



Print ISSN: 1738-3110 / Online ISSN 2093-7717
JDS website: <http://accesson.kr/jds>
<http://doi.org/10.15722/jds.23.06.202506.23>

How to Turn Logistics Service Quality into Electronic Word of Mouth

Thi Huong Giang VO¹, Duy Binh LUONG², Xuan Ha VU³

Received: March 13, 2025. Revised: April 18, 2025. Accepted: June 05, 2025.

Abstract

Purpose: E-retailers increasingly recognize logistics service quality (LSQ) as a critical driver of business performance. This study examines the influence of LSQ on consumer satisfaction and further explores the impact of consumer satisfaction on electronic word-of-mouth (eWOM). **Research Design, Data, and Methodology:** Using a sample of 440 participants, the study employs partial least squares structural equation modeling (PLS-SEM) to assess the proposed framework. Data are analyzed by using SPSS and SmartPLS. **Results:** The results show that shipping, tracking, returns, and follow-up services positively influence consumer satisfaction. In addition, the results indicate the positive relationship between consumer satisfaction and eWOM. Moreover, in this study, the finding also shows that follow-up is not only a newly identified dimension of LSQ, but also the most influential factor among the examined antecedents affecting online shoppers' satisfaction in Vietnam. **Conclusions:** This study contributes to expanding social exchange theory, expectancy disconfirmation theory and expectation confirmation theory regarding logistics service. This study also provides meaningful insights for both researchers and practitioners by emphasizing the critical role of follow-up, shipping, returns, and tracking in shaping consumer experiences within the context of online shopping. Positive logistics experiences not only increase consumer satisfaction but also encourage eWOM, benefiting businesses and service providers alike.

Keywords : Logistics Service Quality, Follow-Up, Satisfaction, Electronic Word Of Mouth

JEL Classification Code: M31, M37, M39

1. Introduction

Global retail e-commerce has experienced steady growth, reaching \$6.3 trillion in 2024 and expected to rise to \$7.9 trillion by 2027 (eMarketer, 2024). In Vietnam, online shoppers spent an estimated 12.7 billion US\$ in 2024. The expansion of internet access, coupled with the rise of mobile and social media, has driven e-commerce to unprecedented heights. Consumers now enjoy the

convenience of shopping from home, placing orders, making payments via credit card, and receiving doorstep deliveries. In e-commerce, products are purchased without direct physical interaction with the seller, positioning logistics services as a functional substitute for the seller. Inadequate logistics infrastructure can lead to prolonged delivery times and an increased risk of product damage during shipment. Consequently, logistics operations in the e-tailing sector are frequently outsourced to third-party

1 First Author and Corresponding Author. Faculty of Business Administration, Ho Chi Minh City University of Industry and Trade, Vietnam, Email: giangvth@huit.edu.vn

2 Second Author. International Training and Cooperation Center, Saigon University, Vietnam, Email: luongduybinh@sgu.edu.vn

3 Third Author. Continuing Education Affairs, Saigon University, Vietnam, Email: vuxuanha@sgu.edu.vn

© Copyright: The Author(s)
This is an Open Access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (<http://creativecommons.org/licenses/by-nc/4.0/>) which permits unrestricted noncommercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

logistics providers (Rabinovich et al., 2007). However, when logistics services are inadequately executed, customers often perceive the failure as the responsibility of the seller, which can negatively affect their willingness to repurchase from the platform. Therefore, to address the increasing demand for rapid delivery, logistics operations are undergoing significant transformation and optimization.

In an increasingly dynamic business environment, customer demands are subject to frequent change, requiring firms to maintain a competitive edge in their supply chain and logistics operations to effectively meet these evolving needs (Khan et al., 2022). High logistics service quality (LSQ) that aligns with customer expectations has been shown to enhance both satisfaction and loyalty (Jain et al., 2021; Rashid et al., 2024; Hui et al., 2025). Service providers that deliver quality through cost-effective shipping and prompt delivery are more likely to fulfill consumer requirements (Baloch & Rashid, 2022; Hafez et al., 2021). A high level of LSQ also contributes to the overall competitive advantage of firms (Jain et al., 2021). Similarly, Oliveira et al. (2002) emphasize that electronic service is essential for maintaining long-term competitive advantages in the digital age, where high service quality is key to attracting and retaining customers. Both academic and industry research have recognized LSQ as a critical operational function, particularly within the retail sector (Murfield et al., 2017; Hüseyinoglu et al., 2018). Furthermore, LSQ plays a key role in fostering customer satisfaction and retention (Cao et al., 2018; Hui et al., 2025). In this regard, consumer satisfaction emerges as a significant antecedent of electronic word-of-mouth (eWOM) in context of online service (Ding et al., 2016; Luong et al., 2021).

Previous studies have extensively explored the positive impact of LSQ on consumer satisfaction (Sorkun et al., 2020; Do et al., 2023; Humairoh et al., 2023; Hui et al., 2025), as well as its impact on repurchase intention (Cao et al., 2018; Jain et al., 2021). However, much of the existing logistics research has concentrated on operational performance metrics such as time efficiency, cost reduction, and inventory management (Kucukaltan et al., 2022). Moreover, studies indicate that the effect of LSQ on customer satisfaction may vary among industrial products and firm sizes within the industrial sector (Jain et al., 2021). However, Empirical research on the spread of positive eWOM resulting from logistics service quality in online services remains scarce. Therefore, this research extends the scope of LSQ by proposing a new concept of LSQ that consists of shipping, tracking, return, and follow-up. By doing so, it offers a more holistic understanding of customer satisfaction in e-commerce. In online environments, consumers who experience either satisfaction or dissatisfaction with services are inclined to express their opinions through comments or reviews (Bae & Lee, 2011; Luong et al., 2021). In context

of online service, prior studies have demonstrated that customer satisfaction positively influence eWOM (Chen et al., 2019; Zhang et al., 2022). The present study aims to identify the dimensions of LSQ that influence customer satisfaction and to examine the effect of customer satisfaction on eWOM within the context of online services.

2. Literature Review

2.1. Logistics Service Quality

Perreault et al. (1976) argued that logistics operations create value through place, time and utility. LSQ has since been defined as the process of identifying and fulfilling consumer needs through logistics activities (Mentzer et al., 1999). These services play a crucial role in fostering customer relationships across the supply chain and contribute to a firm's ability to maintain a sustainable competitive advantage (Ali et al., 2022). With the development and application of technology in management, logistics services have emerged as a critical strategic differentiator in securing competitive advantage. A substantial body of research across disciplines and geographic contexts has demonstrated that LSQ not only enhances customer satisfaction and overall business performance but also influences consumers' purchase intentions (Mentzer et al., 2001). High-quality delivery services are vital for fostering customer satisfaction and reinforcing a company's brand image. (Sorkun et al., 2020).

Mentzer et al. (1999) identified the core dimensions of LSQ to include information provision, ordering procedures, order quality, personal contact quality, order accuracy, order discrepancy handling, order condition, release quantity accuracy, and delivery timeliness. Expanding on this framework, Bienstock et al. (2008) conceptualized LSQ as comprising logistics process quality information provision, discrepancy management, personal contact, procedural efficiency, product availability, precision, delivery timelines, and condition. More recent studies have adapted these dimensions to contemporary online retail contexts. For instance, Cao et al. (2024) conceptualized LSQ in terms of customer service, shipping, tracking, and returns, while Hui et al. (2025) categorized LSQ as included delivery information, return logistics, delivery stability and delivery quality. Furthermore, prior research has highlighted the significance of follow-up actions in addressing service failures and improving consumer satisfaction (Mostafa et al., 2014). Based on these insights, the present study includes shipping, tracking, returns, and follow-up as LSQ to examine their impact on customer satisfaction.

2.2. Proposed Research Model and Hypotheses

The quality of shipping services shapes customers' perceptions of timely performance, reliability, and the ability to track their packages throughout the entire delivery process (Hui et al., 2025). Tracking involves collecting and managing data on the location and status of products or shipments at specific points in time (Lee et al., 2023). To enhance competitive advantage, providing customers with delivery and shipment tracking updates is an essential aspect of customer service (Zhu et al., 2023). Return logistics services encompass the management and processing of customer product returns, ensuring efficient transportation, handling, and disposal of returned goods (Li et al., 2021).

In e-commerce, the separation between production and consumption requires that products be delivered before they can be used, often resulting in delays that negatively impact customer satisfaction. While factors such as timely delivery, shipping, and handling played a significant role in shaping customer satisfaction, past research had primarily focused on price as the dominant factor (Reibstein, 2002). Hsu (2008) has identified several key factors that influence online shopper satisfaction, including accurate and timely delivery, correct order fulfillment, and efficient return processing. Ho et al. (1999) further highlighted the pivotal role of logistics in shaping customer satisfaction in e-business, emphasizing aspects such as warranty availability, after-service repairs, prompt delivery, and return policies. Additionally, previous studies found that shipping, tracking and return positively impact on consumer satisfaction (Humairoh et al., 2023; Cao et al., 2018). Building on these findings, we propose:

H1: Shipping positively influences consumer satisfaction.

H2: Tracking positively influences consumer satisfaction.

H3: Return positively influences consumer satisfaction.

Follow-up is a structured approach organizations use to ensure customer issues are effectively resolved (Johnston & Mehra, 2002). For instance, firms can enhance customer satisfaction by delivering clear and personalized communication and confirming that the problem has been effectively addressed. The last stage of post-purchase is follow-up. This process may involve reaching out to customers via phone or email or message via platform to update them on the status of their concerns, confirm issue resolution, their feelings after purchase, receiving goods, and assess their satisfaction with the outcome. While previous study underscores the importance of follow-up in effective service failure (Johnston & Mehra, 2002; Mostafa, 2014), there remains a lack of empirical research investigating its implementation and impact within the context of LSQ. Therefore, we propose:

H4: Follow-up positively influences consumer satisfaction.

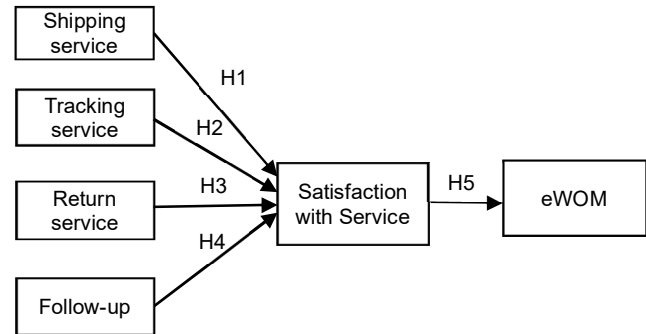


Figure 1: Proposed Framework

Satisfaction is a key determinant of customer attitudes, intentions, and shaping behaviors such as loyalty, repurchasing, positive eWOM (Holloway et al., 2005; Luong et al., 2021; Hui et al., 2025). With the growing influence of social networking platforms, eWOM has become an essential aspect of everyday communication. According to Social exchange theory, it has been widely applied to explain the motivations behind information sharing, knowledge exchange, and eWOM generation (Homans, 1958). This theory emphasizes the role of reciprocity and perceived fairness in both interpersonal and business relationships (Blau, 1964). Within this framework, Satisfied consumers are more inclined to share positive eWOM, reinforcing their connection with the company (Augusto et al., 2009; Zhang et al., 2022). Hence, we propose:

H5: Customer satisfaction positively influences eWOM.

3. Methodology

3.1. Data Collection

The Pilot testing is carried out to enhance the clarity, relevance, alignment, and validity of the questionnaire before final distribution. Specifically, the pretest involved five experts who related topics and 50 frequent shoppers. The pretest aims to ensure the questionnaire's relevance and alignment with the research objectives. Participants for this study are initially recruited from a student sample, who are then instructed to refer individuals within their personal networks to participate in the survey. The questionnaire starts with a screening question to confirm that respondents had prior experience with online shopping. Data are collected via an online survey administered through Google Forms. A total of 465 responses are collected, of which 440 are used for final analysis after the exclusion of incomplete or invalid entries. The data are analyzed using SPSS 22 and SmartPLS 3.0.

3.2. Survey Instrument

The survey is conducted from previous research in respondents' native language and underwent a translation process—first into English and then back into the original language—to ensure accuracy. This study adopts three dimensions of LSQ from Cao et al. (2018): shipping (seven items), tracking (four items), and returns (four items). Items measuring follow-up are based on Mostafa et al. (2014), while four satisfaction items are drawn from Cao et al. (2018). Additionally, three eWOM items are based on Augusto et al. (2009). Each survey item is rated on a five-point Likert scale, ranging from 1 (“Strongly disagree”) to 5 (“Strongly agree”).

3.3. Common Method Bias

To address potential common method bias (CMB), measurement items are carefully designed following the procedural remedies suggested by Podsakoff et al. (2003). Given that the data are collected from the same population at a single point in time, the risk of CMB is considered. To minimize CMB, the responses are collected anonymously, and participants are encouraged to provide honest answers. Harman's single-factor test is conducted to assess the presence of CMB. The results showed that a single factor accounted for 45.93%, which is below 50%. Hence, CMB is not concern in this research (Podsakoff et al., 2003).

4. Results and Discussion

4.1. Sample Characteristics

Table 1 shows the respondents' profiles. The sample comprises 53.4% females and 46.6% males, highlighting that women significantly shop online than men. Regarding age distribution, 40.2% of respondents are 25-35 years old, 32% are aged 18-24, 23.9% are 35-45, and 3.9% are over 45 years. About half of the respondents 53.4% hold a bachelor's degree, followed by master's degree (35.5%), and Ph.D (4.1%). The majority of respondents, 86.6%, shopped online frequently or very frequently, while 8.0% made online purchases occasionally.

Table 1: Demographic Characteristics (n=440)

Profile		N	%
Gender	Male	205	46.6
	Female	235	53.4
Age	18-24	141	32.0
	25-35	177	40.2
	36-45	105	23.9
	>45	17	3.9

Profile		N	%
Education	College	31	7.0
	Bachelor	235	53.4
	Master	156	35.5
	Ph.D	18	4.1
Frequency of online shopping	Rarely	6	1.4
	Occasionally	18	4.1
	Sometimes	35	8.0
	Often	165	37.5
	Very often	216	49.1

4.2. Measurement Model

This study examines internal consistency, convergent and discriminant validity to assess the measurement model. As Table 2, all items demonstrated strong factor loadings above 0.7 on their respective constructs (Nunnally, 1978). Additionally, Cronbach's α values exceed 0.7, and composite reliability (CR) also surpasses 0.7 (Hair et al., 2009). Moreover, the average variance extracted (AVE) for all constructs is greater than 0.5, confirming strong reliability and convergent validity.

Table 2: Constructs and Measurement Assessment

Construct and scale items	α	Estimate ^a	CR	AVE
Shipping	0.951		0.960	0.772
SP1		0.863		
SP2		0.885		
SP3		0.874		
SP4		0.897		
SP5		0.904		
SP6		0.852		
SP7		0.876		
Tracking	0.839		0.891	0.673
TR1		0.729		
TR2		0.827		
TR3		0.857		
TR4		0.861		
Return	0.830		0.887	0.662
RE1		0.840		
RE2		0.796		
RE3		0.808		
RE4		0.810		
Follow-up	0.938		0.956	0.843
FU1		0.941		
FU2		0.914		
FU3		0.910		
FU4		0.909		
Customer Satisfaction	0.934		0.953	0.835
SA1		0.910		
SA2		0.903		
SA3		0.919		
SA4		0.924		

Construct and scale items	α	Estimate ^a	CR	AVE
Electronic Word of Mouth	0.905		0.940	0.840
EW1		0.924		
EW2		0.913		
EW3		0.913		

Notes: a Standardized factor loading

Table 3: Discriminant Validity

	eWOM	Return	Satisfaction	Shipping	Follow up	Tracking	VIF
eWOM	0.917						
Return	0.432	0.814					1.519
Satisfaction	0.749	0.484	0.914				
Shipping	0.590	0.397	0.614	0.879			1.469
Follow up	0.615	0.382	0.677	0.523	0.918		1.508
Tracking	0.383	0.509	0.430	0.263	0.363	0.820	1.413

4.3. Structural Model

After analyzing the blindfolding procedure, the results enabled the evaluation of cross-validated redundancy for Stone-Geisser's Q^2 statistic (Chin, 1998). The results reveal that Stone-Geisser's Q^2 statistic value for the primary construct of perceived justice is greater than zero (Table 4). Therefore, the model has predictive fitness. The results of SRMR is 0.053, which is lower than the threshold of 0.08. Overall, our model is a good fit for our data (Hu et al., 1999).

Table 4: Stone-Geisser's Q^2 Statistic Value

	SSO	SSE	$Q^2 (=1-SSE/SSO)$
eWOM	1320.000	705.111	0.466
Follow up	1760.000	1760.000	
Return	1760.000	1760.000	
Satisfaction	1760.000	896.158	0.491
Shipping	3080.000	3080.000	
Tracking	1760.000	1760.000	

The structural model was assessed using the consistent PLS-SEM approach (Dijkstra et al., 2015), focusing on the coefficients of R^2 and f^2 . As Table 5, the model accounts for 59.3% of the variance in customer satisfaction and 56.2% in eWOM. The findings indicate that the independent variables exert a moderate influence on customer satisfaction and exhibit a moderate level of explanatory power with respect to repurchase intention (Hair et al., 2017).

Table 5: Structural Model Results

	Path coefficient	T Statistics	p-values	R^2	f^2	Supported (s)/not supported (ns)
Return -> Satisfaction	0.138	3.275	0.001	0.593	0.03	s
Shipping -> Satisfaction	0.307	7.385	0.000		0.16	s
Follow-up -> Satisfaction	0.417	9.858	0.000		0.28	s
Tracking -> Satisfaction	0.127	3.073	0.002		0.03	s
Satisfaction -> eWOM	0.749	33.378	0.000	0.562	1.28	s

As table 3, regarding discriminant validity, the square roots of the AVEs exceed the cross-construct correlations, confirming discriminant validity was satisfactory (Fornell & Larcker, 1981). Finally, all variance inflation factor (VIF) values for the constructs are well below the recommended threshold of 3.3, suggesting that multicollinearity is not a concern in this study (Hair Jr et al., 2014).

In conjunction with the R^2 value, the f^2 statistic assesses the individual contribution of each exogenous variable to the endogenous variables by evaluating the change in explained variance when a predictor is added to or excluded from the structural model (Ali et al., 2018). Based on these thresholds, the results indicate that return, shipping, and tracking exert small effects, while follow-up has a medium effect on satisfaction (Cohen, 2013).

The PLS-SEM approach is employed to analyze the relationships among the latent variables, as it is particularly effective for prediction and theory development (Dash et al., 2021). As table 5 and figure 2, path significance levels are assessed using bootstrap resampling with 5,000 iterations (Henseler et al., 2009; Chin, 1998). The findings show that follow-up has the strongest effect on satisfaction ($\beta = 0.417$), followed by shipping ($\beta = 0.307$), returns ($\beta = 0.138$), and tracking ($\beta = 0.127$). Therefore, all hypotheses from H1 to H4 are supported at $p < 0.001$. This is consistent with Cao et al. (2018), Oh et al. (2022), and Humairoh et al. (2023). Additionally, the result identifies customer satisfaction positively significant associated with eWOM ($p < 0.001$). Thus, H5 is supported.

Table 6 indicates that customer satisfaction mediates the relationship between returns, shipping, follow-up, tracking, and eWOM. However, the direct relationship between return, tracking and eWOM is not significant. Thus, satisfaction play as full mediator between return, tracking and eWOM.

Table 6: Indirect Effect

	Estimate	Standard Deviation	T Statistics	p-values	Mediation
Return -> Satisfaction -> eWOM	0.103	0.032	3.258	0.001	Full
Shipping -> Satisfaction -> eWOM	0.230	0.033	6.931	0.000	Partial
Follow up -> Satisfaction -> eWOM	0.313	0.032	9.732	0.000	Partial
Tracking -> Satisfaction -> eWOM	0.095	0.031	3.067	0.002	Full

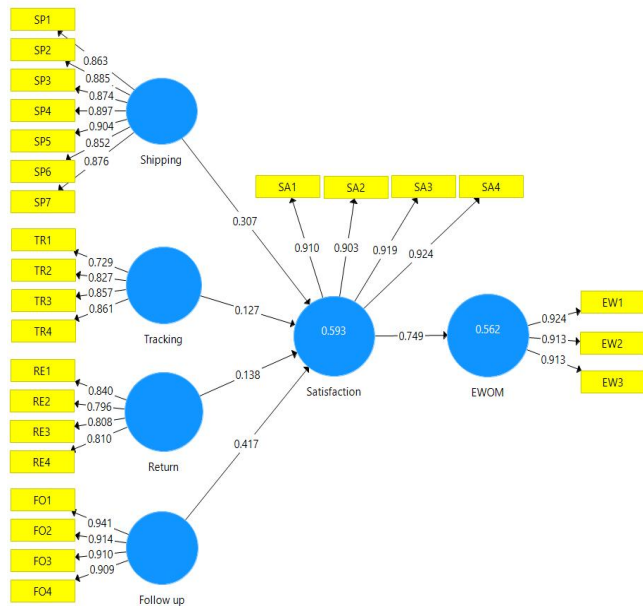


Figure 2: Path Analysis Results

5. Conclusion

5.1. Theoretical Implication

This study offers several theoretical contributions to the existing body of literature on LSQ. First, it introduces and empirically examines a new service action (i.e. follow-up) within the LSQ framework. Building on existing theoretical foundations, this study empirically substantiates a multidimensional model of LSQ. Second, by integrating existing models, this research offers a more comprehensive understanding of the LSQ dimensions that influence customer satisfaction and drive eWOM. Specifically, the study advances the LSQ framework by identifying and validating key dimensions: shipping, tracking, returns, and follow-up as critical determinants of customer experience. These findings are particularly meaningful when interpreted through the lenses of social exchange theory, expectancy disconfirmation theory and expectation confirmation theory. Overall, the study highlights LSQ as a vital mechanism for enhancing consumer satisfaction and promoting eWOM within the context of online services.

5.2. Managerial Implications

To effectively manage LSQ, online retailers must first understand the underlying drivers of consumer satisfaction. This study identifies four key LSQ dimensions that serve as predictors of customer satisfaction with LSQ. These dimensions offer valuable insights for service providers on how to enhance customer satisfaction. The findings indicate that follow-up is the most significant predictor of satisfaction with LSQ. It means that customers may appreciate when firms follow-up and take care of customers after purchase. Firms should place a strong emphasis on transparency and effective communication throughout the logistics process, particularly in addressing issues related to customer products. Moreover, providers should monitor support communication, update information regularly to support customers in resolving product delivery issues. This approach is cost-free yet proves to be effective in enhancing LSQ. In addition, firms should provide full information about delivery, packaging to customers and do exactly what is confirmed with customers after they make a purchase. Additionally, the positive effect of return services on customer satisfaction highlights the critical importance of establishing an efficient and user-friendly return process. Firms should establish a clear return policy that details timelines, conditions, procedures and ensure that this information is easily accessible and prominently displayed on their website. It is better than if they provide labels and return instructions attached to the product to customers. Moreover, firms should offer customers multiple return options with free fees, enabling them to select their preferred method for returning goods. Finally, the firms should provide customers with information or links to track their products at all times. The finding also shows the critical role of customer satisfaction with LSQ in driving eWOM. To promote positive customer recommendations, firms should prioritize the delivery of high-quality LSQ during the initial purchase experience. Implementing this comprehensive approach can lead to higher levels of overall customer satisfaction and a greater propensity for customers to recommend the company to others.

5.3. Limitation and Future Research

First, the predominance of respondents aged 18–45 may restrict the generalizability of the findings. Future research

should aim for a more diverse age distribution to better represent a broader spectrum of customer perspectives. Second, several additional factors may influence the relationships outlined in the proposed model. Future research should investigate the moderating effects of individual characteristics—such as gender, age, and income—to offer more nuanced insights into these dynamics. Third, this study does not account for variations across different product types. Future research should consider examining customer satisfaction across various product categories and price levels. Lastly, this study focuses on a developing country (Vietnam). Future research should examine developed countries or other regions to compare cross-cultures.

References

- Ali, A. H., Gruchmann, T., & Melkonyan, A. (2022). Assessing the Impact of Sustainable Logistics Service Quality on Relationship Quality: Survey-based Evidence in Egypt. *Cleaner Logistics and Supply Chain*, 4, 100036.
- Ali, F., Rasoolimanesh, S. M., Sarstedt, M., Ringle, C. M., & Ryu, K. (2018). An assessment of the use of partial least squares structural equation modeling (PLS-SEM) in hospitality research. *International Journal of Contemporary Hospitality Management*, 30(1), 514-538.
- Augusto de Matos, C., Vargas Rossi, C.A., Teixeira Veiga, R., & Afonso Vieira, V. (2009). Consumer reaction to service failure and recovery: the moderating role of attitude toward complaining. *Journal of Services Marketing*, 23(7), 462-475.
- Bae, S., & Lee, T. (2011). Gender differences in consumers' perception of online consumer reviews. *Electronic Commerce Research*, 11(2), 201-214.
- Baloch, N., & Rashid, A. (2022). Supply chain networks, complexity, and optimization in developing economies: A systematic literature review and meta-analysis. *South Asian Journal of Operations and Logistics*, 1(1), 1-13.
- Bienstock, C. C., Royne, M. B., Sherrell, D., & Stafford, T. F. (2008). An expanded model of logistics service quality: incorporating logistics information technology. *International Journal of Production Economics*, 113(1), 205-222.
- Blau, P. M. (1964). *Exchange and Power in Social Life*, Wiley, New York, NY.
- Cao, Y., Ajjan, H., & Hong, P. (2018). Post-purchase shipping and customer service experiences in online shopping and their impact on customer satisfaction: An empirical study with comparison. *Asia Pacific Journal of Marketing and Logistics*, 30(2), 400-416.
- Chen, Y., Fay, S. and Wang, Q., 2019. The role of marketing in social media: How online consumer reviews evolve. *Journal of Interactive Marketing*, 39, 1-14.
- Chin, W. W. (1998). The partial least squares approach to structural equation modeling. *Modern methods for business research*, 295(2), 295-336.
- Chin, W.W. (1998). *Commentary: Issues and Opinion on Structural Equation Modeling*. JSTOR.
- Cohen, J. (2013). *Statistical Power Analysis for the Behavioral Sciences*, second ed., Routledge, New York.
- Dash, G., & Paul, J. (2021). CB-SEM vs PLS-SEM methods for research in social sciences and technology forecasting. *Technological Forecasting & Social Change*, 173, 121092.
- Dijkstra, T. K., & Henseler, J. (2015). Consistent partial least squares path modeling. *MIS Quarterly*, 39(2), 297-316.
- Ding, M. C., & Lii, Y. S. (2016). Handling online service recovery: effects of perceived justice on online games. *Telematics and Informatics*, 33(4), 881-895.
- Do, Q. H., Kim, T. Y., & Wang, X. (2023). Effects of logistics service quality and price fairness on customer repurchase intention: the moderating role of cross-border ecommerce experiences. *Journal of Retailing and Consumer Services*, 70, 103165.
- F. Hair Jr, J., Sarstedt, M., Hopkins, L., & G. Kuppelwieser, V. (2014). Partial least squares structural equation modeling (PLS-SEM): An emerging tool in business research. *European Business Review*, 26(2), 106-121.
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39-50.
- Hafez, L., Elakkad, E., & Gamil, M. (2021). A study on the impact of logistics service quality on the satisfaction and loyalty of E-shoppers in Egypt. *Open Journal of Business and Management*, 9(5), 2464-2478.
- Hair, J. F., Black, W. C., Babin, B.J., & Anderson, R. E. (2009). *Multivariate Data Analysis*. Pearson Prentice Hall, Upper Saddle River, New Jersey.
- Hair, J. F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., & Thiele, K. O. (2017). Mirror, mirror on the wall: a comparative evaluation of composite-based structural equation modeling methods. *Journal of the Academy of Marketing Science*, 45(5), 616-632.
- Henseler, J., Ringle, C. M., & Sinkovics, R. R. (2009). The use of partial least squares path modeling in international marketing. Sinkovics, R. R., & Ghauri, P. N. (Ed.) *New Challenges to International Marketing (Advances in International Marketing, 20)*, Emerald Group Publishing Limited, Leeds, 277-319.
- Ho, C.-F., & Wu, W.-H. (1999). Antecedents of customer satisfaction on the internet: an empirical study of online shopping. *IEEE Proceedings of the 32nd Annual Hawaii International Conference on Systems Sciences (HICSS-32)*, 9.
- Holloway, B. B., Wang, S., & Parish, J. T. (2005). The role of cumulative online purchasing experience in service recovery management. *Journal of Interactive Marketing*, 19(3), 54-66.
- Homans, G. C. (1958). Social behavior as exchange. *American Journal of Sociology*, 63(6), 597-606.
- Hsu, H. (2006). An empirical study of web site quality, customer value, and customer satisfaction based on e-shop. *The Business Review*, 5(1), 190-193.
- Hu, L-T, Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, 6(1), 1-55.
- Hui, G., Mamun, A. A., Reza, M. N. H., & Hussain, W. M. H. W. (2025). An empirical study on logistic service quality, customer satisfaction, and cross-border repurchase intention. *Heliyon*, 11.
- Humairoh, H., & Annas, M. (2023). Shipping, Tracking, And Returned Goods: The Determinants of Sustainable E-

- Commerce Supply Chain and Logistics Operation. *Jurnal Manajemen*, 14(3), 471-491.
- Hüseyinoğlu, I.O.Y., Sorkun, M.F., & Borühan, G. (2018). Revealing the impact of operational logistics service quality on omni-channel capability. *Asia Pacific Journal of Marketing and Logistics*, 30(5), 1200-1221.
- Jain, N. K., Gajjar, H., & Shah, B. J. (2021). Electronic logistics service quality and repurchase intention in e-tailing: catalytic role of shopping satisfaction, payment options, gender and returning experience. *Journal of Retailing and Consumer Services*, 59, 102360.
- Johnston, R., & Mehra, S. (2002). Best-practice complaint management. *Academy of Management Executive*, 16(4), 145-154.
- Khan, S. K., Ahmed, S., & Rashid, A. (2021). Influence of social media on purchase intention and customer loyalty of generation Y with the mediating effect of conviction: A case of Pakistan. *Pakistan Journal of International Affairs*, 4(2), 526-548.
- Kucukaltan, B., Saatcioglu, O. Y., Irani, X., & Tuna. O. (2022). Gaining strategic insights into Logistics 4.0: expectations and impacts. *Production Planning & Control*, 33(2-3), 211-227.
- Lee, C. T., Ho, T.-Y., & Xie, H.-H. (2023). Building brand engagement in metaverse commerce: The role of branded non-fungible tokens (BNFTs). *Electronic Commerce Research and Applications*, 58, 101248.
- Li, M., & Liu, Y. (2021). Beneficial product returns in supply chains. *Production and Operations Management*, 30(11), 3849-3855.
- Luong, D. B., Wu, K.-W., & Vo, T. H. G. (2021). Difficulty is a possibility: turning service recovery into e-WOM. *Journal of Services Marketing*, 35(8), 1000-1012.
- Mentzer, J.T., Flint, D.J., & Hult, G.T.M. (2001). Logistics service quality as a segment-customized process. *Journal of Marketing*, 65(4), 82-104.
- Mentzer, J.T., Flint, D.J., & Kent, J. L. (1999). Developing a logistics service quality scale. *Journal of Business Logistics*, 20(1), 9-32.
- Mostafa, R., Lages, C. R., & Sääksjärvi, M. (2014). The CURE scale: a multidimensional measure of service recovery strategy. *Journal of Services Marketing*, 28(4), 300-310.
- Murfild, M., Boone, C.A., Rutner, P., & Thomas, R. (2017). Investigating logistics service quality in omni-channel retailing. *International Journal of Physical Distribution & Logistics Management*, 47(4), 263-296.
- Nunnally, J.C., 1978. *Psychometric Theory*. McGraw-Hill, New York, NY.
- Oh, K.-Y., Kang, S.-Y., & Oh, Y.-G. (2022). The Moderating Effects of Eco-Friendliness between Logistics Service Quality and Customer Satisfaction in Cross-Border e-Commerce: Evidence from Overseas Direct Purchasers in Korea. *Sustainability*, 14(22), 15084.
- Perreault, W.D., & Russ, F. A. (1976). Physical distribution service in industrial purchase decisions: a survey of industrial purchasing managers reveals that physical distribution service rates second only to product quality in influencing industrial purchase decisions. *Journal of Marketing*, 40(2), 3-10.
- Podsakoff, P., MacKenzie, S., Lee, J., & Podsakoff, N. (2003). Common method biases in behavioral research: a critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879-903.
- Rabinovich, E., Knemeyer, A.M., Mayer, C.M., 2007. Why do Internet commerce firms incorporate logistics service providers in their distribution channels?: the role of transaction costs and network strength. *Journal of Operations Management*. 25(3), 661-681.
- Rashid, Dr. A., & Rasheed, Dr. R. (2024). Logistics Service Quality and Product Satisfaction in E-Commerce. *SAGE Open*, 14(1).
- Reibstein, D. J. (2002). What attracts customers to online stores, and what keeps them coming back?. *Journal of the Academy of Marketing Science*, 30(4), 465-473.
- Sorkun, M. F., Yumurtacı Hüseyinoğlu, I.Ö., & Börühan, G. (2020). Omni-channel capability and customer satisfaction: mediating roles of flexibility and operational logistics service quality. *International Journal of Retail & Distribution Management*, 48(6), 629-648.
- Zhang, Y., Wang, X., & Sun, Y. (2022). The impact of website quality on customer satisfaction and eWOM in online purchase intention. *Frontiers in Psychology*, 13, 945707.
- Zhu, Z., Zhang, F., Xu, X., & Jiang, A. (2023). Retailer's optimal pricing decisions when offering installment in the presence of P2P market. *Electronic Commerce Research and Applications*, 58, 101245.

Appendix

Appendix 1: Questionnaire Items

Construct	Item	Measurement	References
Shipping	SP1	The online stores I use deliver the product based on an agreed time	Cao et al. (2018)
	SP2	I often receive my product within expected time period	
	SP3	I often find shipping options that best fit me	
	SP4	I often receive free/discounted shipping	
	SP5	The online stores provide tracking ability during shipping	
	SP6	The online stores give me the flexibility to choose delivery date	
	SP7	The online stores provide flexibility to reroute packages	
Tracking	TR1	Email or text notifications with a tracking number	Cao et al. (2018)
	TR2	The ability to track my shipment directly on the retailer's website	
	TR3	The ability to track my shipment with my mobile device	
	TR4	Sent instant e-mail/text delivery alerts	

Construct	Item	Measurement	References
Return	RE	It is easy to make returns/exchanges	Cao et al. (2018)
	RE	The online stores have clear returns policy	
	RE	I often do not have trouble getting the returned item to the shipping company	
	RE	I often do not have to pay a return shipping/restocking fee	
Follow-up	FU1	After solving the problem, the company contacted me to ensure that the problem has been solved completely	Mostafa et al. (2013)
	FU2	After handling the problem, the company followed-up to make sure that everything is satisfactory	
	FU3	The company asked me to use the service to ensure that the problem has been entirely solved	
	FU4	The company has contacted me to inform me about the status of my problem	
Customer Satisfaction	SA1	The services provided by the online store and sellers are very good	Cao et al. (2018)
	SA2	The online shopping store provides good customers service quality	
	SA3	My online shopping experience is satisfying	
	SA4	I am satisfied with my online shopping experience	
Electronic Word of Mouth	EW1	Tell my relatives and friends about the good experience with this company through Facebook, websites, or other Internet communication channels	De Matos et al. (2009)
	EW2	Will say positive things about this company to other friends through Facebook, websites and other internet communication channels	
	EW3	Will recommend this company if someone asks me for information on the internet	