

“How electronic word-of-mouth influences intention to use parcel lockers services: Evidence from an integrated TAM-TPB model”

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HOW ELECTRONIC WORD-OF-MOUTH INFLUENCES INTENTION TO USE PARCEL LOCKERS SERVICES: EVIDENCE FROM AN INTEGRATED TAM-TPB MODEL

Abstract

The rapid growth of online shopping, coupled with the increasing demand for flexible parcel collection, has promoted parcel locker services (PLKS) as an effective last-mile logistics solution. This study examines the extended role of electronic word-of-mouth (eWOM) within an integrated TAM-TPB framework in explaining consumers' intention to use PLKS. A questionnaire survey was conducted primarily in Hanoi and Ho Chi Minh City, Vietnam, between November and December 2025. The analysis was based on 362 valid responses from online shoppers who had not previously used PLKS. PLS-SEM was employed to test the proposed hypotheses. The findings reveal that eWOM has a positive and statistically significant association with the core components of TPB, particularly attitude ($\beta = 0.569$; $p = 0.000$) and perceived behavioral control ($\beta = 0.582$; $p = 0.000$). Attitude was identified as the strongest predictor of intention to use parcel locker services ($\beta = 0.491$; $p = 0.000$). Furthermore, eWOM was positively associated with intention to use both directly and indirectly through the statistically significant mediating roles of attitude ($\beta = 0.28$; $p = 0.000$) and Perceived Behavioral Control ($\beta = 0.083$; $p = 0.000$). However, the results do not support the mediating role of subjective norms in the relationship between eWOM and intention to use ($\beta = 0.024$; $p = 0.073$). The findings offer managerial implications for locker service providers, highlighting the importance of investing in digital communication strategies, fostering positive customer reviews and feedback, and ensuring transparent and accessible service information to strengthen consumers' adoption intentions.

Keywords

electronic word-of-mouth, consumer behavior, attitude, parcel lockers service, last-mile logistics

JEL Classification

M31, L87, D12

INTRODUCTION

The accelerated growth of e-commerce has profoundly changed consumer behavior, leading to rapid increase in the volume of goods requiring transportation. Vietnam is widely considered a high-potential market in Southeast Asia, with an estimated market size of up to US\$ 200 billion by 2030 (Google, 2025). This trend puts significant pressure on last-mile delivery operations, especially as consumer demand for speed and convenience continues to grow. In this context, parcel locker services (PLKS) have emerged as an innovative solution, contributing to improved efficiency and flexibility in last-mile logistics. This service allows users to receive goods 24/7, reduces operating costs, and limits negative environmental impacts. At the same time, PLKS benefits multiple stakeholders, including service providers, customers, and society (Kahr, 2022; Yuen et al., 2019).



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However, despite the proven benefits of PLKS, many customers still prefer traditional delivery methods, particularly in emerging markets like Vietnam, indicating a gap between the value the technology brings and actual user acceptance behavior. This issue highlights the need for further research into factors influencing the intention to use PLKS in the Vietnamese market context, particularly the involvement of eWOM. The research results are expected to support logistics businesses and service providers in developing appropriate strategies to promote consumer acceptance of PLKS, thereby improving the efficiency of last-mile logistics operations.

1. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

PLKS are attracting increasing attention from both practitioners and researchers due to their potential to improve the efficiency and sustainability of last-mile delivery. Existing studies have examined various technological, behavioral, and social factors influencing consumer adoption of PLKS and other smart delivery solutions. This section will review the literature related to PLKS adoption and identify the research gap addressed in this study.

The emergence of PLKS has introduced a novel solution in last-mile logistics. Nevertheless, consumer acceptance and continued usage of this delivery mode are influenced not only by its functional advantages but also by a range of psychological and social determinants. Previous studies have identified numerous determinants influencing consumers' intention to adopt PLKS and other smart delivery solutions. Functional attributes such as convenience, privacy and security, reliability, service flexibility, and perceived value are consistently reported as key determinants of PLKS adoption behavior (Chuong et al., 2024; Yuen et al., 2019). Additionally, PLKS are also evaluated based on expected performance, ease of use, and relevance to consumers' daily routines (Yusoff et al., 2023). These findings suggest that both practical and perceived user benefits play a significant role in shaping adoption intentions. Some researchers emphasize the role of "Attitude" as a mediator influencing the intention to use PLKS (ElSemary et al., 2025; Encarnación & Amaya, 2025; Tsai & Tiwasing, 2021; Wang et al., 2018). However, among the factors discussed, research examining the role of electronic word-of-mouth (eWOM) in the context of PLKS adoption within frameworks grounded in

the Technology Acceptance Model (TAM) and the Theory of Planned Behavior (TPB) remains limited. In previous studies, eWOM has been proposed within theoretical frameworks across various fields and has been examined from the perspective of the TPB (Azhar et al., 2022; Goh et al., 2015; Khan et al., 2024). In the context of PLKS, existing studies have primarily relied on TPB, with limited attention given to eWOM, and the role of subjective norms has not been fully validated (ElSemary et al., 2025; Tsai & Tiwasing, 2021).

In the integrated TAM, "Attitude" is posited as a pivotal construct influencing consumers' intention. Attitude is an individual's relatively stable evaluation of a behavior, reflecting the degree of favorability or unfavorability, and plays a crucial role in shaping intention. Both the TAM and TPB theoretical frameworks show that greatly influence technology use behavior. Attitudes are identified as playing a positive and significant role in shaping intention (Liao & Fang, 2019). When users form a positive attitude, they tend to be psychologically motivated to accept and use new technologies (Al-Marroof et al., 2023). In last-mile logistics, this positive attitude contributes to an increased intention to use technology-based solutions, typically PLKS (An et al., 2022; ElSemary et al., 2025; Tsai & Tiwasing, 2021). In the TAM, Davis et al. (1989) emphasized that Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) fundamental factors shaping "Attitudes" and "Intention to Use". The existing literature on technology adoption further substantiates this argument (Sasidharan & Venkatakrishnan, 2024). In PLKS usage, the cognitive factors PU and PEOU have been shown to be pillars, positive and significantly influential in determining customer attitudes and conversion intentions (Yan et al., 2019). According to An et al. (2022), users expect positive outcomes such as on-time delivery. Wang et al. (2018) argue that when a new technology does not significantly disrupt ex-

isting habits but can integrate naturally into current lifestyles, users tend to view it more positively and are more willing to accept it. Technological literacy can also become a barrier if using the technology requires significant effort from users, making them feel that learning or adapting to the technology is time-consuming, affecting their attitudes and decisions, making users hesitant to explore and use it. When technology is easy to use, users will have a positive perception of its usefulness (Won et al., 2022). Therefore, attitude plays a crucial role in linking cognitive factors (PU and PEOU) with customers' intention to use PLKS.

In the integrated TPB, Ajzen (1991) argues that individual behavior is not only determined by "Attitudes" toward technology but also by Subjective Norm (SN) and Perceived Behavioral Control (PBC). With technology-based last-mile delivery methods like PLKS, consumers tend to be willing to switch when they see the new method offering superior control, such as convenient geographical access, reduced risk of missed deliveries, and less uncertainty compared to traditional delivery methods (ElSemary et al., 2025). Perceptions and resource limitations for performing individual behaviors will influence the evaluation of future behavior; behavioral control helps predict consumer intentions to use PLKS (Tsai & Tiwasing, 2021). SN is identified as a social influence factor in the research of Venkatesh et al. (2003). The motivation to conform to a behavior is thought to be directly proportional to the level and importance of the social pressure that individuals perceive (Mathieson, 1991). Many previous studies have confirmed the role of SN as an important antecedent of INT (Al-Marroof et al., 2023; Taylor & Todd, 1995), and this role has also been recognized in the context of PLKS usage (Ngan et al., 2026; Zhou et al., 2020). SN and control behavior have been identified as engaging consumer behavior in the fields of tourism (Azhar et al., 2022), accommodation booking (Goh et al., 2015), shopping (Chang & Chou, 2018; Liao & Fang, 2019), food delivery service usage (Hwang et al., 2020); adoption of payment technologies (Cong et al., 2024). Based on empirical evidence, these factors have been identified as important antecedents shaping consumer INT regarding PLKS.

When faced with new technologies in last-mile delivery, consumers often lack direct experience to

assess their usability. Therefore, word-of-mouth (WOM) plays a crucial role as a social reference mechanism (Jalilvand & Samiei, 2012a). According to East et al. (2017), WOM is considered to have a strong impact on purchasing decisions. The rapid development of the Internet has led WOM to evolve into a less personal but more widespread online form, known as eWOM. Today, eWOM is considered an important marketing tool, affecting sales customer value and loyalty (Al-Dmour et al., 2021), brand value (Bambauer-Sachse & Mangold, 2011), promoting green consumer behavior (Khan et al., 2024). eWOM reflects consumer opinions and reviews about products or businesses that are widely shared in online environments (O'Reilly et al., 2016; Tugiman, 2022). Reviews from eWOM can positively influence purchase decisions (Lai Ying & Chung, 2007; López & Sicilia, 2014). eWOM is an important driver of TPB structures (Lee et al., 2021). eWOM influences individual intentions by shaping attitudes, SN, and cognitive behavioral control (Baber et al., 2016; Iyer & Griffin, 2021; Khan et al., 2024). When significant others encourage individuals to refer to eWOM before making decisions, such standard pressure can shape individual behavior; meanwhile, possessing resources and access to eWOM allows consumers to use this information effectively to make decisions (Azhar et al., 2022). Through these factors, eWOM is found to indirectly influence intentions to select tourism destinations (Jalilvand & Samiei, 2012b) or to use technology for accommodation booking through websites or mobile applications (Goh et al., 2015).

This study is built on an integrated theoretical framework combining the TAM (Davis et al., 1989) and the TPB (Ajzen, 1991) to comprehensively explain consumers' intentions to use technology. However, TAM is less comprehensive as it focuses mainly on individual evaluations. Therefore, TPB integrates SN and Perceived Behavioral Control (PBC) to address the limitations of TAM. These two factors have been shown in numerous studies to significantly influence the adoption of new technologies and services, including PLKS (Azhar et al., 2022; Khan et al., 2024). In the integrated TAM-TPB framework, attitude is considered the central construct and the intersection point between the two theories. Perceived beliefs from TAM contribute to shaping attitudes toward tech-

nology use, while factors from TPB add social influence and the likelihood of performing the behavior. This integrated approach enhances the model's explanatory capability regarding technology use intention compared to applying each theory separately (Venkatesh et al., 2003). Therefore, TAM-TPB as a unified and fixed theoretical framework suitable for the current research objectives. Simultaneously, it expands the model by further exploring the role of the eWOM factor.

Overall, previous studies have confirmed the role of cognitive, social, and technological factors in explaining the intention to use PLKS. However, some notable research gaps remain, such as: limited empirical evidence regarding Vietnam; although eWOM has been shown to influence consumer behavior in various sectors, its role in the context of PLKS use has not been fully studied; previous studies have mainly applied TAM or TPB individually, while studies on PLKS that integrate cognitive, social, and eWOM factors into a single model are still quite rare.

The aim of this study is to explore the influence of eWOM along with social and cognitive factors in

explaining the intention to accept PLKS based on the integrated TAM-TPB theoretical framework, and to clarify the mediating role of user attitudes toward this service in the last-mile delivery.

The proposed research model is shown in Figure 1.

Based on inheriting research results in previous fields, we propose the following hypotheses:

H1: PEOU is positively associated with PU.

H2a: PU is positively associated with ATT.

H2b: ATT mediates the relationship between PU and INT.

H3a: PEOU is positively associated with ATT.

H3b: ATT mediates the relationship between PEOU and INT.

H4a: eWOM is positively associated with ATT.

H4b: ATT mediates the relationship between eWOM and INT.

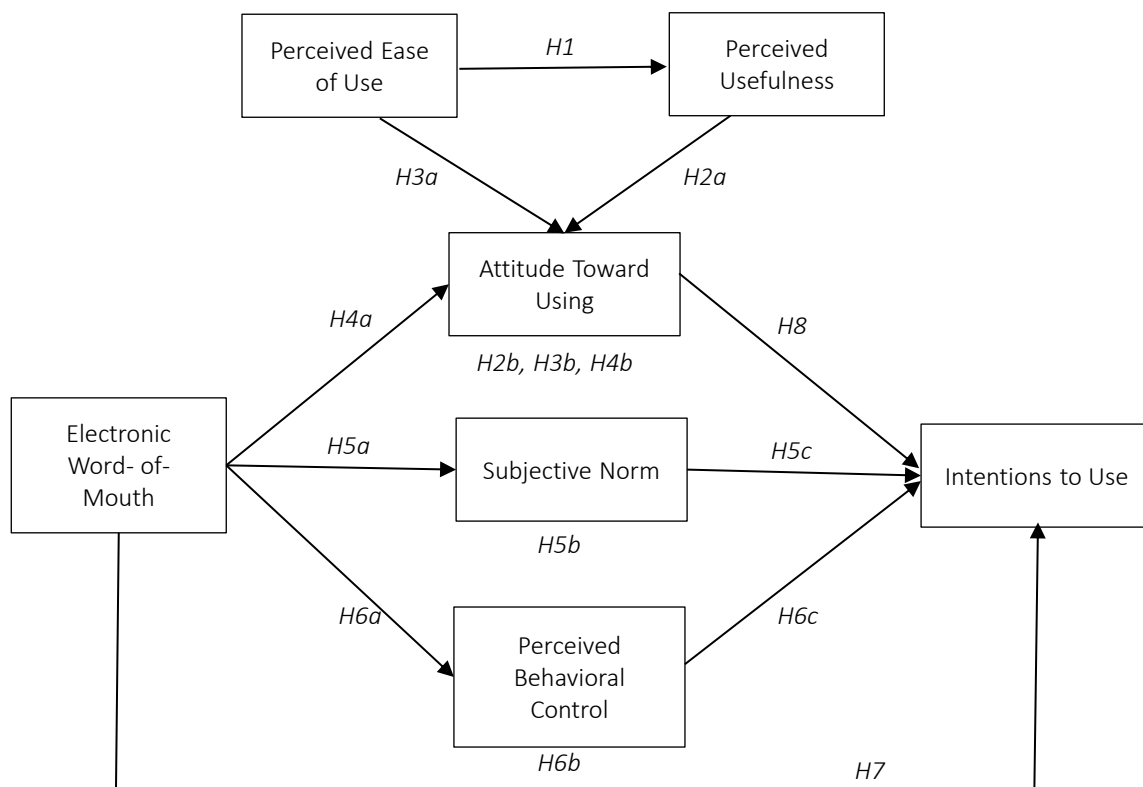


Figure 1. Research framework

H5a: eWOM is positively associated with SN.

H5b: SN mediates the relationship between eWOM and INT.

H5c: SN is positively associated with INT.

H6a: eWOM is positively associated with PBC.

H6b: PBC mediates the relationship between eWOM and INT.

H6c: PBC is positively associated with INT.

H7: eWOM is positively associated with INT.

H8: ATT is positively associated with INT.

PEOU – Perceived Ease of Use; PU – Perceived Usefulness; ATT – Attitude; INT – Intentions to Use; eWOM – electronic Word-of-Mouth; SN – Subjective Norm; PBC – Perceived Behavioral Control.

2. METHOD

Before participating in the survey, respondents were provided with full information about the research objectives, survey content, and their rights. Participation was entirely voluntary and proceeded only after respondents provided their informed consent. All responses were collected anonymously, kept confidential, and used solely for academic research purposes. Respondents had the right to refuse or withdraw from the survey at any time without any consequences. The survey began with a brief introduction to parcel lockers was presented at the beginning of the survey form. Participants were informed of the study's eligibility criteria, including being at least 18 years old and having experience with online shopping in Vietnam. After providing their consent to participate, respondents answered a screening question: "Have you ever used a parcel locker service?" Only those who selected "Never used" were allowed to proceed with the questionnaire and were included in the final sample. Respondents who selected "Have used" were excluded because the study focused on the intention to use parcel locker services among individuals with no prior experience using such services. The survey was conducted via a

Google Forms link, using a convenience sampling method among consumers with online shopping experience, primarily concentrated in Vietnam's two major cities, Hanoi and Ho Chi Minh City, where PLKS have been deployed and consumers are more likely to be aware of or familiar with this delivery option. This ensures that respondents have real-world experiences directly related to the research area. Furthermore, the convenience sampling method is consistent with the PLS-SEM method used by the authors to analyze the data for the current study, contributing to the feasibility and academic value of the research.

To calculate the minimum required sample size, the study used G*Power software. The results showed that with 5 independent variables, the minimum required sample size was 138 at a 5% significance level, with a moderate effect size ($f^2 = 0.15$) and a statistical power of 0.95. Thus, 362 valid responses after screening indicate that the sample size is adequate for the analysis.

The scales in this study were constructed based on and adapted from previous studies, and were developed to suit the context of last-mile logistics. A total of 21 survey questions were used to measure the observed variables in the research model. The questionnaire was developed by adapting previously validated measurement scales from prior studies. Specifically, the measurement items for PU and PEOU were adapted from An et al. (2022) and Dayal et al. (2025); ATT from Wang et al. (2018), Tsai and Tiwasing (2021), and An et al. (2022); SN and PBC from Zhou et al. (2020); eWOM from Jalilvand and Samiei (2012b) and Goh et al. (2015); and usage intention from Tsai and Tiwasing (2021). The wording of the items was slightly modified to fit the Vietnamese parcel locker context while preserving the original meaning of the scales. Details of the measurement items and their sources are provided in Appendix. All scales used a 5-point Likert scale, from 1 = "strongly disagree" to 5 = "strongly agree".

After being compiled and cleaned, the research data were analyzed using SmartPLS 4.0 software, based on the Partial Least Squares Structural Equation Modeling (PLS-SEM) method. Following the approach of Anderson and Gerbing (1988), the measurement model is assessed before the structural model.

Parcel lockers are commonly located in areas such as office building lobbies, apartment complexes, universities, and hospitals (Encarnación & Amaya, 2025; Wang et al., 2018). Therefore, most respondents were approached in or around these locations. The selection of these survey locations was intentional, aiming to target consumers likely to engage with the parcel locker system in real life, thereby enhancing the relevance of the sample to the research context.

Table 1. Characteristics of survey respondents

Categories	Frequency	Percent (%)
Gender		
Male	124	34.3
Female	237	65.5
Prefer not to say	1	0.2
Residential area		
Hanoi	191	52.8
Ho Chi Minh city	127	35.1
Other	44	12.1
Occupation		
Student	252	69.6
Office worker	97	26.8
Other	13	3.6
Monthly income (VND)		
<5 million	241	66.6
5 to 10 million	38	10.5
10 to 20 million	56	15.5
>20 million	27	7.4
Shopping frequency		
Almost every day	33	9.1
1-2 times/week	70	19.3
1-3 times/month	207	57.2
Less than once/month	52	14.4
Parcel weight (kg)		
<1 kg	247	68.2
1-3 kg	98	27.1
3-5 kg	15	4.1
>5 kg	2	0.6
Average order value (VND)		
<200.000	156	43.1
200.000 – 500.000	176	48.6
500.000 – 1.000.000	26	7.2
>1.000.000	4	1.1

From the data presented in Table 1, of 362 valid responses, the majority of participants were female (65.5%). This trend can be attributed to consumer behavior characteristics that have been highlighted in previous studies, which indicate that women generally engage more in online shopping and are more attuned to service-related factors compared to men (Garbarino & Strahilevitz, 2004; Hasan,

2010). The survey primarily focused on urban areas with high population density and significant delivery needs, specifically targeting Hanoi and Ho Chi Minh City. This focus arises from the fact that consumers in densely populated urban regions tend to prefer self-service delivery solutions, such as parcel lockers, and have easier access to them. Additionally, approximately 69.6% of the respondents were university students. This demographic is particularly relevant to the research context due to their frequent online shopping habits, high acceptance of technology, and regular use of modern delivery services.

Nearly 30% of respondents reported high shopping frequency, while approximately 50% reported average shopping frequency. Packages weighing less than 1 kg accounted for 68.2%, and items valued under 200,000 VND accounted for 43.1%, while those valued between 200,000 and 500,000 VND accounted for 48.6%.

3. RESULTS

This section presents the results of data analysis and model testing. Potential bias in estimating the relationships among variables may arise when data are collected from the same source, at the same time, or using the same measurement method (Jakobsen & Jensen, 2015). In order to detect Common Method Bias (CMB), the full collinearity test was utilized. The test results showed that all variables had VIF coefficients below the threshold of 3.3 (Kock & Lynn, 2012). Therefore, the data were not significantly affected by CMB and the data are acceptable for further analysis.

The study analyzed the criteria of the measurement model in Table 2.

As shown in Table 2, the composite reliability of the constructs ranged from 0.831 to 0.937, and the Cronbach's Alpha ranged from 0.702 to 0.899, all greater than 0.7, exceeding the minimum threshold recommended for exploratory research (Hair et al., 2017).

Convergent validity was confirmed when the AVE (Average Variance Extracted) values ranged from 0.622 to 0.832, exceeding the minimum threshold of 0.50, as suggested by Ramayah et al. (2018).

Table 2. Reliability and convergent validity result

Construct	Code	Factor loading	Cronbach's Alpha	Composite reliability	AVE
ATT	ATT1	0.895	0.877	0.924	0.803
	ATT2	0.897			
	ATT3	0.896			
EWOM	EWOM1	0.876	0.874	0.923	0.799
	EWOM2	0.913			
	EWOM3	0.892			
INT	INT1	0.902	0.871	0.921	0.795
	INT2	0.898			
	INT3	0.875			
PBC	PBC1	0.795	0.702	0.831	0.622
	PBC2	0.808			
	PBC3	0.762			
PEOU	PEOU1	0.832	0.811	0.884	0.717
	PEOU2	0.850			
	PEOU3	0.857			
PU	PU1	0.913	0.899	0.937	0.832
	PU2	0.905			
	PU3	0.919			
SN	SN1	0.829	0.706	0.836	0.630
	SN2	0.754			
	SN3	0.797			

Table 3. Heterotrait-monotrait ratio (HTMT) – Matrix

	ATT	eWOM	INT	PBC	PEOU	PU	SN
ATT							
EWOM	0.853						
INT	0.863	0.780					
PBC	0.743	0.716	0.738				
PEOU	0.633	0.741	0.567	0.669			
PU	0.605	0.524	0.567	0.883	0.407		
SN	0.411	0.417	0.472	0.666	0.453	0.521	

Table 4. Fornell-Larcker criterion

	ATT	eWOM	INT	PBC	PEOU	PU	SN
ATT	0.896						
EWOM	0.748	0.894					
INT	0.755	0.682	0.892				
PBC	0.597	0.582	0.591	0.789			
PEOU	0.562	0.642	0.505	0.540	0.847		
PU	0.538	0.466	0.502	0.678	0.370	0.912	
SN	0.328	0.331	0.370	0.473	0.351	0.416	0.794

To assess discriminant validity, the study used both the Fornell-Larcker criterion, cross-loading, and HTMT.

The discriminant validity (HTMT) values of all pairs of variables in Table 3 are less than the proposed threshold of 0.9. The overall discriminant value of the model is considered satisfactory, especially when considered in the context of behavioral

research (Henseler et al., 2015). The Fornell-Larcker test results in Table 4 show that the square root of the AVE of each concept is greater than the correlation coefficient between that concept and other concepts, further confirming the discriminant nature of the model. The cross-loading criterion shows that all indicators have the highest load factor on their respective latent variables and significantly lower load factors on the remaining variables.

Using the Variance Inflation Factor (VIF) to assess multicollinearity, the results showed that the highest VIF value in the model was 2.892, lower than the recommended threshold of 5.0 by Hair et al. (2017), so the model did not experience significant multicollinearity.

The coefficient of determination (R^2) was used to assess the explanatory power of the independent variables, mediating variables, and the main dependent variable INT in the model (Hair et al., 2017). The model explained 62.3% of the variance of INT and 61.3% of the variance of ATT, both indicating high explanatory power, especially in behavioral studies.

To evaluate the predictive power of the model, the Q^2 index was calculated using the blindfolding process. The Q^2 value of INT reached 0.467, and ATT reached 0.561, both exceeding the zero threshold, demonstrating the model's strong predictive power (Shmueli et al., 2019).

The structural model was designed in two parts, used to test hypotheses about the impact of factors in the TAM model on INT and to extend EWOM in the TPB model and the impact of EWOM on INT. Table 5 presents the results of the structural model.

In this study, hypotheses *H1*, *H2a*, *H3a*, *H5c*, and *H6c* were all accepted. The results reflect that factors PU and PEOU have a positive and statistically significant influence on ATT. SN and PBC both

have a positive and statistically significant influence on INT, but the influence of SN on INT is negligible, while the influence of PBC on INT has a $\beta = 0.142$, $p < 0.01$.

The mediating role of ATT is also confirmed with a path coefficient $\beta = 0.491$, $p < 0.01$, showing a strong statistically significant positive relationship between ATT and INT. Thus, hypothesis 8 is accepted – attitude positively influences the intention to use PLKS.

Considering the direct and indirect effects of eWOM, it shows that eWOM has a positive, statistically significant effect on all factors in the TPB model (hypotheses *H4a*, *H5a*, *H6a* are accepted); the direct effect of eWOM on ATT and PBC is the largest with f^2 values of 0.441 and 0.512, respectively, both being large effects (Cohen, 2013). The direct impact of EWOM on INT is also positive and statistically significant, so hypothesis *H7* is accepted. Regarding the indirect impact of eWOM on INT through ATT, SN, and PBC, two hypotheses, *H4b* and *H6c*, are accepted. The indirect impact of eWOM through SN on INT is not statistically significant, so hypothesis *H5b* is rejected.

4. DISCUSSION

The research findings generally indicate that behavioral factors play a significant role in shaping the intention to use PLKS. The PLKS in urban areas of Vietnam was launched in 2021 to address

Table 5. Direct and indirect effects on intention to use

Hypothesis	Path	Coefficient	t-value	p-value	Supported
<i>H1</i>	PEOU → PU	0.370***	8.440	0.000	Yes
<i>H2a</i>	PU → ATT	0.231***	5.551	0.000	Yes
<i>H2b</i>	PU → ATT → INT	0.114***	4.558	0.000	Yes
<i>H3a</i>	PEOU → ATT	0.111*	2.367	0.018	Yes
<i>H3b</i>	PEOU → ATT → INT	0.055*	2.277	0.023	Yes
<i>H4a</i>	EWOM → ATT	0.569***	11.527	0.000	Yes
<i>H4b</i>	EWOM → ATT → INT	0.280***	7.200	0.000	Yes
<i>H5a</i>	EWOM → SN	0.331***	6.056	0.000	Yes
<i>H5b</i>	EWOM → SN → INT	0.024	1.794	0.073	No
<i>H5c</i>	SN → INT	0.073*	1.973	0.049	Yes
<i>H6a</i>	EWOM → PBC	0.582***	14.861	0.000	Yes
<i>H6b</i>	EWOM → PBC → INT	0.083***	2.886	0.004	Yes
<i>H6c</i>	PBC → INT	0.142***	2.938	0.003	Yes
<i>H7</i>	EWOM → INT	0.207***	3.426	0.001	Yes
<i>H8</i>	ATT → INT	0.491***	8.935	0.000	Yes

Note: $p < 0.10^*$; $p < 0.05^{**}$; $p < 0.01^{***}$

the risk of COVID-19 transmission through contact. However, it was not widely implemented in major cities until the end of 2024.

The research results show that PU and PEOU are positively associated with ATT, consistent with the research results of An et al. (2022) and Dayal et al. (2025). Therefore, logistics companies need to simplify the practical experience to minimize the effort required, ensuring users can easily learn how to use and operate the lockers, thereby enhancing their satisfaction with online shopping. Locker service providers can also place instruction boards or visual instructional videos at stations to help customers overcome any perceived complexity. SN and PBC both have a positive impact on the INT, in line with the findings of Tsai and Tiwasing (2021). ATT was positively and significantly associated with INT, indicating that consumers with more favorable attitudes toward PLKS also reported stronger intentions to use the service. This finding is consistent with those reported by Tsai and Tiwasing (2021), Wang et al. (2018), and An et al. (2022), and further highlights the important role of attitude in explaining consumers' intention to use PLKS within the TPB framework. Simultaneously, the study also confirms the mediating role of ATT in the relationship between PEOU, PU, eWOM, and INT. This suggests that businesses providing the PLKS should prioritize improving the usefulness and ease of use of the locker system through optimizing the interface, simplifying the receiv-

ing process, diversifying locker sizes, and providing clear usage instructions to foster positive attitudes and promote customer INT the service.

The findings also indicate that eWOM is positively associated with ATT, SN, PBC, and INT, consistent with the studies of Azhar et al. (2022) and Khan et al. (2024). This can be explained by the fact that in the digital environment, online reviews and feedback mainly influence consumers' personal perceptions and evaluations rather than creating social pressure. For PLKS – relatively new service in Vietnam, eWOM plays a role as a reliable source of information that helps reduce uncertainty, increase trust, and enhance the feeling of control when using the service (Jalilvand & Samiei, 2012b). Therefore, businesses providing the PLKS need to invest in digital communication strategies, encourage customers to share positive experiences, and build a transparent review system on online platforms. Furthermore, e-commerce platforms such as Shopee, TikTok Shop, Lazada, and Tiki can collaborate with locker service providers to implement incentive programs based on customer shopping data. These could include waiving or reducing usage fees for frequent shoppers and offering loyalty points or discounts based on usage for regular customers. These solutions not only increase service accessibility but also accelerate the transition from door-to-door delivery to self-pickup at lockers, thereby improving the efficiency of last-mile logistics.

CONCLUSION

This study aimed to investigate the factors influencing consumers' intention to use PLKS by simultaneously examining technological, behavioral, and eWOM factors. The findings showed that eWOM was positively associated with attitudes, subjective norms, perceived behavioral control, and intention to use PLKS. Besides, attitudes, subjective norms, and perceived behavioral control were positively associated with intention to use, while eWOM also demonstrated an indirect relationship with intention through attitudes and perceived behavioral control. These findings suggest that strengthening positive online communication while enhancing consumers' perceptions and attitudes may help foster their intention to use parcel locker services. This study makes several important theoretical contributions by adding eWOM as an exogenous factor to the integrated TAM-TPB model to examine both direct and indirect relationships with the intention to use PLKS in the context of last-mile logistics. Simultaneously, the research clarifies the role of individual cognitive factors, social factors, and behavioral control perceptions in shaping the intention to use new technologies such as PLKS for delivery and pickup.

Despite these contributions, several limitations should be acknowledged. Significant limitation of this study lies in its sampling method. The study uses a non-probability sampling method, combining con-

venience sampling and purposive sampling. In the collected survey sample, high proportion of respondents were students, female, and lower-income individuals, which may limit the generalizability of the research findings. Accordingly, caution should be exercised when interpreting and generalizing the findings to the broader population of Vietnamese consumers. To overcome this, future studies should adopt probabilistic or stratified sampling to ensure demographic balance, thereby enhancing the representativeness and practical validity of the model. The current model primarily focuses on the direct and indirect relationships of eWOM. Future studies could extend the theoretical framework by incorporating additional constructs, such as trust and perceived risk, while considering income, purchase frequency, and geographic location as control variables to improve the comprehensiveness and explanatory power of the model.

AUTHOR CONTRIBUTIONS

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CONFLICT OF INTEREST STATEMENT

The author(s) reported no conflict of interest.

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APPENDIX A

Table A1. Construct, measurement items and sources

Code	Constructs, measurement items and sources
Perceived Usefulness – PU (source: An et al., 2022; Dayal et al., 2025)	
PU1	Using a PLKS will make it easier for me to receive my packages
PU2	Using a PLKS improves my online shopping process
PU3	Overall, using a PLKS is beneficial
Perceived Ease Of Use – PEOU (source: An et al., 2022; Dayal et al., 2025)	
PEOU1	Using the PLKS will not require much effort from me
PEOU2	Learning how to use the PLKS will be easy for me
PEOU3	I find the PLKS easy to use
Attitude – ATT (source: Wang et al., 2018; Tsai & Tiwasing, 2021)	
ATT1	I find using the PLKS enjoyable
ATT2	I feel positive about using the PLKS
ATT3	Using the PLKS is a good idea
Subjective Norms – SN (source: Zhou et al., 2020)	
SN1	The people who are important to me think I should use a PLKS
SN2	My family and friends will support my use of a PLKS
SN3	People who influence my behavior think that I should use a PLKS
Perceived Behavioral Control – PBC (source: Zhou et al., 2020)	
PBC1	I feel confident that I will be able to use PLKS
PBC2	I can decide whether to use PLKS
PBC3	I have knowledge necessary to use PLKS
Electronic Word-Of-Mouth – eWOM (source: Jalilvand & Samiei, 2012a; Goh et al., 2015)	
EWOM1	I often search for and read online reviews before deciding whether to use PLKS
EWOM2	I believe that online reviews from other users help me visualize the experience of using a PLKS
EWOM3	Positive online reviews make me feel more confident about using PLKS
Behavioral Intention – INT (source: Tsai & Tiwasing, 2021)	
INT1	I plan to use the delivery PLKS in the future
INT2	I am willing to use the PLKS in the future
INT3	I expect to use the PLKS in the future