a sense of autonomy and relatedness among customers. This, in turn, cultivates intrinsic motivation, resulting in increased participation and engagement with the brand. High perceived value not only satisfies customers but also encourages participatory behaviours, such as providing feedback, recommending services, and repeating purchases, as customers perceive their relationship with the service provider to be rewarding and worthwhile (Miao et al., 2022). Based on these insights, the following hypothesis is proposed.

H3. Perceived Value (PV) has a positive effect on Customer Engagement (CE).

Customer Satisfaction

Customer satisfaction serves as a pivotal indicator within the courier industry, reflecting the extent to which customer expectations are fulfilled. From a psychological perspective, satisfaction reduces the discrepancy between anticipated and actual performance, as described by Cognitive

Dissonance Theory, while also fostering trust and positive affect, consistent with Expectancy–Disconfirmation Theory (Lee et al., 2022). Elevated levels of customer satisfaction encourage engagement behaviours, including repeat utilisation, feedback provision, and brand advocacy. (Tjizumaue & Olusegun Atiku, 2024) emphasise that enhancing transparency, control, timeliness, reliability, communication, and issue resolution is essential for improving the effectiveness of tracking systems.

Within service industries such as Thailand's courier and express delivery sector, customer satisfaction underpins emotional, cognitive, and behavioural engagement, ensuring that engagement is both sustained and multidimensional. Alternative perspectives, however, suggest that operational factors alone often lack the relational and emotional depth required to foster enduring engagement (Han & Anderson, 2022). By integrating both utilitarian and hedonic assessments, satisfaction provides a more comprehensive psychological foundation, supporting long-term customer involvement. Based on these considerations, the following hypothesis is proposed.

H4. Customer Satisfaction (CS) has a positive effect on Customer Engagement (CE).

Consumer Loyalty

In Thailand's courier, express, and parcel delivery sector, where services are largely comparable and switching costs are low, cultivating customer loyalty is essential. Despite the wide availability of alternatives, a consumer's sustained commitment to repeatedly purchase or utilise a brand's services remains a critical determinant of long-term success (Parihar et al., 2019). Loyal customers enhance profitability by reducing order cancellations, encouraging repeat transactions, increasing lifetime value, and acting as brand advocates, as evidenced by (Akdim et al., 2022). Engagement functions as a psychological mechanism that connects customer satisfaction to enduring loyalty. Customers who actively engage with a brand tend to maintain their commitment due to strengthened emotional bonds, manifesting loyalty through repeat purchases, disregard for competing offers, participation in loyalty schemes, positive reviews, and active brand promotion. Moreover, engagement promotes stability by transforming loyalty from being incentive-driven to being rooted in genuine relational connections, thereby mitigating vulnerability to defection (Huma et al., 2020). This contrasts with short-term loyalty, which is typically motivated by pricing or habitual behaviour. Based on these considerations, the following hypothesis is proposed.

H5. Customer Engagement (CE) positively influences Consumer Loyalty (CLY).

Intentions to Continue using Services

As noted by Wang and Yin (2024), retaining customers requires fostering engagement that cultivates trust, emotional attachment, and habitual usage patterns. In the competitive environment of the courier industry, customer loyalty is pivotal, and sustained performance depends on the intention of customers to continue using a service. Lally et al. (2010) describe the psychological principles of habit formation theory, suggesting that repeated positive experiences, dependable tracking, and responsive support contribute to habit development, which decreases the likelihood of switching providers. Wang and Yin (2024) similarly emphasise the role of habitual behaviours in customer retention.

Strategies that include personalised experiences, solicitation of feedback, and two-way communication, as identified by Tan et al. (2024) and Wu and Gong (2020), help build trust and foster a sense of belonging within the service context. Although some perspectives argue that continuance intentions are primarily driven by price sensitivity or the lack of superior alternatives, such influences tend to be fragile. By contrast, engagement that nurtures loyalty and emotional bonds establishes a more enduring foundation, reducing the probability of defection even when marginally better options arise. The combination of trust and emotional resonance therefore generates not only satisfaction but also a proactive intention to maintain the relationship with the service provider. Based on these insights, the following hypothesis is proposed.

H6. Customer engagement (CE) positively influences intentions to continue using services (ICS).

The Mediating Role of Customer Engagement between Trust in Service, Service Quality, Perceived Value, Customer Satisfaction, and Consumer Loyalty

Trust is a fundamental element in B2C logistics, serving to reduce perceived risks and enhance delivery efficiency, both of which are critical for retaining clients (C. Liu et al., 2019). In this context, trust in service reflects the client's confidence in the provider's reliability and competence, forming a cornerstone of long-term relationship building (Rather & Hollebeek, 2021). Within competitive sectors such as courier services, where direct interactions with clients are limited, trust becomes essential for maintaining loyalty (Hamidin & Hendrayati, 2022). Evidence from Parihar et al. (2019) suggests that loyalty often precedes deeper customer engagement, promoting both emotional attachment and behavioural responses.

Similarly, Yuen et al. (2018) highlight that trust provides the psychological security necessary for engagement, particularly in online service environments. Firms that consistently communicate effectively and meet service expectations are more likely to elicit active engagement from customers. C.-B. Zhang and Li (2019) further demonstrate that customer engagement mediates the relationship between trust and sustained loyalty in service industries, with particular relevance to mobile

delivery and logistics. Overall, trust reduces perceived risk, enhances operational transparency, and reinforces delivery efficiency, thereby supporting customer retention. In highly competitive contexts with minimal direct contact, sustaining client loyalty relies predominantly on trust, which also acts as a precursor to engagement and fosters both emotional attachment and commitment to the service provider (Hamidin & Hendrayati, 2022; Rather & Hollebeek, 2021).

H7. Customer engagement (CE) mediates the relationship between Trust in Service (TS) and Consumer Loyalty (CLY).

Research by Correa et al. (2021) underscores the substantial influence of perceived service quality on customer loyalty, particularly within experience-driven industries such as courier services. Their study highlights the importance of both operational efficiency and the emotional connection customers form with the brand. Complementing this, Han and Anderson (2022) emphasise that factors such as timely delivery, effective tracking systems, and attentive personnel significantly enhance service quality and shape favourable customer perceptions. Customer engagement plays a pivotal role in translating service quality into emotional loyalty, as superior service experiences foster engagement, which in turn reinforces loyalty (Huma et al., 2020).

H8. Customer engagement (CE) mediates the relationship between Service Quality (SQ) and Consumer Loyalty (CLY).

Customer engagement acts as a full mediator in the relationship between perceived value and brand loyalty, particularly within the logistics sector. In digitally advanced contexts, prioritising customer engagement can amplify the loyalty potential associated with perceived value, especially in the provision of personalised delivery services (Akdim et al., 2022). Furthermore, Correa et al. (2021) note that perceived value, together with relational and emotional dimensions, drives customer engagement, which is essential for sustaining loyalty in competitive markets. Elevated levels of perceived value lead to stronger customer engagement, which subsequently reinforces brand loyalty (Hamidin & Hendrayati, 2022). Based on these observations, the following hypothesis is proposed.

H9. Customer engagement (CE) mediates the relationship between perceived value (PV) and consumer loyalty (CLY).

Customer satisfaction is a key determinant of consumer loyalty, reflecting the extent to which services meet or exceed customer expectations, particularly in competitive industries (Rather & Hollebeek, 2021). Enhancing engagement, which in turn promotes customer satisfaction, involves loyalty-related behaviours such as retention and advocacy. Engagement functions as a mediating mechanism between satisfaction and loyalty, primarily by shaping consumers' perceptions of their service experiences (Rather & Hollebeek, 2021). Furthermore,

Akdim et al. (2022) highlight that in digital service environments, the relationship between satisfaction and loyalty is partially mediated by engagement, especially when support is seamless and responsive. Within Thailand's courier sector, while satisfaction alone has a direct influence on loyalty, engagement behaviours serve to reinforce and strengthen this relationship (Vivek et al., 2012).

H10. Customer engagement (CE) mediates the relationship between customer satisfaction (CS) and consumer loyalty (CLY).

The Mediating Role of Customer Engagement between Trust in Service, Service Quality, Perceived Value, Customer Satisfaction, and Intention to Continue using Services

Trust in service providers, encompassing reliability, integrity, and competence, plays a critical role in shaping customers' behavioural intentions, including repurchase and recommendation, while fostering emotional bonds that enhance intentions to continue using services. The emotional or cognitive involvement of customers with a company affects their trust, with engagement and emotional connection proving essential for sustained service utilisation, even when trust has already been established (Akdim et al., 2022; Vivek et al., 2012). Customer engagement, defined by Han and Anderson (2022) as the emotional, cognitive, and behavioural investment in interactions with a brand, is particularly significant in service contexts. It functions as a mediating mechanism between trust and satisfaction, supporting the development and maintenance of long-term relationships, especially in the courier sector, which relies heavily on third-party delivery services.

H11. Customer engagement (CE) mediates the relationship between Trust in Service (TS) and intentions to continue using services (ICS).

Customer engagement functions as a mediating mechanism between service quality and the intention to continue utilising courier, express, and parcel services. Research by S. P. Gounaris et al. (2007) indicates that high service quality exerts a significant influence on customers' intentions to continue using services, including digital platforms and logistics offerings. Sustaining customer retention relies on the consistent delivery of high-quality service, as demonstrated by timely deliveries, effective monitoring systems, and responsive customer support. Positive service interactions enhance continuance intentions by fostering trust and reducing perceived risks associated with service use (Akdim et al., 2022).

Han and Anderson (2022) define customer engagement as the cognitive, emotional, and behavioural investment a customer makes in brand interactions. Service quality strengthens engagement by facilitating meaningful interactions that encourage active participation (Rather & Hollebeek, 2021). This engagement, in turn, positively affects loyalty and repeat usage behaviour. Findings from Akdim et al. (2022) confirm that customer engagement mediates the relationship between service quality

and behavioural intentions within the courier, express, and parcel sector. Engaged customers demonstrate a higher commitment to service usage, and loyalty programmes further reinforce perceptions of high service quality, enhancing brand engagement, which subsequently increases usage, referrals, and overall behavioural intentions. Consequently, customer engagement operates as a psychological mechanism that elucidates the link between service quality and ongoing behavioural intentions in this industry. Based on these insights and theoretical foundations, the following hypothesis is proposed.

H12. Customer engagement (CE) mediates the relationship between service quality (SQ) and intentions to continue using services (ICS).

Customer engagement functions as a pivotal mediating mechanism between perceived value and the propensity to continue utilising services. Rather and Hollebeek (2021) assert that perceived value exerts a substantial influence on favourable outcomes, including customer satisfaction, loyalty, and repurchase intentions. Within the courier, express, and parcel services sector, perceived value encompasses dimensions such as service reliability, delivery punctuality, cost-effectiveness, and overall convenience; a heightened perception of value significantly increases the probability of ongoing service utilisation and positive recommendations (Correa et al., 2021).

In the context of logistics industries, sustaining elevated perceived value over time is particularly critical, given the low switching costs and the ease with which customers may migrate to alternative providers. Continued engagement with a service reflects stronger behavioural intentions, which are reinforced when customers are actively involved (Wang & Yin, 2024). High perceived value not only motivates action but also elicits emotional investment, thereby intensifying the commitment to maintain service use (S. P. Gounaris et al., 2007). Consequently, customer engagement constitutes a crucial conduit linking perceived value to enduring behavioural intentions, serving as a psychological mechanism that translates value recognition into sustained participation and loyalty.

H13. Customer engagement (CE) mediates the relationship between perceived value (PV) and intentions to continue using services (ICS).

The mediating function of customer engagement is pivotal in translating customer satisfaction into the intention to persist in utilising courier, express, and parcel services. Empirical evidence indicates that higher levels of customer satisfaction correspond with a greater likelihood of continued service usage. For instance, Zameer et al. (2019) demonstrate that satisfaction exerts a substantial effect on loyalty and the intention to continue engaging with digital service offerings. This dependency on repeat engagement underscores the critical role of satisfaction in customer retention (S. P. Gounaris et al., 2007). Further, Akdim et al. (2022) highlight that customer engagement operates as the conduit

through which satisfaction is converted into concrete behavioural outcomes, such as loyalty and the intention to continue service use.

H14. Customer engagement (CE) mediates the relationship between customer satisfaction (CS) and intentions to continue using services (ICS).

Customer loyalty is profoundly influenced by both customer engagement and experiential quality. Enhanced engagement with a brand fosters the development of trust and satisfaction, which collectively underpin sustained loyalty over time. Positive customer experiences, characterised by high service quality and favourable emotional responses, further reinforce the linkage between engagement and loyalty (Lemon & Verhoef, 2016). Empirical evidence indicates that personalised and readily accessible experiences strengthen this relationship, particularly in sectors such as hospitality, where superior experiential offerings drive elevated loyalty. Conversely, adverse experiences can undermine loyalty, even among highly engaged customers, with such effects being especially pronounced in industries reliant on digital interactions, including courier and delivery services (Akdin et al., 2022).

H15a. Customer experience (CEP) moderates the relationship between customer engagement (CE) and consumer loyalty (CLY).

In the context of parcel delivery, customers exhibit a strong propensity to continue utilising services and placing subsequent orders. Engagement plays a critical role in fostering loyalty by emphasising service performance over purely emotional connections, particularly in scenarios where high-quality customer experiences reduce the necessity for deeper engagement. In such optimised service environments, customers may develop transactional expectations, which can attenuate the incremental influence of engagement on behavioural intentions (Lemon & Verhoef, 2016). Consequently, consistently superior experiences may diminish the additional benefits derived from engagement, potentially weakening the relationship between engagement levels and intentions to continue using the service (Honora et al., 2023; Rather & Hollebeek, 2021). Supporting evidence for this assertion is found in studies that highlight how enhanced service quality can, in some cases, substitute for intensive engagement without compromising loyalty. Han and Anderson (2022) further demonstrate that customer engagement remains essential for cultivating long-term relationships, sustaining service utilisation, and promoting loyalty and advocacy. Drawing upon these theoretical and empirical insights, the following hypothesis is proposed.

H15b. Customer experience (CEP) moderates the relationship between customer engagement (CE) and Intention to continue service (ICS).

The methodological approach of this study offers a comprehensive framework for understanding how external stimuli shape internal processes and, ultimately, behavioural outcomes. Building on prior

research, it integrates the S-O-R framework with the CAC model (Lim & Kim, 2020). By examining the interplay among cognitive, affective, and conative dimensions, this approach provides novel insights into the role of stimulus factors—such as trust in services, PV, service quality, and customer satisfaction—in driving CE. In turn, CE influences customer loyalty and intentions to continue using the services. The study further emphasises the critical function of customer experience in either strengthening or attenuating these relationships, thereby addressing a notable gap in the literature on the rapidly expanding delivery services sector. Moreover, the conceptual framework elucidates how customer experience moderates the relationships among service quality, PV, trust, customer satisfaction, and CE, as illustrated in Figure 1.

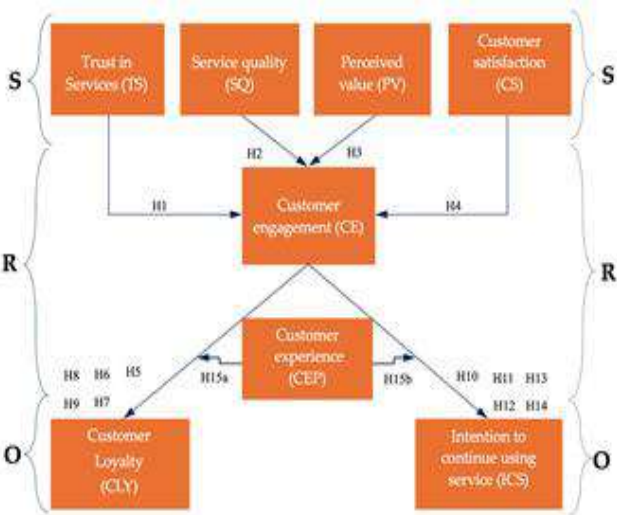


Figure 1: Conceptual Framework

Research Methodology

Methodological Design of the Research

This study employs a quantitative research methodology. Data analysis was conducted using SPSS 30.0, while structural models were developed via PLS-SEM using Smart PLS 4.1.0.9. The analysis demonstrates the critical roles of customer experience and CE in fostering continuance intentions and enhancing customer loyalty within the service context.

Sampling and Data Collection

The study focused on online retailer businesses in Thailand with prior experience in utilising courier, express, and parcel (CEP) services, a logistics sector primarily dedicated to the transport of relatively lightweight and low-volume shipments. A convenience sampling approach was employed, selecting participants based on accessibility. Questionnaires were administered through online surveys accompanied by a cover letter outlining the study’s objectives and securing informed consent. The statistical population comprised individuals drawn from the online merchant sector in Thailand, specifically those with experience in continuance-use services. Businesses operational for at least one year were classified as online merchants to ensure participants possessed sufficient exposure to CEP services, enabling the provision of meaningful insights.

From a total of 525 collected questionnaires, 25 were discarded due to incomplete data, resulting in 500 valid responses. The final sample included 274 females and 226 males. Regarding age distribution, 41.0% were 18–30 years old, 39.4% were 31–40 years old, and 18.4% were 41–50 years old. With respect to usage of CEP services, 41% of respondents utilised three agencies, 29.6% used two agencies, and 16.8% used one agency. The duration of online business operations was distributed as follows: 57.6% had been operating for 1–3 years, 24.8% for less than one year, and 15.2% for more than 3–5 years. Table 1 presents a detailed summary of the demographic characteristics of the study sample.

Table 1
Demographic Profile of Respondents

Demography		Frequency	Percentage
Gender	Male	226	45.2
	Female	274	54.8
Age	Less than 18 Years Old	5	1.0
	18–30 Years Old	205	41.0
	31–40 Years Old	197	39.4
	41–50 Years Old	92	18.4
	51 Years Old and Above	1	0.2
Education	Secondary Education and Lower	91	18.2
	College	149	29.8
	Bachelor’s Degree	225	45.0
	Postgraduate Degree and Higher	35	7.0
	Value of Service Usage		
	10,000 Baht and Below	87	17.4
	10,001–30,000 Baht	164	32.8
	30,001–50,000 Baht	147	29.4
	50,001 Baht and Above	102	20.4
	Number of Courier, Express, and Parcel Service Agent Usage		
1 Agency		84	16.8
2 Agencies		148	29.6

3 Agencies	205	41
4 Agencies	36	7.2
More than 4 Agencies	27	5.4
Duration of Online Merchant Business Operation		
Less than 1 Year	144	24.8
1 to 3 Years	334	57.6
More than 3 to 5 Years	88	15.2
More than 5 Years	14	2.4

Measurement Instrument

A 5-point Likert scale (1 = strongly disagree, 5 = strongly agree) was used to measure responses (see Table A1). Items were adapted from prior studies to ensure validity, and a structured questionnaire was developed to examine the interplay of customer experience and CE on continuance intentions and loyalty in Thailand's last-mile delivery services. The final survey contained 52 items across eight constructs. PV was measured with a 5-item scale from S. Gounaris (2005) and S. P. Gounaris et al. (2007). Customer satisfaction used a 7-item scale from Ruiz et al. (2008), also applied in the U.S. and Spain (Correa et al., 2021). CE was assessed with a 10-item scale covering three dimensions from Cambra-Fierro et al. (2016), Hsu and Tsou (2011), and M. Zhang et al. (2017). Customer experience items (10) were from (Vrhovac et al., 2023). Customer trust was measured with a 10-item scale from (Johnson & Grayson, 2005). Repurchase intentions for parcel logistics were adapted from Ruiz et al. (2008) and M. Zhang et al. (2017). Service quality was measured using a 5-item scale from (Y. Liu, 2024), and customer loyalty was defined through attitudinal indicators of attachment, commitment, and provider perceptions (Kania & Salsabila, 2023).

Common Method Bias

Potential common method bias (CMB) in self-reported survey data was carefully examined, recognising that measurement variance could potentially distort relationships among constructs. To mitigate this risk, the survey design incorporated several procedural remedies, including randomisation of item order, ensuring participant anonymity, and employing neutral phrasing. Statistical evaluations of CMB were also conducted. VIF values ranged from 1.212 to 2.836, remaining below the 3.3 threshold, indicating minimal multicollinearity (Kock, 2021). Nevertheless, VIF alone is insufficient to detect CMB. Harman's single-factor test revealed that the primary factor accounted for less than 50% of the total variance, indicating the absence of a dominant latent construct and suggesting that CMB was unlikely to be the sole explanation for the observed relationships (Conway & Lance, 2010). Marker variable techniques, utilising partial correlation analyses with theoretically unrelated variables, confirmed that the structural relationships among the main constructs remained robust. Additionally, a Common Method Factor

(CMF) approach was applied by integrating a latent common method factor into the measurement model. Collectively, these procedural and statistical precautions provide compelling evidence that CMB did not materially compromise the study's findings and did not predominantly influence the substantive relationships examined.

Data Analysis

The study applied partial least squares structural equation modelling (PLS-SEM) to analyse the questionnaire data, with all constructs specified as composites (Henseler, 2017; Rigdon, 2016). Mode A was used due to its appropriateness for correlated indicators and small to medium samples (Becker et al., 2012; Joseph F Hair et al., 2019; Rigdon, 2016). Model assessment followed Joseph F Hair et al. (2019) two-step procedure: measurement model evaluation, then structural model testing. Significance of path coefficients, weights, and loadings was assessed using bootstrapping (Chin, 2009). Analyses were conducted with Smart PLS 4.1.0.9, and mediating and moderating effects were tested as suggested by (Nitzl et al., 2017) and (Carrión et al., 2017).

Results

This method was applied to evaluate the reliability and validity of the measures and to test the hypothesised relationships among the model constructs. Table 2 reports the reliability coefficients, means, and standard deviations of all variables. The results indicate significant associations among the factors under investigation. Tests conducted on the sample groups confirmed adherence to normal distribution assumptions, with skewness and kurtosis indices supporting the suitability of the response data. Consistent with Stuart and Ord (2010), acceptable skewness values range between -3 and 3. In this study, skewness values varied from -1.085 to -0.312, while kurtosis values ranged from -0.053 to 1.244, thereby confirming conformity with normal distribution principles and suggesting minimal multicollinearity concerns. Through the application of PLS-SEM to both the measurement and structural models, the analyses yielded the results presented in the following sections. The results indicate that the measurement model exhibits strong robustness, with factor loadings exceeding 0.70, accounting for more than 50% of variance (Joseph Franklin Hair et al., 2022). Internal consistency reliability was evaluated through composite reliability, rho_a, and Cronbach's alpha, with all values surpassing the 0.7 threshold, confirming construct reliability (Izah et al., 2023).

Table 2

Descriptive Statistics, and Correlations of Variables (N=500)					
Variable	Median	Observed Max	Standard Deviations	Skewness	Kurtosis
CE	-0.175	1.361	1.000	-0.458	0.031

CEP	0.034	1.747	1.000	-0.536	-0.053
CLY	-0.138	1.467	1.000	-0.412	0.171
CS	-0.193	1.365	1.000	-0.589	0.820
ICS	0.133	1.024	1.000	-1.085	1.244
PV	0.235	1.295	1.000	-0.803	0.734
SQ	0.195	1.265	1.000	-0.700	0.628
TS	-0.103	1.380	1.000	-0.312	-0.307

Analysis of the Measurement Model

These findings indicate that the dataset meets the necessary standards for reliability and validity (see Table 3). Confirmatory factor analysis confirmed internal consistency, reliability, and validity (Joseph F Hair et al., 2019). Cronbach's alpha ranged from 0.748 to 0.913, and composite reliability from 0.754 to 0.918, both above the 0.7 threshold.

Table 3

Quality Criteria Results: Reliability and Convergent Validity

Constructs	Dimen sions	Loading s	Collineari ty Statistics (VIF)	Cronbach 's Alpha (α)	Composite Reliability (rho_a)	Average Variance Extracted (AVE)
Customer Engageme nt (CE)	EP3	0.710	1.212	0.763	0.764	0.583
	EX3	0.743	1.543			
	EX4	0.785	1.815			
	EX5	0.812	1.759			
Customer Experience (CEP)	AF1	0.762	2.091	0.882	0.886	0.585
	AF2	0.804	2.297			
	AF5	0.726	1.653			
	CO1	0.772	2.321			
	CO2	0.797	2.685			
	CO3	0.770	2.080			
	PS5	0.719	1.731			
Consumer Loyalty (CLY)	LY1	0.754	1.439	0.775	0.786	0.593
	LY2	0.757	1.655			
	LY3	0.772	1.800			
	LY4	0.798	1.644			
Customer Satisfactio n (CS)	CS1	0.698	1.323	0.748	0.754	0.570
	CS2	0.795	1.514			
	CS3	0.785	1.750			
	CS4	0.737	1.567			
Intentions to Continue Using (ICS)	AT1	0.738	2.142	0.913	0.918	0.560
	AT2	0.810	2.544			
	AT3	0.722	1.749			
	AT4	0.751	2.809			

	AT5	0.770	2.836			
	BI1	0.729	1.973			
	BI2	0.771	2.339			
	BI3	0.730	2.163			
	BI4	0.728	2.170			
	BI5	0.731	2.270			
Perceived Value (PV)	PV1	0.760	1.565	0.768	0.769	0.590
	PV2	0.810	1.759			
	PV3	0.741	1.466			
	PV4	0.759	1.487			
				0.768	0.771	0.590
Service Quality (SQ)	SQ1	0.744	1.600			
	SQ2	0.823	1.918			
	SQ3	0.762	1.535			
	SQ5	0.741	1.315			
Trust (TS)				0.807	0.807	0.634
	BV2	0.737	1.525			
	BV3	0.824	1.981			
	BV4	0.810	2.144			
	BV5	0.811	1.881			

Convergent validity criteria—factor loadings above 0.7 and AVE above 0.5—were satisfied, with loadings ranging from 0.698 to 0.824 and AVE values between 0.560 and 0.634. Multicollinearity was not a concern, as VIF values for all first-order constructs remained below 3.3 (Kock, 2015). Discriminant validity was verified through multiple approaches. The Fornell-Larcker criterion showed that the square root of each AVE exceeded the interconstruct correlations (Table 4), while the HTMT ratios for all constructs remained below 0.85, further supporting discriminant validity (Izah et al., 2023).

Table 4

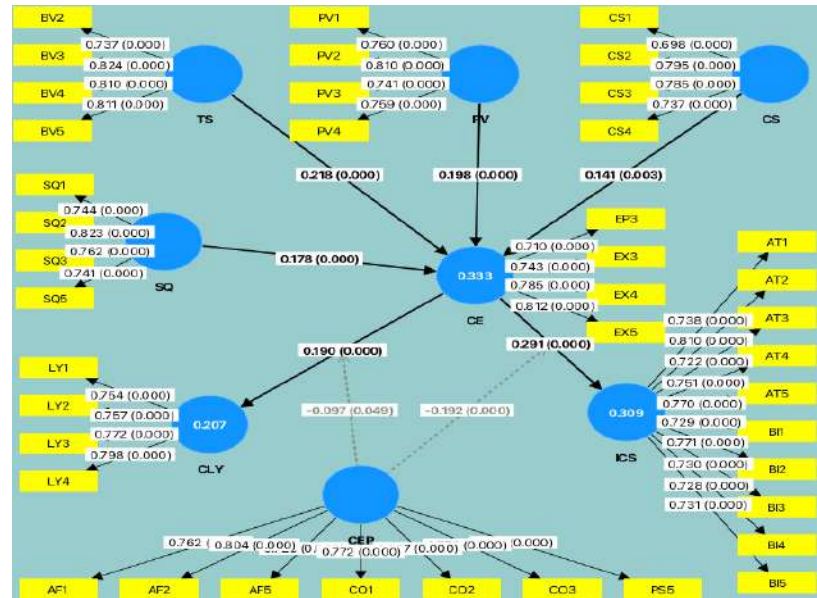
Quality Criteria Results: Discriminant Validity Analysis								
Constructs	CE	CEP	CLY	CS	ICS	PV	SQ	TS
Customer Engagement (CE)	0.764	0.425	0.344	0.425	0.453	0.469	0.473	0.440
Customer Experience (CEP)	0.522	0.765	0.397	0.242	0.414	0.269	0.402	0.471
Consumer Loyalty (CLY)	0.427	0.460	0.770	0.310	0.535	0.305	0.374	0.352
Customer Satisfaction (CS)	0.541	0.292	0.398	0.755	0.397	0.539	0.538	0.371
Intentions to Continue Using (ICS)	0.524	0.441	0.625	0.475	0.748	0.408	0.460	0.461
Perceived Value (PV)	0.600	0.331	0.385	0.709	0.485	0.768	0.574	0.423
Service Quality (SQ)	0.601	0.488	0.470	0.702	0.544	0.738	0.768	0.481

Trust (TS)	0.550	0.559	0.432	0.474	0.533	0.535	0.608	0.796
------------	-------	-------	-------	-------	-------	-------	-------	-------

Note: Bold numbers show the square root of AVE; lower left values follow the Fornell-Larcker criterion, and upper right values follow the HTMT criterion.

Structural Model Assessment

The structural model was examined to determine how TS, SQ, PV, and CS mediate the relationships between CPE and CE, CLY, and ICS. The model's explanatory capacity was evaluated using the coefficient of determination (R2). Following Hair Jr et al. (2021), R2 values in social science research are interpreted as indicating small, moderate, or large explanatory power. The analysis yielded an R2 of 0.333 for CE, suggesting that the model possesses adequate predictive capability. To assess predictive relevance, the blindfolding procedure was applied and Stone-Geisser Q2 values were calculated. The results showed Q2 values of 0.318 for CE, 0.198 for CLY, and 0.290 for ICS, confirming the model's satisfactory predictive accuracy (Hair Jr et al., 2014). Effect sizes (f2) were assessed using Cohen's criteria (Cohen, 2013). Table 5 presents the R2, Q2, and f2 results. Model fit, evaluated with Smart PLS 4.1.0.9, showed acceptable indices (SRMR = 0.087, NFI = 0.877), confirming that the



structural model adequately represented construct relationships (Figure 2).

Figure 2: Model Test Results

Note: *** P ≤ 0.001, ** P ≤ 0.01, * P ≤ 0.05; ns p > 0.05.

Table 5

Determinant Coefficient (R ²), Predictive Relevance (Q ²), and Effect Size (f ²)				
Exogenous Variable	Endogenous Variable	R ²	Q ² Predict > 0	Effect Size (f ²)
CS				0.019
PV				0.034
SQ				0.026
TS				0.052
	CE	0.333	0.318	
	CLY	0.207	0.198	
	ICS	0.309	0.290	

Hypothesis Testing

The research hypotheses were evaluated using a bootstrapping procedure with 5,000 subsamples, and the results are summarised in Table 6 and Figure 2. Analysis of the direct effects indicated that six out of sixteen hypothesised relationships were statistically significant. Specifically, the direct effects of TS, SQ, PV, and CS on CE, as well as CE on CLY and ICS, were confirmed (Table 6). These findings support hypotheses H1, H2, H3, H4, H5, and H6, demonstrating that these constructs are significant predictors within the proposed model. Beyond direct effects, the study also examined the indirect relationships among variables to explore the mediating role of CE given in Table 7. The results indicated that CE significantly mediates the relationship between TS and CLY ($\beta = 0.041, p < 0.001$), SQ and CLY ($\beta = 0.034, p = 0.008$), PV and CLY ($\beta = 0.038, p = 0.005$), and CS and CLY ($\beta = 0.027, p = 0.020$), thereby supporting hypotheses H7, H8, H9, and H10. Similarly, CE was found to mediate the relationships between TS and ICS ($\beta = 0.063, p < 0.001$), SQ and ICS ($\beta = 0.052, p = 0.002$), PV and ICS ($\beta = 0.058, p = 0.001$), and CS and ICS ($\beta = 0.041, p = 0.007$), confirming hypotheses H11, H12, H13, and H14. These findings indicate that CE plays a pivotal mediating role in linking service-related variables with customer loyalty and continuance intentions, highlighting its central function in the model.

Table 6
Hypothesis Test Results of Direct Effect on Conceptual Model

Hypothesis	Path	Path Coef. (β)	Standard Deviation (STDEV)	T-Statistics	P-Values	Results
H1	TS -> CE	0.218	0.042	5.145	0.000	Accepted
H2	SQ -> CE	0.178	0.051	3.493	0.000	Accepted
H3	PV -> CE	0.198	0.048	4.165	0.000	Accepted
H4	CS -> CE	0.141	0.047	3.008	0.003	Accepted
H5	CE -> CLY	0.190	0.044	4.352	0.000	Accepted
H6	CE -> ICS	0.291	0.043	6.730	0.000	Accepted

Note: *** $P \leq 0.001$, ** $P \leq 0.01$, * $P \leq 0.05$; ns $p > 0.05$.

Table 7

Hypothesis Test Results of Indirect Effect or Mediation Effects

Hypothesis	Path	Path Coef. (β)	Standard Deviation (STDEV)	T - Statistics	P- Values	Results
H7	TS -> CE -> CLY	0.041	0.012	3.337	0.001	Accepted
H8	SQ -> CE -> CLY	0.034	0.013	2.666	0.008	Accepted
H9	PV -> CE -> CLY	0.038	0.013	2.817	0.005	Accepted
H10	CS -> CE -> CLY	0.027	0.012	2.326	0.020	Accepted
H11	TS -> CE -> ICS	0.063	0.016	4.072	0.000	Accepted
H12	SQ -> CE -> ICS	0.052	0.017	3.041	0.002	Accepted
H13	PV -> CE -> ICS	0.058	0.017	3.439	0.001	Accepted
H14	CS -> CE -> ICS	0.041	0.015	2.683	0.007	Accepted

Note: *** $P \leq 0.001$, ** $P \leq 0.01$, * $P \leq 0.05$; deny $p > 0.05$.

The study also examined the moderating effect of CEP on the relationships between CE and both CLY and ICS. SEM results obtained through bootstrapping are shown in Table 8 and Figure 2. The analysis revealed significant moderation of CEP on CE–CLY ($\beta = -0.097$, $t = 1.972$, $p = 0.049$) and CE–ICS ($\beta = -0.192$, $t = 5.068$, $p = 0.000$). A simple slope analysis was performed to illustrate these effects.

Table 8

Hypothesis Test Results of Moderating Effect on Conceptual Model

Hypotheses	Path	Path Coef. (β)	Standard Deviation (STDEV)	T- Statistics	P- Values	Results
H15a	CEP x CE -> CLY	-0.097	0.049	1.972	0.049	Accepted
H15b	CEP x CE -> ICS	-0.192	0.038	5.068	0.000	Accepted

Note: *** $P \leq 0.001$, ** $P \leq 0.01$, * $P \leq 0.05$; deny $p > 0.05$.

Figures 3 and 4 illustrate these interactions using the Smart PLS software. Figure 3 displays the conditional effect of CEP on the CE–CLY relationship. The interaction plot demonstrates a negative moderation, showing that as CEP increases, the influence of CE on CLY diminishes. This indicates that customers with higher experience levels exhibit a relatively reduced sensitivity to fluctuations in engagement, suggesting that loyalty among experienced customers is less dependent on incremental engagement. These results provide empirical support for hypothesis H15a. The results also reveal a pronounced interaction effect depicting how CE interacts with the moderator CEP to influence ICS, as illustrated in Figure 4. The plot highlights the conditional impact of CEP on the CE–ICS relationship, indicating a positive moderation effect. Specifically, higher levels of CEP amplify the effect of CE on ICS, enhancing the intention to continue using the service. Conversely, when CEP is low, even substantial engagement exerts a comparatively weaker influence on ICS. The

interaction plot thus provides empirical support for hypothesis H15b within the context of the courier, express, and parcel delivery sector.

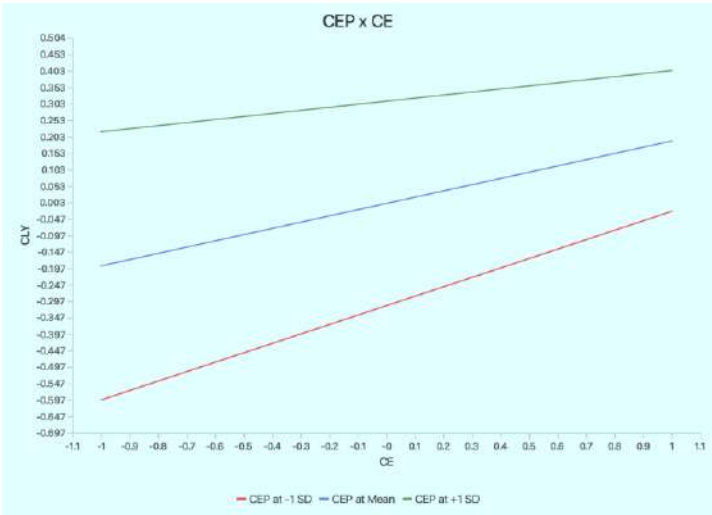


Figure 4: Conditional Effects of Customer Experience: On Customer Engagement and Intentions to Continue Using

Discussion

The findings elucidate the complex mechanisms through which customer engagement and experience jointly shape loyalty and continuance intentions within Thailand’s courier, express, and parcel delivery sector in the digital era. The study advances theoretical and practical understanding by synthesising insights from customer experience, engagement theory, and service marketing, highlighting the nuanced “satisfaction-sufficiency” dynamic. Interaction analyses reveal that customer experience exerts a dual moderating influence: it attenuates the impact of engagement on customer loyalty while simultaneously enhancing its effect on continuance intentions. This indicates that, under conditions of high service quality and reliability, the marginal utility of engagement diminishes, with loyalty among highly experienced customers showing reduced sensitivity to variations in engagement.

Such patterns are consistent with cognitive appraisal theory, which posits that low perceived risk and operational efficiency reduce the necessity for emotional engagement in loyalty formation. Conversely, positive experiences amplify engagement’s effect on service continuation, aligning with expectancy-disconfirmation theory, where exceeding expectations (positive disconfirmation) strengthens satisfaction and future behavioural intentions. Negative experiences, however, limit engagement’s capacity to sustain repeat usage, as high engagement cannot offset suboptimal service interactions. These insights underscore the

imperative of simultaneously cultivating both engagement and experience to foster enduring customer relationships and optimise long-term service outcomes.

Implications

Theoretical Implications

From a theoretical standpoint, these findings refine engagement theory by demonstrating that the mediating influence of engagement is contingent upon the customer's experiential context. Moreover, the results extend the discourse within expectancy-disconfirmation theory and cognitive evaluation theory by illustrating how the sufficiency and perceived adequacy of satisfaction modulate the significance of emotional involvement in shaping B2B customer loyalty and continuance intentions.

Practical Implications

Practitioners in the parcel delivery sector should adopt strategies tailored to distinct customer segments. For experienced customers with lower sensitivity, managers may prioritise operational excellence, reliability, and process efficiency to ensure retention. Conversely, for newer or less familiar customers, initiatives that actively foster engagement—such as interactive applications, personalised notifications, and proactive issue resolution—are pivotal for cultivating loyalty and encouraging repeat service usage. Organisations may strategically calibrate investment in engagement efforts when customer satisfaction and service quality reach a “sufficiency” threshold, particularly regarding loyalty and overall experience. In such cases, allocating resources towards optimising the integration of digital and physical service channels is likely to generate superior returns.

Conclusion

This research underscores the central role of customer engagement as a mediating mechanism linking key service determinants—trust, service quality, perceived value, and satisfaction—to consumer loyalty and intentions to continue using parcel services. Highly engaged customers demonstrate stronger loyalty and heightened repurchase intentions. Customer experience emerges as a critical moderating factor in these dynamics. Specifically, elevated customer experience attenuates the influence of engagement on loyalty, suggesting that loyalty among highly experienced customers exhibits stability and is less contingent on fluctuations in engagement levels. Conversely, engagement exerts a more pronounced effect on continuance intentions when customer experience is high, indicating that positive experiences amplify the translation of engagement into sustained service usage. Low levels of customer experience, in contrast, reduce the efficacy of even substantial

engagement efforts in shaping continuance intentions. These findings emphasise the necessity of simultaneously nurturing active engagement and consistently positive experiences to sustain enduring relationships in the courier, express, and parcel services sector. The study contributes uniquely by integrating engagement theory with experiential perspectives, offering nuanced insights into the conditional determinants of loyalty and service continuity. Practically, the results suggest that service providers should implement dual strategies that combine personalised, responsive, and trust-building engagement initiatives with the delivery of consistently high-quality experiences across both digital and physical touchpoints to optimise customer retention and long-term loyalty.

Limitations

The cross-sectional nature of this study imposes inherent limitations, constraining the ability to draw definitive causal inferences. Consequently, the directionality of observed relationships requires further validation, as it may vary according to industry context, usage scenarios, or specific consumer segments, independent of whether effects are classified as “positive” or “negative.”

Future Research

Future research should systematically examine the distinct impacts of digital and physical touchpoints, including mobile applications, tracking platforms, and face-to-face delivery interactions, on customer engagement, loyalty, and continuance intentions within parcel services. Investigating which touchpoints most effectively cultivate positive customer experiences, and applying these insights across sectors such as healthcare, finance, and e-learning, could enhance the generalizability of findings. Furthermore, segmenting analyses by levels of customer experience can illuminate differences in engagement and loyalty drivers between novice and seasoned users, thereby providing a more nuanced understanding of consumer behaviour.

References

- Abbott, R., Sin, R., Pedersen, C., Harris, T., Beck, T., Nilsson, S., . . . Li, Y. (2023). The role of dark pattern stimuli and personality in online impulse shopping: An application of S-O-R theory. *Journal of Consumer Behaviour*, 22(6), 1311-1329.
- Akdim, K., Casalo, L. V., & Flavián, C. (2022). The role of utilitarian and hedonic aspects in the continuance intention to use social mobile apps. *Journal of Retailing and Consumer Services*, 66, 102888.

- Alkrajji, A., & Ameen, N. (2022). The impact of service quality, trust and satisfaction on young citizen loyalty towards government e-services. *Information Technology & People*, 35(4), 1239-1270.
- Aziz, Z. A., Nik Hussin, N. S., Mukhtar, D., Nordin, N., & Nordin, N. (2025). Factors Influencing the Service Quality for Customer Satisfaction on Parcel Service Safety in the Postal and Courier Industry: Analysis Using Structural Equation Modelling. *Pertanika Journal of Social Sciences & Humanities*, 33(2), 45-57.
- Bank, W. (2023). Logistics performance index 2023: Connecting to compete.
- Becker, A., Deckers, T., Dohmen, T., Falk, A., & Kosse, F. (2012). The relationship between economic preferences and psychological personality measures. *Annu. Rev. Econ.*, 4(1), 453-478.
- Cambra-Fierro, J., Melero-Polo, I., & Javier Sese, F. (2016). Can complaint-handling efforts promote customer engagement? *Service Business*, 10(4), 847-866.
- Carrión, G. C., Nitzl, C., & Roldán, J. L. (2017). Mediation analyses in partial least squares structural equation modeling: Guidelines and empirical examples *Partial least squares path modeling: Basic concepts, methodological issues and applications* (pp. 173-195): Springer.
- Chaysiri, S., Leecharoen, B., & Sangthong, T. (2023). A causal relationship model of factors influencing customer loyalty in private hospitals in Thailand. *Asian Administration & Management Review*, 6(2).
- Chevalier, S. (2024). Global Retail E-Commerce Sales 2014-2027.
- Chin, W. W. (2009). Bootstrap cross-validation indices for PLS path model assessment *Handbook of partial least squares: Concepts, methods and applications* (pp. 83-97): Springer.
- Cohen, J. (2013). *Statistical power analysis for the behavioral sciences*: routledge.
- Conway, J. M., & Lance, C. E. (2010). What reviewers should expect from authors regarding common method bias in organizational research. *Journal of business and psychology*, 25(3), 325-334.
- Correa, C., Alarcón, D., & Cepeda, I. (2021). "I am delighted!": the effect of perceived customer value on repurchase and advocacy intention in B2B express delivery services. *Sustainability*, 13(11), 6013.
- DHL. (2024). Improve Thai customer experience with these last-mile delivery trends.

- Ding, J., & Lee, E.-S. (2024). Promoting consumers' sustainable consumption of online retail cold chain logistics services: extended applications of SOR and cognitive-affective-conative theories. *Behavioral Sciences*, 14(9), 771.
- Eccles, J. S., & Wigfield, A. (2002). Motivational beliefs, values, and goals. *Annual review of psychology*, 53(1), 109-132.
- FedEx. (2025). Why Last-Mile Delivery Is Critical For Supply Chains In APAC.
- Gounaris, S. (2005). Measuring service quality in b2b services: an evaluation of the SERVQUAL scale vis-à-vis the INDSERV scale. *Journal of Services Marketing*, 19(6), 421-435.
- Gounaris, S. P., Tzempelikos, N. A., & Chatzipanagiotou, K. (2007). The relationships of customer-perceived value, satisfaction, loyalty and behavioral intentions. *Journal of Relationship Marketing*, 6(1), 63-87.
- Gumparathi, V. P., & Patra, S. (2020). The phenomenon of brand love: a systematic literature review. *Journal of Relationship Marketing*, 19(2), 93-132.
- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2022). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*: Sage Publications.
- Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European business review*, 31(1), 2-24.
- Hair Jr, J. F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., Danks, N. P., & Ray, S. (2021). *Partial least squares structural equation modeling (PLS-SEM) using R: A workbook*: Springer Nature.
- Hamidin, D., & Hendrayati, H. (2022). *Courier Service Application: Courier Service Quality and Customer Loyalty Mediated by Customer Experience and Customer Satisfaction*. Paper presented at the 6th Global Conference on Business, Management, and Entrepreneurship (GCBME 2021).
- Han, S., & Anderson, C. K. (2022). The dynamic customer engagement behaviors in the customer satisfaction survey. *Decision Support Systems*, 154, 113-128.
- Henseler, J. (2017). Bridging design and behavioral research with variance-based structural equation modeling. *Journal of advertising*, 46(1), 178-192.
- Honora, A., Chih, W. H., & Ortiz, J. (2023). What drives customer engagement after a service failure? The moderating role of customer trust. *International Journal of Consumer Studies*, 47(5), 1714-1732.

- Hsu, H. Y., & Tsou, H.-T. (2011). Understanding customer experiences in online blog environments. *International Journal of Information Management*, 31(6), 510-523.
- Huma, S., Ahmed, W., Ikram, M., & Khawaja, M. I. (2020). The effect of logistics service quality on customer loyalty: case of logistics service industry. *South Asian Journal of Business Studies*, 9(1), 43-61.
- Intelligence, M. (2025). Thailand Courier, Express, and Parcel (CEP) Market SIZE & SHARE ANALYSIS - GROWTH TRENDS & FORECASTS UP TO 2030.
- Izah, S. C., Sylva, L., & Hait, M. (2023). Cronbach's alpha: A cornerstone in ensuring reliability and validity in environmental health assessment. *ES Energy & Environment*, 23, 10-19.
- Jacoby, J. (2002). Stimulus-organism-response reconsidered: an evolutionary step in modeling (consumer) behavior. *Journal of consumer psychology*, 12(1), 51-57.
- Johnson, D., & Grayson, K. (2005). Cognitive and affective trust in service relationships. *Journal of business research*, 58(4), 500-507.
- Jusufobašić, A., & Stević, Ž. (2023). Measuring logistics service quality using the SERVQUAL model. *J. Intell. Manag. Decis*, 2, 1-10.
- Kania, R., & Salsabila, H. N. (2023). The Responsive Strategy of Courier Services Companies on Handling Customer Complaint in Social Media: The Effect on Brand Trust and Customer Loyalty. *Journal of Marketing Innovation (JMI)*, 3(1).
- Kock, N. (2015). Common method bias in PLS-SEM: A full collinearity assessment approach. *International Journal of e-Collaboration (ijec)*, 11(4), 1-10.
- Kock, N. (2021). Common structural variation reduction in PLS-SEM: Replacement analytic composites and the one fourth rule. *Data Analysis Perspectives Journal*, 2(5), 1-6.
- Kumar, V., Rajan, B., Gupta, S., & Pozza, I. D. (2019). Customer engagement in service. *Journal of the academy of marketing science*, 47(1), 138-160.
- Lally, P., Van Jaarsveld, C. H., Potts, H. W., & Wardle, J. (2010). How are habits formed: Modelling habit formation in the real world. *European journal of social psychology*, 40(6), 998-1009.
- Lee, C.-P., Hung, M.-J., & Chen, D.-Y. (2022). Factors affecting citizen satisfaction: examining from the perspective of the expectancy disconfirmation theory and individual differences. *Asian Journal of Political Science*, 30(1), 35-60.

- Lemon, K. N., & Verhoef, P. C. (2016). Understanding customer experience throughout the customer journey. *Journal of marketing*, 80(6), 69-96.
- Lim, S. H., & Kim, D. J. (2020). Does emotional intelligence of online shoppers affect their shopping behavior? From a cognitive-affective-conative framework perspective. *International Journal of Human-Computer Interaction*, 36(14), 1304-1313.
- Limrachanoth, P., & Lalaeng, C. (2023). Value Proposition and Consumer Lifestyles Affecting Customer Loyalty of PTT LPG Gas Station. *Asian Administration & Management Review*, 6(2).
- Liu, C., Bao, Z., & Zheng, C. (2019). Exploring consumers' purchase intention in social commerce: An empirical study based on trust, argument quality, and social presence. *Asia Pacific Journal of Marketing and Logistics*, 31(2), 378-397.
- Liu, Y. (2024). Service Quality of Express Terminal Logistics in Dongguan China Basis for Developing a New Model for Service Quality. *Frontiers in Business Economics and Management*, 17(2), 308-329.
- Mbango, P. (2019). The role of perceived value in promoting customer satisfaction: Antecedents and consequences. *Cogent Social Sciences*, 5(1), 1684229.
- Miao, M., Jalees, T., Zaman, S. I., Khan, S., Hanif, N.-u.-A., & Javed, M. K. (2022). The influence of e-customer satisfaction, e-trust and perceived value on consumer's repurchase intention in B2C e-commerce segment. *Asia pacific journal of marketing and logistics*, 34(10), 2184-2206.
- Ngah, A. H., Anuar, M. M., Rozar, N. N., Ariza-Montes, A., Araya-Castillo, L., Kim, J. J., & Han, H. (2021). Online sellers' reuse behaviour for third-party logistics services: An innovative model development and E-Commerce. *Sustainability*, 13(14), 7679.
- Nitzl, C., Roldán, J. L., & Cepeda, G. (2017). *Mediation analyses in partial least squares structural equation modeling, helping researchers discuss more sophisticated models: an abstract*. Paper presented at the Marketing at the confluence between entertainment and analytics: Proceedings of the 2016 Academy of Marketing Science (AMS) World Marketing Congress.
- Oliveira, T., Alinho, M., Rita, P., & Dhillon, G. (2017). Modelling and testing consumer trust dimensions in e-commerce. *Computers in Human Behavior*, 71, 153-164.

- Parihar, P., Dawra, J., & Sahay, V. (2019). The role of customer engagement in the involvement-loyalty link. *Marketing Intelligence & Planning*, 37(1), 66-79.
- Ponnusamy, D., & Ramasamy, C. (2024). Analysis of Customer Satisfaction towards Customer Loyalty of Courier Service Industry among UTHM Students. *Research in Management of Technology and Business*, 5(1), 921-936.
- Radwan, H. R. I. (2022). A study on the factors contributing to customer loyalty in budget hotels in Cairo and Alexandria, Egypt. *African Journal of Hospitality, Tourism and Leisure*, 11(1), 26-45.
- Rather, R. A., & Hollebeek, L. D. (2021). Customers' service-related engagement, experience, and behavioral intent: Moderating role of age. *Journal of Retailing and Consumer Services*, 60, 102453.
- Rigdon, E. E. (2016). Choosing PLS path modeling as analytical method in European management research: A realist perspective. *European Management Journal*, 34(6), 598-605.
- Ruiz, D. M., Gremler, D. D., Washburn, J. H., & Carrión, G. C. (2008). Service value revisited: Specifying a higher-order, formative measure. *Journal of business research*, 61(12), 1278-1291.
- Ryan, R. M., & Deci, E. L. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary educational psychology*, 25(1), 54-67.
- Solidiance, Y. (2023). Emerging New Players in Southeast Asia's Last Mile Logistics Market. .
- Stuart, A., & Ord, K. (2010). *Kendall's Advanced Theory of Statistics, Distribution Theory*: Wiley.
- Suhan, M., Nayak, S., Nayak, R., Spulbar, C., Vidya Bai, G., Birau, R., . . . Stanciu, C. V. (2022). Exploring the sustainable effect of mediational role of brand commitment and brand trust on brand loyalty: An empirical study. *Economic research-Ekonomska istraživanja*, 35(1), 6422-6444.
- Tan, T. L., Nguyen Chau Ngoc, K., Thanh, H. L. T., Thu, H. N. T., & Hoang, U. V. T. (2024). Enhancing Repurchase Intention on Digital Platforms Based on Shopping Well-Being Through Shopping Value, Trust and Impulsive Buying. *Sage Open*, 14(3), 21582440241278454.
- Tjizumaue, B., & Olusegun Atiku, S. (2024). Structural determinants of customer loyalty among long-term insurance consumers in Namibia. *Cogent Business & Management*, 11(1), 2419494.

- Upadhyay, C. K., Tewari, V., & Tiwari, V. (2021). Assessing the impact of sharing economy through adoption of ICT based crowdshipping platform for last-mile delivery in urban and semi-urban India. *Information Technology for Development*, 27(4), 670-696.
- Venkatesh, V., Brown, S., & Hoehle, H. (2012). Understanding technology adoption in the household context: A comparison of seven theoretical models.
- Vivek, S. D., Beatty, S. E., & Morgan, R. M. (2012). Customer engagement: Exploring customer relationships beyond purchase. *Journal of marketing theory and practice*, 20(2), 122-146.
- Vrhovac, V., Vasić, S., Milisavljević, S., Dudić, B., Štarchoň, P., & Žižakov, M. (2023). Measuring E-commerce user experience in the last-mile delivery. *Mathematics*, 11(6), 1482.
- Wang, W., & Yin, Y. (2024). The Antecedents of Courier Continuance Participation Intention: A Dyadic Analysis of Courier–Customer Interactions in Crowdsourcing Delivery. *Systems*, 12(11), 496.
- Wu, W., & Gong, X. (2020). Motivation and sustained participation in the online crowdsourcing community: the moderating role of community commitment. *Internet Research*, 31(1), 287-314.
- Yuen, K. F., Wang, X., Wong, Y. D., & Zhou, Q. (2018). The effect of sustainable shipping practices on shippers' loyalty: The mediating role of perceived value, trust and transaction cost. *Transportation Research Part E: Logistics and Transportation Review*, 116, 123-135.
- Zameer, H., Wang, Y., Yasmeen, H., & Ahmed, W. (2019). Modeling the role of service quality, customer satisfaction and customer loyalty in building service brand equity. *International Journal of Asian Business and Information Management (IJABIM)*, 10(2), 55-72.
- Zeithaml, V. A. (2000). Service quality, profitability, and the economic worth of customers: what we know and what we need to learn. *Journal of the academy of marketing science*, 28(1), 67-85.
- Zhang, C.-B., & Li, Y.-N. (2019). How social media usage influences B2B customer loyalty: roles of trust and purchase risk. *Journal of Business & Industrial Marketing*, 34(7), 1420-1433.

- Zhang, M., Hu, M., Guo, L., & Liu, W. (2017). Understanding relationships among customer experience, engagement, and word-of-mouth intention on online brand communities: The perspective of service ecosystem. *Internet Research*, 27(4), 839-857.

Appendix A

Table A1

Items and measurement source.		
Latent Variables	Measurement scales	Scale source to adapted
Intentions to Continue Using (ICS)	AT1. I intend to continue being with the services of my courier, express, and parcel service provider.	(Ngah et al., 2021; Venkatesh et al., 2012; Wu & Gong, 2020)
	AT2. I intend to continue using the services of my courier, express, and parcel service provider to complete the transaction tasks.	
	AT3. I intend to continue participating in the tasks of the services of my courier, express, and parcel service provider rather than other service providers.	
	AT4. My online retail shop intends to continue using the current courier, express, and parcel service provider shortly.	
	AT5. My online retail shop will always try to use current courier, express, and parcel service providers in our business.	
	BI1. My online retail shop plans to continue using courier, express, and parcel service provider services frequently.	
	BI2. The current logistics provider always performs the courier, express, and parcel service provider.	
	BI3. My customers will continue to do online shopping at my online retail shop and repurchase.	
	BI4. I recommend that others use the supplier's current courier, express, and parcel services.	
	BI5. My clients will focus on our business services' current courier, express, and parcel service providers.	
	LY1. I believe current courier, express, and parcel services are the best among the rest.	
	LY2. My customers feel loyal to the current courier, express, and parcel service providers.	
	LY3. I appreciate and recommend the current courier, express, and parcel service providers to others who ask me for advice.	
	LY4. I will not switch to another courier, express, or parcel e service provider even though there are negative issues with the brand.	
Customer Loyalty (CLY)		(Kania & Salsabila, 2023; Ponnusamy & Ramasamy, 2024)

Customer experience (CEP)	AF1. My customer values reliability and prefers to order goods exclusively from vendors who have consistently demonstrated problem-free deliveries in the past. AF2. My customers are more likely to purchase from those who provide seamless delivery of their goods. AF5. My customer will easily give up on those who are unreliable in delivering their products. CO1. My customers will switch to other online retailers if they poorly handle their deliveries. CO2. When my customers are disappointed in the delivery of something, they don't buy from my online retailer anymore. CO3. My customers like it when parcels delivered to them are tightly packed. PS5. I and the customer would like to know where the parcel is at the moment.	(Vrhovac et al., 2023)
Trust in Services (TS)	BV2. Based on this firm's track record, I can rely on it to do what is best to solve my customer's problem. BV3. I am not concerned about this firm's complaint handling because they provided a professional explanation. BV4. I could openly express my feelings about this firm's service. BV5. I am confident this firm will always care about its customers' problems.	(Johnson & Grayson, 2005)
Perceived value (PV)	PV1. Employees of the courier, express, and package market delivery suppliers are on hand to help me accomplish my goals as an online retailer. PV2. The courier, express, and package delivery provider is improving its tracking service's notification system to ensure secure, prompt delivery and product location. PV3. Employees of the courier, express, and package delivery provider are available to help boost my online merchant's reputation and sales. PV4. For their online purchase, my consumer obtains a dependable delivery service.	(Correa et al., 2021)
Customer engagement (CE)	EP3. I will share positive feedback about this courier, express, and parcel firm with others. EX3. Suppliers of the courier, express, and package services are pleased and willing to assist my clients in resolving any my clients may have about these offerings.	(Cambra-Fierro et al., 2016; Hsu & Tsou, 2011; M. Zhang et al., 2017)

	EX4. I will consider buying services from this courier, express, and parcel firm's services soon.	
	EX5. Given the opportunity, I intend to buy services from this courier, express, and parcel firm.	
Customer satisfaction (CS)	CS1. My customer is satisfied with the services of my courier, express, and parcel service provider. CS2. My customers are satisfied when I use the services of my selected courier, express, and parcel service providers. CS3. I think I made the right decision in depending on courier, express, and parcel service providers to meet my clients' needs. CS4. The delivery service meets my expectations.	(Correa et al., 2021)
Service quality (SQ)	SQ1. The services of my courier, express, and parcel service provider handle tracking information updated on time. SQ2. The services of my courier, express, and parcel service provider have the accuracy of services provided consistently high. SQ3. The services of my courier, express, and parcel service provider handle issues related to lost or damaged goods and are resolved promptly, including compensation where necessary. SQ5. The services of my courier, express, and parcel service provider Staff interactions are warm, courteous, and motivated to assist customers effectively.	(Y. Liu, 2024)
