International Journal of Economics, Business and Innovation Research
https://e-journal.citakonsultindo.or.id/index.php/IJEBIR
E-ISSN : 2964-0865
IJEBIR

Factors That Influence The Intention To Use Internet Service Provider Lajunet With The Technology Acceptance Model (TAM) Approach

Mashudi[1], Mahrinasari MS[2], Roslina[3]

[1,2,3]Faculty of Economics and Business, University of Lampung, Indonesia.

corresponding author: mashudimr01@gmail.com

Abstract

This study aims to analyze the factors influencing the intention to use the Internet Service Provider (ISP) LaJUNet using the Technology Acceptance Model (TAM) framework. Although previous literature has extensively applied TAM, a research gap remains regarding how system quality moderates these factors within the context of a local ISP. The primary objective of this research is to examine the effect of Perceived Ease of Use and Perceived Usefulness on the intention to use, moderated by E-System Quality. A quantitative survey approach was employed, collecting data through questionnaires distributed to users familiar with LaJUNet. The findings indicate that perceived ease of use and perceived usefulness significantly influence the intention to use ISP services. However, as a novel contribution, this study reveals that E-System Quality does not moderate the relationship between either perceived ease of use or perceived usefulness and the intention to use. This suggests that while system quality is crucial, enhancing the perceived ease and benefits of a service remains the primary driver of usage intention.

Keywords: Technology Acceptance Model, Intention to Use, E-System Quality, Perceived Ease of Use, Perceived Usefulness.

INTRODUCTION

The Industrial Revolution in Indonesia continues to advance toward the Industry 5.0 era, where technologies such as Artificial Intelligence (AI), the Internet of Things (IoT),

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and 5G networks play a central role in various aspects of human life. The need for fast, stable, and affordable internet access has now become a primary necessity for communication, work, and business. This is reflected in the surge of internet penetration in Indonesia, which reached 80.66% in 2025 (APJII, 2025), as well as the growth in the number of Internet Service Provider (ISP) companies, touching 1,248 companies in 2024 (Sutarsih et al., 2024). This growth trend is also strongly felt in Lampung Province, particularly in Bandar Lampung City, which currently serves the community with 15 ISPs, both at the local and national scale.

One of the local ISP providers in Bandar Lampung is PT. Lampung Jasa Utama (Perseroda), operating under the brand LaJUNet. Despite broad market prospects, LaJUNet's business performance indicates a gap between the intentions of prospective customers and the actual realization of service usage. Internal data up to September 2025 shows that out of 239 potential customers gathered through social media, canvassing, and referrals, only 35 customers were successfully connected. The overall average achievement for the year 2025 has only reached 14.58% of the Work Plan and Budget (RKA) target.

Table 1. Customer Complaints (2025)

Type of Complaint	Resolution Type	Quantity	PIC
Lost Connection/red device light	Field Visit Repair	16	CGS
Slow Network	Network Restart	10	Kabid Infokom
Slow Network	Network Restart	10	Customer Services
Slow Network	Network Restart	2	CGS
Mass Outage	Field Repair	1	CGS
Total		**39**	

Sumber : PT. LJU, September 2025

In addition to the low conversion rate, technical service quality also poses a challenge. There were 39 complaints related to network issues, including slow connections, lost connections (red device light indicator), and mass outages caused by fiber optic infrastructure. This condition indicates fundamental problems related to system quality, which potentially affect the public's intention to use LaJUNet services.

To understand the phenomenon of intention to use technological services, the Technology Acceptance Model (TAM) is the most relevant theoretical framework. TAM

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emphasizes that behavioral intention is heavily influenced by perceived usefulness and perceived ease of use (Liu et al., 2023; Yao & Wang, 2024). However, prior literature indicates a theoretical debate when incorporating the E-System Quality factor. Most previous studies (Purwita et al., 2025; Fitria et al., 2024; Mata et al., 2024) solely positioned E-System Quality as an independent variable directly determining perceived ease of use and intention to use. In the current context of ISP services, users are generally familiar with how the internet works, meaning that ease of use no longer relies purely on system quality, but rather on how consistently the system supports a comfortable and disruption-free experience.

Therefore, there is a significant research gap, as it is exceedingly rare to find studies positioning E-System Quality as a moderating variable against the core constructs of TAM, particularly within the local ISP industry. Research by Akter et al. (2024) suggests that reliable system quality can strengthen or weaken the effect of perceived ease on user behavioral intentions. Addressing this gap, this study aims to examine a theoretical novelty by positioning E-System Quality as a moderating variable in the relationship between Perceived Ease of Use and Perceived Usefulness toward the Intention to Use ISP LaJUNet. This research is expected to contribute to the development of TAM theory in the digital era, while providing practical insights for ISP management in formulating strategies for quality improvement and customer acquisition.

Objectives

Based on the problem formulation presented, the objectives of this research are to:

1. Analyze the effect of Perceived Ease of Use on the Intention to Use Internet Service Provider LaJUNet.
2. Analyze the effect of Perceived Ease of Use on the Perceived Usefulness of Internet Service Provider LaJUNet.
3. Analyze the effect of Perceived Usefulness on the Intention to Use Internet Service Provider LaJUNet.
4. Analyze the role of E-System Quality in moderating the effect of Perceived Usefulness on the Intention to Use Internet Service Provider LaJUNet.
5. Analyze the role of E-System Quality in moderating the effect of Perceived Ease of Use on the Intention to Use Internet Service Provider LaJUNet.Menganalis pengaruh Perceived Ease of Use terhadap Niat Penggunaan Internet Service Provider LaJUNet.

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LITERATURE REVIEW

Technology Acceptance Model (TAM) and Intention to Use

The Technology Acceptance Model (TAM) introduced by Davis (1989) is rooted in the Theory of Reasoned Action (TRA) and the Theory of Planned Behavior (TPB) to explain users' cognitive processes in accepting new technology. In the context of digital services such as Internet Service Providers (ISP), behavioral intention or intention to use refers to an individual's conscious willingness to continuously use a system (Li et al., 2024). This intention is heavily influenced by positive experiences and user satisfaction. TAM postulates two primary determinants that shape this intention: Perceived Ease of Use and Perceived Usefulness (Wei et al., 2025; Akter et al., 2024).

The Effect of Perceived Ease of Use on Intention to Use and Perceived Usefulness

Perceived Ease of Use describes an individual's belief that operating a technology does not require excessive physical or mental effort (Wei et al., 2025). Based on the TRA and TPB frameworks, when a system is proven to be easy to learn and operate, users will have a positive experience, which directly strengthens their intention to use the service (Ying et al., 2025; Yao & Wang, 2024). In addition to influencing the intention to use, ease of use also serves as a foundation for perceived usefulness. A system that is easy to operate allows users to understand its functions more quickly and optimize its features. Therefore, the easier a technology is to use, the greater the actual value and benefits users can perceive (Fitria et al., 2024).

- **H1: Perceived Ease of Use significantly affects Intention to Use.**
- **H2: Perceived Ease of Use significantly affects Perceived Usefulness.**

The Effect of Perceived Usefulness on Intention to Use

Perceived Usefulness refers to the degree of a user's belief that the technology is capable of facilitating tasks, enhancing effectiveness, and providing tangible benefits (Bolodeoku et al., 2022). In line with the principles of TRA, the belief that an action will lead to positive and beneficial outcomes forms an attitude that ultimately drives behavioral intention. Users who perceive that ISP services genuinely increase productivity and simplify their online activities will have a much stronger drive to adopt them sustainably (Anggraeni, 2024; Legramante et al., 2023).

- **H3: Perceived Usefulness significantly affects Intention to Use.**

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The Moderating Role of E-System Quality

E-System Quality reflects the extent to which an information system functions reliably, stably, quickly, and effectively in meeting its users' needs (DeLone & McLean, 2003; Kakkar et al., 2025). Although users may recognize the usefulness and ease of use of a service, their actual intention to use remains highly vulnerable to technical disruptions. High-quality systems (responsive, stable connections, minimal downtime) will secure and strengthen users' beliefs in the benefits of the technology (Wei et al., 2025). Conversely, a system with poor quality will break the chain between positive perception and intention to use, as technical barriers overshadow the existing ease of use (Yao & Wang, 2024; Fitria et al., 2024). Therefore, system quality acts as a catalyst that moderates strengthening or weakening the impact of the core TAM constructs on the user's final decision.

- **H4: E-System Quality moderates the effect of Perceived Usefulness on Intention to Use.**
- **H5: E-System Quality moderates the effect of Perceived Ease of Use on Intention to Use.**

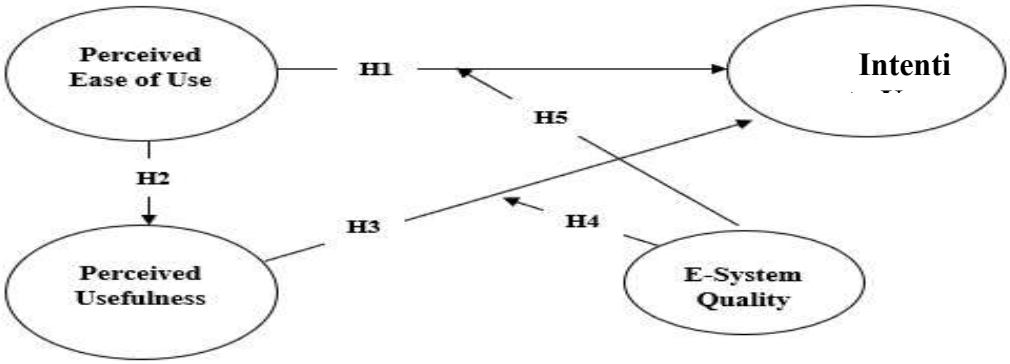


Figure 1: Research Conceptual Framework

RESEARCH METHOD

This study employed a quantitative approach with a correlational design to examine the relationships among variables within the Technology Acceptance Model (TAM) framework. The primary data was collected through a survey method using a questionnaire instrument with a five-point Likert scale (ranging from "Strongly Disagree" to "Strongly Agree"). The study population comprised internet

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users residing in 11 districts within the operational area of ISP LaJUNet in Bandar Lampung City. The sampling technique utilized non-probability sampling, specifically purposive sampling, with respondent criteria including: residing in the 11 target districts, being at least 17 years of age, and having used Internet Service Provider (ISP) services for a minimum of 2 years. Referring to the recommendation by Hair et al. (2019) for structural models with high complexity (more than seven relational paths), the minimum sample size was set at 300 respondents. The sample distribution across the 11 districts was conducted proportionally based on the population data from the Central Bureau of Statistics (BPS) of Bandar Lampung City in 2024

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Table 2. Questionnaire Distribution

No.	District	2024 Population Data (BPS)	Number of Questionnaires	Percentage (%)
1	Bumi Waras	56.228	33	11
2	**Enggal**	**24.611**	**14**	**5**
3	Kedamaian	52.462	30	10
4	**Kedaton**	**51.071**	**30**	**11**
5	Labuhan Ratu	47.470	28	9
6	**Rajabasa**	**55.888**	**32**	**11**
7	Tanjung Karang Timur	37.097	22	7
8	**Teluk Betung Barat**	**38.599**	**22**	**7**
9	Teluk Betung Selatan	38.210	22	7
10	**Teluk Betung Utara**	**49.047**	**28**	**9**
11	Way Halim	66.943	39	13
Total		**517.626**	**300**	**100**

Source: primary data, processed in 2025

This research involved four main variables: Perceived Ease of Use and Perceived Usefulness as independent variables, Intention to Use as the dependent variable, and E-System Quality as the moderating variable. The item measurements for the Perceived Ease of Use, Perceived Usefulness, and Intention to Use constructs were adapted from the instrument by Legramante et al. (2023), which is rooted in the original instrument by

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Davis (1989). Meanwhile, the measurement of E-System Quality was adapted from Kakkar et al. (2025), referring to the DeLone and McLean (2003) information systems success model. All adopted instrument items have been verified to have a strong track record of validity and reliability in previous studies.

The data analysis technique in this study utilized Partial Least Squares - Structural Equation Modeling (PLS-SEM), operated through the SmartPLS 4.0 software. The analysis was conducted in two main stages. First, the evaluation of the measurement model (Outer Model) to ensure the feasibility of the instrument, which included testing convergent validity (requiring a Loading Factor and Average Variance Extracted/AVE > 0.5), discriminant validity through Cross Loading criteria, and construct reliability testing (requiring Cronbach's Alpha and Composite Reliability values > 0.7). Second, the evaluation of the structural model (Inner Model) to test the model's feasibility through Goodness of Fit (R-Square value) and hypothesis testing. Hypothesis testing was performed using the resampling bootstrapping method, where the significance of relationships or moderating effects between variables was considered accepted if the path coefficient value was supported by a significance P-Value of ≤ 0.05 (Hair et al., 2021).

RESULT

Primary data for this study were collected through questionnaires distributed both online and offline in January 2026. Using a purposive sampling technique, the study successfully gathered 300 respondents who met the criteria: consumers of Internet Service Provider (ISP) LaJUNet residing across 11 districts in Bandar Lampung City. Data analysis was subsequently performed using the Partial Least Squares - Structural Equation Modeling (PLS-SEM) approach with SmartPLS software.

Table 3. Loading Factor dan Average Variance Extracted (AVE)

Variable	Item	Loading Factor	*Average Variance Extracted* (AVE)	Note
Perceived Ease of Use	X1.1	0.898	0,808	Valid
	X1.2	0.910		
	X1.3	0.888		

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Perceived Usefulness	X2.1	0.878	0,773	Valid
	X2.2	0.885		
	X2.3	0.899		
	X2.4	0.855		
E-System Quality	Y2.1	0.908	0,798	Valid
	Y2.2	0.885		
	Y2.3	0.918		
	Y2.4	0.861		
Intention to Use	Y1.1	0.918	0,856	Valid
	Y1.2	0.930		
	Y1.3	0.927		

Source: primary data, processed in January 2026

The analysis began with an evaluation of the measurement model (outer model) to assess the reliability and validity of each construct. Convergent validity testing indicated that all indicators had Loading Factor values above the recommended threshold (> 0.708) and Average Variance Extracted (AVE) values exceeding 0.50 (Hair et al., 2021). This confirms that all constructs possess strong and valid convergent contribution (see Table 3).

Discriminant validity was tested by analyzing the cross-loading values of each indicator. An indicator is considered to meet discriminant validity if its loading value on its primary construct is higher than its loading on other constructs. The analysis results (Table 4) show that all indicators exhibit the highest correlation values toward their respective constructs. Therefore, this measurement model successfully meets the criteria for discriminant validity.

Table 4 Discriminant Validity

Indicator	Perceived Ease of Use	Perceived Usefulness	E-System Quality	Intention to Use
X1.1	**0.898**	0.792	0.803	0.795
X1.2	**0.910**	0.791	0.813	0.795
X1.3	**0.888**	0.766	0.773	0.748
X2.1	0.761	**0.878**	0.822	0.799
X2.2	0.778	**0.885**	0.795	0.790

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X2.3	0.764	**0.899**	0.807	0.790
X2.4	0.763	**0.855**	0.794	0.761
Y1.1	0.819	0.813	**0.908**	0.819
Y1.2	0.758	0.796	**0.885**	0.819
Y1.3	0.817	0.837	**0.918**	0.853
Y1.4	0.774	0.824	**0.861**	0.802
Y2.1	0.791	0.807	0.835	**0.918**
Y2.2	0.798	0.826	0.857	**0.930**
Y2.3	0.819	0.843	0.866	**0.927**

Source: primary data, processed in January 2026

Furthermore, construct reliability testing was conducted to verify the consistency and accuracy of the instrument. According to evaluation guidelines, a construct is deemed reliable if it has Cronbach's Alpha and Composite Reliability values > 0.70 (Hair et al., 2021). Table 5 demonstrates that all research variables significantly exceed the recommended standards, ensuring a high level of reliability for the instrument.

Table 5. *Composite Reliability*

Variable	*Cronbach's Alpha*	*Composite Reliability*	Note
Perceived Ease of Use	0.881	0.926	Reliabel
Perceived Usefulness	0.902	0.932	Reliabel
E-System Quality	0.916	0.941	Reliabel
Intention to Use	0.916	0.947	Reliabel

Source: primary data, processed in January 2026

Structural Model Evaluation (Inner Model) and Hypothesis Testing

The strength of the structural model was assessed through Goodness of Fit testing based on R-Square values. The analysis revealed that the R-Square for the Intention to Use variable is 0.871, indicating that 87.1% of the variation in intention to use can be explained by the independent variables in the model. Additionally, the R-Square for the Perceived Usefulness variable is 0.760 (76.0%). These values suggest that the research model possesses very strong predictive capability.

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Hypothesis testing was performed using the resampling bootstrapping method to determine the significance of relationships (p-value < 0.05). Based on the path coefficient analysis, the results are presented in Table 6.

Table 6. Hypothesis Testing Results (Path Coefficients & P-Values)

Variable	Original Sample (O)	Sample Mean (M)	P Values
Perceived Ease of Use -> Intention to Use	0.162	0.170	0.002
Perceived Ease of Use -> Perceived Usefulness	0.872	0.871	0.000
Perceived Usefulness -> Intention to Use	0.237	0.235	0.000
E-System Quality x Perceived Usefulness > Intention to Use	-0.065	0.064	0.169
E-System Quality x Perceived Ease of Use > Intention to Use	0.051	0.051	0.283

Source: Primary data, processed in January 2026

According to Table 6, path coefficient analysis reveals that Perceived Ease of Use has a positive and significant effect on Intention to Use (Coefficient = 0.162; p-value = 0.002) and on Perceived Usefulness (Coefficient = 0.872; p-value = 0.000). Furthermore, Perceived Usefulness significantly positively affects Intention to Use (Coefficient = 0.237; p-value = 0.000). Thus, Hypotheses 1, 2, and 3 are accepted. These findings confirm that ease of use and perceived benefits are primary direct and indirect drivers for consumers to continue using ISP services.

Conversely, analysis of the moderation effects shows that E-System Quality fails to moderate the relationship between Perceived Usefulness and Intention to Use (p-value = 0.169 > 0.05). Similarly, E-System Quality does not moderate the effect of Perceived Ease of Use on Intention to Use (p-value = 0.283 > 0.05). Consequently, Hypotheses 4 and 5 are rejected. These results indicate that the network system quality variable does

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not significantly strengthen or weaken the core relationship between perceived ease and usefulness regarding usage intention.

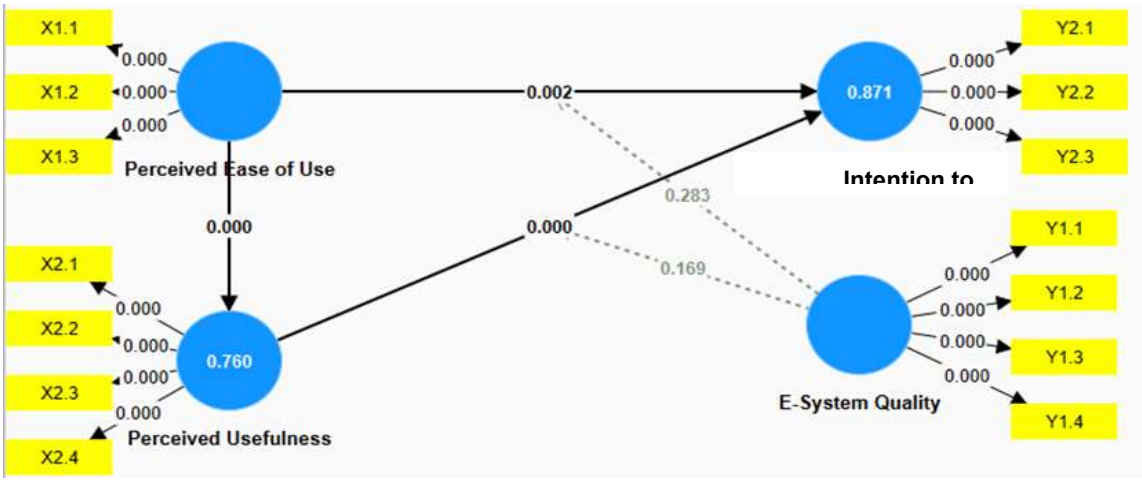


Figure 2: Structural Model (SmartPLS Path Diagram)

DISCUSSION

Analysis of the Impact of Perceived Ease of Use on Intention to Use and Perceived Usefulness

Statistical testing demonstrates that Perceived Ease of Use has a positive and significant impact on Intention to Use (p-value = 0.002) and Perceived Usefulness (p-value = 0.000). These findings provide strong empirical support for the core postulate of the Technology Acceptance Model (Davis, 1989), which suggests that technology designed to minimize complexity builds user confidence and drives sustainable adoption intentions. In the context of LaJUNet, operational ease is a crucial variable as the majority of respondents belong to the active workforce (private sector, entrepreneurs, and civil servants) who demand high efficiency and rapid access to support their digital routines (Afiat & Rijal, 2023).

Furthermore, ease of use serves as a primary catalyst in shaping Perceived Usefulness. This relationship is strengthened by the respondent profile, which is dominated by highly educated individuals (Bachelor's degree or higher); individuals with proficient digital literacy tend to be more responsive in exploring new services. When an internet system is perceived as easy to operate, users adapt more quickly and optimize

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available features, directly experiencing functional benefits in supporting their daily work productivity and online transactions (Fitria et al., 2024; Ying et al., 2025).

Analysis of the Impact of Perceived Usefulness on Intention to Use

This study also confirms that Perceived Usefulness significantly influences ISP service usage intention. This finding reinforces that practical value—such as increased productivity and seamless communication—serves as the primary rationalization for customers to maintain their subscriptions (Bolodeoku et al., 2022). This aligns with the demographic profile of the study, where middle-to-upper-income respondents with over two years of internet experience constitute the dominant group. These users engage in value-based evaluation; as long as the internet service provides added value commensurate with the subscription costs, their intention to maintain the service remains consistent (Hernández et al., 2011; Legramante et al., 2023).

The Failure of E-System Quality as a Moderating Variable

A significant theoretical novelty in this study is the non-significant moderating role of E-System Quality. System quality was shown to neither strengthen nor weaken the influence of Perceived Usefulness (p-value = 0.169) or Perceived Ease of Use (p-value = 0.283) on Intention to Use. This unique phenomenon can be explained by the empirical reality of the ISP industry in Indonesia. According to APJII data (2023), major operators often dominate the market share (up to 54%) despite frequent complaints regarding network stability.

This indicates that the limited alternative ISP choices at the local level compel consumers to tolerate sub-optimal technical quality as long as basic functional benefits are met. Furthermore, contemporary digital consumers tend to view system quality (such as speed and stability) as a mandatory service standard ("must-have") rather than an added value capable of moderating usage intention (Akter et al., 2024). Once the thresholds for usefulness and ease of access are met, the user's subjective cognitive experience becomes the sole determinant of loyalty, unswayed by fluctuations in technical system performance in the field.

Strategic Implications for Management

These findings provide crucial strategic guidance for the management of PT. Lampung Jasa Utama (LaJUNet) to prioritize User Experience (UX). The registration, installation, and customer application navigation processes must be designed as

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intuitively as possible. Marketing communication should shift from merely highlighting technical specifications (such as Mbps) to emphasizing tangible value for instance, how LaJUNet supports seamless Work From Home or online business activities. Given that E-System Quality does not act as a moderator, the company should balance investments between maintaining basic network reliability and enhancing customer service quality, which directly impacts consumers perceptions of ease.

CONCLUSION

Based on the analysis results, it can be concluded that Perceived Ease of Use exerts a positive and significant influence on the Intention to Use Internet Service Provider (ISP) services, both directly and indirectly through Perceived Usefulness. The operational ease of the system is proven to facilitate the efficiency and productivity of customers digital activities, which significantly strengthens their belief in the benefits of the service. These drivers of ease and usefulness are most strongly felt by long-term users, the professional workforce, and individuals with higher education and middle-to-upper-income levels. Furthermore, Perceived Usefulness is also proven to be a strong determinant that drives consumer motivation for continuous subscription. However, this study found that E-System Quality was not proven to moderate the influence of either Perceived Ease of Use or Perceived Usefulness on Intention to Use. This indicates that as long as ease of access and basic service benefits are met, improvements in technical system specifications do not automatically strengthen usage intention, particularly in conditions where ISP options are limited, making network availability a far more primary consideration than variations in technical quality.

Based on these findings, ISP providers are advised to prioritize the simplification of user interfaces and the provision of intuitive service guides, given that the ease of learning the system and its impact on performance improvement received the lowest evaluations from respondents. Additionally, management should prioritize the equitable distribution of network coverage across various regions before focusing on extreme speed improvements, as network accessibility has proven more essential in determining consumer usage decisions. For future research, it is suggested to expand this conceptual model by integrating additional variables that may influence usage intention more comprehensively, such as customer satisfaction, customer trust, price perception, switching costs, and customer loyalty.

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