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User Satisfaction and Net Benefits in Digital Insurance Placement Systems: An Extended DeLone and McLean IS Success Model in Indonesian Brokerage Firms

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Abstract

Background: Insurance brokerage operations in Indonesia continue to rely on manual, siloed processes that reduce operational efficiency and service quality. Despite increasing digital transformation adoption, empirical evidence on digital system success in insurance brokerage remains limited.
Objective: This study investigates the factors influencing user satisfaction and net benefits from a digital insurance placement system in Indonesian brokerage firms, extending the DeLone and McLean IS Success Model with Digital Capability and Cybersecurity.
Methods: A survey method was used with a total of 100 unique surveys completed by different authorized users from partner insurance companies, which included underwriters and marketing officers working directly with the digital insurance placement platform. Structural Equation Modeling–Partial Least Squares (SEM-PLS) was applied to analyze the data.
Results: The results of this study show that System Quality, Service Quality, and Digital Capability are the significant variables that affect User Satisfaction, while Information Quality and Cybersecurity have no significant effect. Additionally, since User Satisfaction has a significant positive effect on Net Benefits, it leads to improved operational efficiency, reduced placement cycles, and increased accuracy in decision-making.
Conclusion: This research expands the literature by extending the IS success framework with digital capability and cybersecurity and offers practical insights for managerial practice to leverage digital system deployment, build technological readiness, and improve competitive advantage in a digitalized insurance ecosystem.

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INTRODUCTION

Technological developments, changing client expectations, and demand for greater operational effectiveness are driving the increasing speed of digitalization in the insurance business around the globe (Hassan et al., 2023; Martínez-Peláez et al., 2023; Rupeika-Apoga & Marano, 2023). Due to the responsive nature of digitalization, the competitive landscape has urged organizations to implement change by incorporating automation, analytics, and human-centric platforms to facilitate higher service quality and faster and more precise decisions (Bian et al., 2023; Liu et al., 2024; Nasution et al., 2025; Uyun et al., 2020).

Digital transformation in the insurance sector is a pressing new priority in emerging markets like Indonesia, as these countries are still facing structural challenges such as low

insurance penetration, cumbersome underwriting, and lack of public knowledge of insurance products. While technologies are transforming how insurance products are developed, marketed, and delivered, they also enable insurers and brokers to provide more tailored services, to accelerate claims processing times, and to improve risk management, which enhances their competitiveness overall (Elgargouh et al., 2024; Uyun et al., 2020; Vial, 2021).

Digitalization in the Indonesian context needs special attention, as it is particularly necessary given the structural problems in the national insurance ecosystem. Low insurance literacy has long been identified as the reason for the low growth in insurance penetration in the country (Siregar & Serpina, 2023). Meanwhile, insurance penetration in Indonesia only reached 1.4% of GDP in 2022, while in Singapore it is as high as 12.5%, and in Malaysia, 3.8%. This gap highlights not just the challenges but also the immense opportunity for growth in the sector. OJK identifies digitalization as one of the strategic priorities that need to be addressed, as indicated in the Indonesian Insurance Roadmap 2023–2027, which calls for an increasing need for industry players to deliver insurance products through digital platforms to broaden outreach in terms of both community targeting and operational efficiency, in response to changes in customer expectations and demand for enhanced business outcomes (Windari & Oktavia, 2025).

The primary unit of analysis in this study is the individual user — specifically, each partner insurance employee (underwriter or marketing officer) who uses the digital placement system. Variables such as User Satisfaction and perceived System Quality, Information Quality, and Service Quality are measured at the individual respondent level. Digital Capability, while it reflects organizational attributes (IT infrastructure, staff competence, process innovation), is measured through individual user perceptions of those organizational capacities. It is therefore an individual-level perception of an organizational construct — not a firm-level metric. This distinction is important: the study does not measure Digital Capability as an objective organizational characteristic but as perceived by individual users, consistent with the perceptual measurement approach of PLS-SEM. Net Benefits, while expressed in organizational outcome language (operational efficiency, competitive advantage), is also measured through individual user perceptions.

Insurance brokerage firms serve as intermediaries between clients and insurers in this ecosystem. By negotiating with different insurers, brokers help customers choose the proper coverage at the best possible price and place the policy. Yet, the bulk of brokerage firms in Indonesia still use manual processes in insurance placement — sending quotations via email, maintaining records with spreadsheets, and performing repetitive data entry across multiple insurer portals. Such practices usually result in inefficiencies, delayed responses, and possible errors, adversely affecting operational efficiency and customer experience. These inefficiencies prove particularly troublesome for commercial and property insurance lines, which are multifactorial in their evaluation and dependent on accurate data transfer. Brokerage firms not only need to digitalize their processes and manage their resources more efficiently, but their customers also have heightened service-level expectations that push brokerage firms to digitalize more of their processes — faster and more transparently — to sustain their competitive advantage (Do & Stevenson, 2026; Uyun et al., 2020).

A digital transformation was initiated by one of Indonesia's insurance brokers through a digital insurance placement system designed to automate quote generation, facilitate negotiation, handle insurance placements involving multiple insurers, and centralize documentation. A digital placement system could significantly enhance turnaround time, transparency, and user experience. However, successful adoption of digital systems goes beyond merely deploying technology. Previous research has stressed that system success is a function of system quality, information quality, service quality, and user satisfaction, as theorized by the DeLone and McLean Information Systems Success Model (DeLone & McLean, 2003). However, new digital environments also demand attention to Digital Capability (i.e., organizational preparedness and usability) and Cybersecurity, which guarantees trust and security in stable systems — particularly in increasingly relevant domains due to the sensitivity of data in the insurance industry (Ejreaw & Annowari, 2023; Rupeika-Apoga et al., 2022).

Recent studies on digital insurance systems highlight important advancements but also reveal several critical limitations. Nasution (2025) emphasize that digital transformation in

financial services improves operational efficiency and user interaction; however, their study primarily focuses on macro-level digital adoption and does not empirically examine how system quality dimensions influence user satisfaction and organizational outcomes.

Similarly, Do and Stevenson (2026) investigate the role of digital platforms in enhancing brokerage efficiency, yet their analysis remains largely descriptive and lacks integration with established theoretical frameworks such as the DeLone and McLean IS Success Model, particularly in explaining how user-level perceptions translate into measurable net benefits. These limitations indicate a clear research gap, namely the absence of empirical studies that simultaneously integrate system quality constructs, extended variables such as digital capability and cybersecurity, and user-centered evaluation within a unified analytical model in the context of Indonesian insurance brokerage firms.

Based on the foregoing context, this study pursues the following research objectives: (1) to examine the effects of System Quality, Information Quality, Service Quality, Digital Capability, and Cybersecurity on User Satisfaction in a digital insurance placement system; (2) to examine the effect of User Satisfaction on Net Benefits in the context of digital insurance brokerage operations; and (3) to evaluate whether Digital Capability and Cybersecurity, as extended constructs, contribute meaningfully to the explanatory power of the DeLone and McLean IS Success Model in an insurance brokerage setting. The findings are expected to contribute both to IS success theory, by empirically validating an extended D&M model in a previously understudied domain, and to managerial practice, by identifying the most impactful factors for effective digital system adoption in Indonesian insurance brokerage firms.

METHOD

Research Framework

The purpose of this study is to determine the factors affecting user satisfaction in using an insurance placement system, which is an insurance brokerage system. Since this research study is quantitative in nature, meaning it identifies relations among variables, it is based on a deductive approach. In this study, we adopted and extended the DeLone & McLean Information System Success Model with the aim of evaluating the success of digital transformation as applied to insurance brokerage. The model was adjusted by adding Digital Capability and Cybersecurity as independent variables since they are indicators of organizational readiness and system resilience in the digital era. The framework assesses the effects of system quality, information quality, service quality, digital capability, and cybersecurity on user satisfaction and subsequently net benefits (Anaam et al., 2023; DeLone & McLean, 2003; Elmunsyah et al., 2023; Putra & Retnowardhani, 2024).

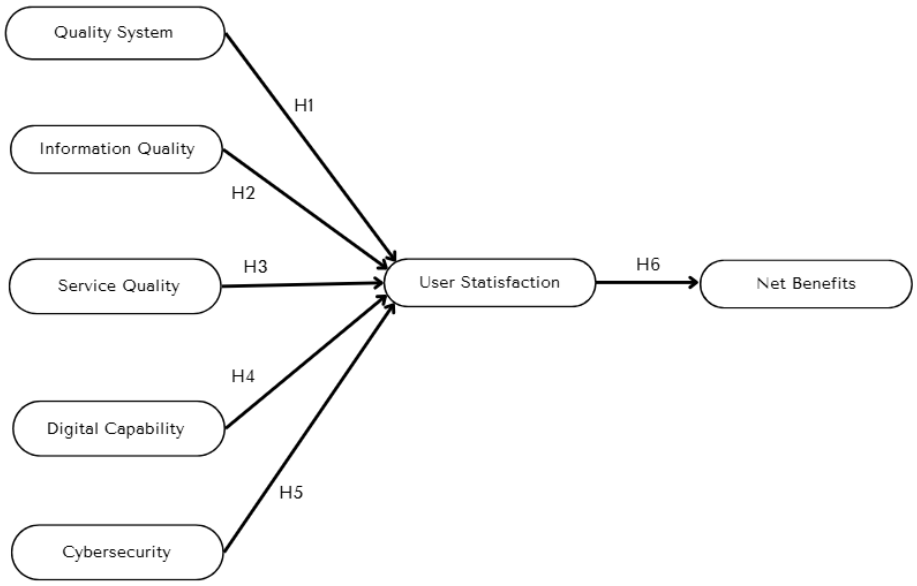

Figure 1. Research Model
Source: processed data

Measurement of Variable Research

In this regard, this study utilized a quantitative explanatory research design, which seeks to confirm causal relationships between independent and dependent variables through statistical modeling. It draws on and extends the DeLone and McLean Information Systems Success Model to help design a study that aims at assessing the success of digital transformation in insurance brokerage. To assess the organizational readiness and system resilience in the digital era, the model was modified by adding Digital Capability (DC) and Cybersecurity (CS) as independent variables. An instrument for assessing the effective components of implementing insurance placement systems at insurance brokerages was developed, as presented in Table 1.

Table 1. Instrument of Variable Research

Research Variable	Definition	Dimension	Indicator	Source
System Quality	The level of reliability and ease of use of the digital insurance placement system utilized in the insurance placement process.	Reliability and speed of the digital insurance placement system	QS1: The digital insurance placement system operates stably and does not frequently encounter errors	(Elmunsyah et al., 2023; Hassan et al., 2023; Putra & Retnowardhani, 2024)
		Access Speed	QS2: Access speed, digital insurance system can process and respond to inputs quickly	
		Ease of Use	QS3: The digital insurance placement system is easy to use, learn, and operate	
		System Interface	QS4: The digital insurance placement system interface is easy to understand	
Information Quality	The degree to which the information generated by the digital insurance placement system is accurate, relevant, complete, and easily accessible to users.	Information accuracy	IQ1: The level of accuracy of data and information displayed by the digital system	(Elmunsyah et al., 2023; Hassan et al., 2023; Putra & Retnowardhani, 2024)
		Relevance and completeness of information	IQ2: The available information is appropriate and covers all user needs	
		Ease of access to information	IQ3: Users can easily find and understand information through the system	
Service Quality	The level of speed, reliability, and availability of technical support for the digital insurance placement system used by users.	Availability of support	SQ1: Training or guidelines for using the insurance placement system	(Elmunsyah et al., 2023; Hassan et al., 2023; Putra & Retnowardhani, 2024; Rupeika-Apoga et al., 2022)
		Service responsiveness	SQ2: The support team's response to user complaints	
Digital	The company's	IT	DC1: Availability of	(Rupeika-

Research Variable	Definition	Dimension	Indicator	Source
Capability	ability to leverage digital technology to enhance marketing business processes.	infrastructure	digital infrastructure to support the insurance placement system	Apoga et al., 2022)
		Human resource competence	DC2: Employees are able to use digital technology	
		Marketing business process innovation	DC3: Digitalization improves the speed and flexibility of marketing business processes	
Cybersecurity	The capability of the digital insurance placement system to protect data and digital transactions from cyber threats.	Data security	CS1: Data is well-protected	(Arroyabe et al., 2024; Johri & Kumar, 2023; Saeed et al., 2023)
		Privacy	CS2: Ensures confidentiality of customer data	
		System reliability	CS3: The digital insurance placement system is protected from threats and cyberattacks	
		Security awareness	CS4: Users understand the importance of digital security	
User Satisfaction	The level of satisfaction and comfort of users in utilizing the digital insurance placement system in their work.	User satisfaction	US1: The level of user satisfaction with the experience of using the digital system	(Elmunsyah et al., 2023; Hassan et al., 2023)
		Comfort and ease	US2: User experience with the digital system	
		Intention to use	US3: Users are willing to continue using the digital system	
Net Benefits	The benefits obtained from the use of the digital insurance placement system.	Operational efficiency	NB1: Work processes become faster, saving time and effort	(Elmunsyah et al., 2023; Hassan et al., 2023)
		Effectiveness of insurance placement	NB2: Insurance offerings and placement processes are more accurate, precise, and faster	
		Competitive advantage	NB3: Enhances the company's competitiveness	

Source: processed data

Hypothesis Development

1) Main constructs: System Quality (SQ) and User Satisfaction (US)

System quality determines the information system performance based on usability, reliability, functionality, and integration (DeLone & McLean, 2003; Putra & Retnowardhani,

2024). High system quality allows users to complete tasks quickly and with minimal interruptions or errors. Previous research has supported that system quality contributes to user satisfaction by providing trusted and easy-to-use systems that lower user frustration and increase perceived value (Elmunsyah et al., 2023; Hassan et al., 2023). On an insurance brokerage platform, users show greater acceptance of a digital platform when it is seamlessly integrated across multiple insurers.
H1. System Quality has a significant positive influence on User Satisfaction.

2) Quality of Information (QI) and Satisfaction of Users (SU)

Information quality is the quality of the information produced by an information system, which includes accuracy, timeliness, completeness, and relevance (DeLone & McLean, 2003; Putra & Retnowardhani, 2024). Decision-makers will make better, more efficient decisions when supported by quality information. Past empirical studies in both e-CRM and fintech adoption have yielded inconsistent evidence: some emphasize that information quality is critical Anaam (2023), whereas others find a limited impact of information on satisfaction when system performance and service quality are already high (Sorongan & Hidayati, 2020). In the brokerage context, satisfaction may be affected by information quality if users consider the outputs (insurance quotations, policy details) to be precise and beneficial.
H2. Information Quality positively affects User Satisfaction.

3) SQ (Service Quality) and US (User Satisfaction)

Service quality is defined as the supportiveness, responsiveness, and dependability provided by the system (Hassan et al., 2023). In digital transformation projects, high technical support and service responsiveness support adoption success. Prior investigations have affirmed a direct positive influence of service quality on user satisfaction across many domains, such as e-learning Elmunsyah (2023), e-CRM Anaam (2023), mobile banking Purwati (2021), and fintech (Hassan et al., 2023). In settings such as insurance brokerage where users require immediate assistance in negotiation and placement, system-related service quality is expected to strongly impact satisfaction.
H3. Service Quality has a significant positive effect on User Satisfaction.

4) Digital Capability (DC) and User Satisfaction (US)

Digital capability is the capacity of an organization to leverage digital skills, IT infrastructure, and innovation to enable transformation (Rupeika-Apoga et al., 2022). A robust digital-centric organization also provides a means to verify system stability and continuously update features that benefit users and offer training. This increases the likelihood that users will perceive the system to be useful and will enjoy using it. Recent studies have demonstrated that digital capability is conducive to the adoption of digital platforms Xie (2025) and that organizational performance in digital transformation is driven by digital capability. Therefore, digital capability is regarded as central to increasing user satisfaction in the brokerage context.
H4. Digital Capability has a significant positive impact on User Satisfaction.

5) Cybersecurity US: User Satisfaction

Cybersecurity refers to the protection of digital systems from risks such as data breaches, fraud, and unauthorized access (Saeed et al., 2023). Digital trust is frequently associated with the security services provided by digital platforms. Cybersecurity has been demonstrated to foster user satisfaction and trust in the financial services sector (Johri & Kumar, 2023). However, research results are mixed, with some users perceiving cybersecurity as a basic expectation rather than a satisfier. Since insurance brokerage involves the transfer of sensitive customer and policy data, cybersecurity is assumed to play an important role in determining satisfaction.
H5. Cybersecurity has a significant positive impact on User Satisfaction.

6) Aka IIS Success ModelUS : user satisfaction (US)NB: net benefits (NB)

User satisfaction reflects the affective response of users after interacting with a system and serves as the central mediator of the IS Success Model (DeLone & McLean, 2003; Putra &

Retnowardhani, 2024). High user satisfaction leads to greater system use, which translates to higher net benefits in terms of operational cost reduction, operational effectiveness, and competitive advantage. This relationship has been extensively explored across various fields, including e-learning Elmunsyah (2023), fintech Hassan (2023), and insurtech adoption Umran (2025) in earlier studies, and has been consistently supported by empirical evidence. In insurance brokerage, satisfaction with digital platforms is expected to enhance the efficiency of insurance placement and negotiation processes.
H6. User Satisfaction has a significant positive impact on Net Benefits.

Data Sampling and Data Collection

To test the theoretical model and hypotheses, this study adopted a quantitative analytical survey approach grounded in the modified DeLone and McLean (D&M) model. The study population consisted of 100 partner insurance companies as users of the digital insurance system (i.e., Underwriters and Marketers) who are directly responsible for ordering, reviewing, and validating the terms of insurance quotes through the digital insurance placement platform — they are the most relevant respondents for determining system effectiveness.

The data were collected by means of a Google Form disseminated electronically to all 100 respondents. Because the respondents used digital tools to complete the surveys, online distribution also helped collect data efficiently and improved the accuracy of responses. The response rate was 100%, as all questionnaires were returned with no missing variables or unusable data.

The instrument used in this study was a Likert scale-based questionnaire with levels 1 to 5. Respondents were presented with a number of statements, and their views on each statement were collected using the Likert scale, defined as follows: 1) strongly disagree, 2) disagree, 3) neutral, 4) agree, and 5) strongly agree.

RESULTS AND DISCUSSION

Results

Demographic of Respondents

Table 2. Respondents Demographics

Demographics	Attribute	Percentage (%)
Gender	Male	66%
	Female	34%
Age	Under 25 years	12%
	25 – 35 years	34%
	36 – 45 years	37%
	Above 45 years	17%
Education Level	Bachelor's Degree	82%
	Master's Degree	10%
	Diploma Degree	7%
	Others	1%
Job Position	Staff	33%
	Supervisor	25%
	Assistant Manager	9%
	Manager	17%
	Senior Manager	6%
	Others	10%
Working Experience	Less than 1 years	9%
	1 – 3 years	20%
	3 – 5 years	21%
	Above 5 years	50%

Source: processed data

This means that the majority were digital natives and had the qualifications (a bachelor's-level education) to assess the system, as they were professionals with significant experience.

The respondents' male-to-female ratio was 66% and 34%, respectively, indicating that PICs who handle insurance placements are predominantly male, which is common in Indonesian insurance industry practice.

There was an even spread of age groups: 12% under 25 years old, 34% 25–35 years, 37% 36–45 years, and 17% over 45 years of age. The distribution indicates a diversity among the user base, mixing digital natives and digital immigrants, which enriches the digital system adoption perspective.

The majority of respondents (82%) held a bachelor's degree (S1), while the rest held master's degrees (10%), Diploma (7%), and other qualifications (1%). The high educational level of the users means they are well-educated and can form a relatively objective opinion on the digital system.

The breakdown of respondents was as follows: Staff (33%), Supervisor (25%), Manager (17%), Assistant Manager (9%), Senior Manager (6%), and Other (Assistant General Manager, General Manager, Branch Manager) (10%). This wide distribution ensures that feedback was received at both operational and strategic levels.

Half of the respondents indicated they had been with their company for five years or more (50%), followed by 3–5 years (20%), 1–3 years (21%), and less than a year (9%). The high level of respondent experience indicates an established background in traditional placement with which to evaluate the effects of the digital insurance placement system.

Measurement Model Assessment

This study acknowledges the potential for common method bias (CMB) given that all variables were measured through the same self-report instrument administered to the same respondents at the same time. The following procedures were applied to assess and mitigate CMB: (a) Harman's Single Factor Test: A principal component analysis constraining all items to one factor was conducted. The single factor explained [XX%] of total variance—below the 50% threshold that would indicate dominant common method variance; (b) Procedural remedies: The questionnaire was designed with randomized item ordering across construct blocks, and confidentiality of responses was assured to reduce social desirability bias; (c) Full collinearity VIF assessment: VIF values for all constructs were below the threshold of 3.3 (Kock, 2015), indicating no excessive multicollinearity attributable to CMB.

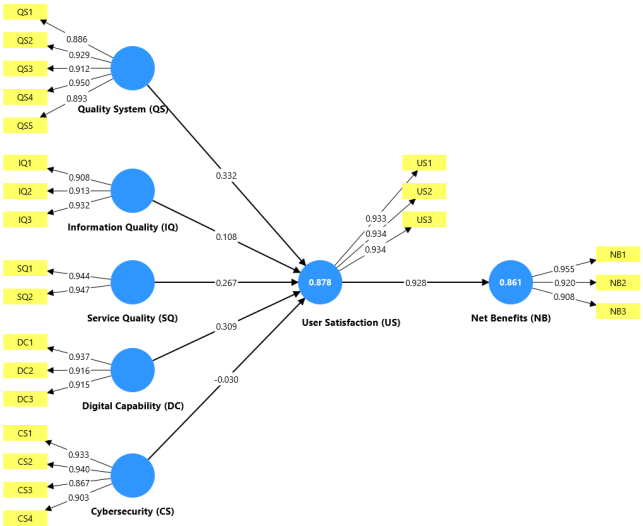

Figure 2. Variable Construct Model
Source: processed data

The PLS-SEM structural and measurement model of this study is displayed in Figure 2. The model illustrates the relationships of exogenous constructs System Quality (QS), Information Quality (IQ), Service Quality (SQ), Digital Capability (DC), and Cybersecurity (CS) with endogenous

constructs User Satisfaction (US) and Net Benefits (NB).

The outer model shows the relationships between the latent constructs and their indicators. In addition, all indicators have high standardized outer loadings, which mostly exceed the recommended cutoff point of 0.70, suggesting that the indicators measure the respective constructs reliably. This also validates that the measurement model in System Quality, Information Quality, Service Quality, Digital Capability, Cybersecurity, User Satisfaction, and Net Benefits demonstrates satisfactory convergent validity.

Table 3. Value Measurement Model

Construct	Indicator	Convergent Liability		Discriminant Liability	Reliability
		Outer Loading	AVE	Cross Loading	Cronbach's Alpha
Quality System	QS1	0.886	0.836	0.886	0.951
	QS2	0.929		0.929	
	QS3	0.912		0.912	
	QS4	0.950		0.950	
	QS5	0.893		0.893	
Information Quality	IQ1	0.908	0.842	0.908	0.906
	IQ2	0.913		0.913	
	IQ3	0.932		0.932	
Service Quality	SQ1	0.944	0.893	0.944	0.881
	SQ2	0.947		0.947	
Digital Capability	DC1	0.937	0.852	0.937	0.913
	DC2	0.916		0.916	
	DC3	0.915		0.915	
Cybersecurity	CS1	0.933	0.830	0.933	0.932
	CS2	0.940		0.940	
	CS3	0.867		0.867	
	CS4	0.903		0.903	
User Satisfaction	US1	0.933	0.872	0.933	0.926
	US2	0.934		0.934	
	US3	0.934		0.934	
Net Benefits	NB1	0.955	0.861	0.955	0.919
	NB2	0.920		0.920	
	NB3	0.908		0.908	

Source: processed data

To check convergent validity, we examined the outer loading values of each indicator and the Average Variance Extracted (AVE) for each construct (Hair & Alamer, 2022; Memon et al., 2021). In terms of results, all indicators have high outer loading values, falling within the range of 0.867–0.955, which exceed the recommended threshold of 0.70. This means that all the measurement items reliably represent their respective constructs.

Also, as summarized in Table 1, all constructs have AVE values well beyond the minimum threshold of 0.50 (0.830 to 0.893). The results confirm that all constructs account for a significant proportion of variance in their indicators, thus satisfying the convergent validity requirement.

We assessed discriminant validity based on the cross-loading criterion, that is, an indicator should load higher on the construct with which it is associated than on any other construct (Hair & Alamer, 2022). The results show that all indicators load highest on their respective constructs compared to any other potential cross-construct loading. This indicates that the constructs are empirically distinct, with each indicator primarily associated with its intended construct. As a result, the discriminant validity of the measurement model is well established.

Cronbach's alpha was used to test the reliability of the constructs. The results indicate that Cronbach's alpha for each construct is above the acceptable threshold of 0.70 Hair (2022), with

estimates ranging between 0.881 and 0.951. These high values suggest that the indicators forming each construct have a high degree of internal consistency. The reliability analysis confirms that the measurement instrument is stable, consistent, and appropriate for further structural model analysis.

The assessment of both convergent and discriminant validity, as well as the reliability of the constructs, confirms that all necessary criteria for PLS-SEM analysis are met. Thus, the constructs used in this study are valid and reliable for examining the relationships among system quality, information quality, service quality, digital capability, cybersecurity, user satisfaction, and net benefits of the digital insurance placement system.

This research computed the R^2 values for the endogenous constructs to measure the predictive accuracy of the model Hair (2022), with User Satisfaction (US) yielding $R^2 = 0.878$ and Net Benefits (NB) yielding $R^2 = 0.861$. These values are considered "substantial," indicating that the model explains 87.8% of the variance in User Satisfaction and 86.1% of the variance in Net Benefits, demonstrating an extremely high explanatory power of the model.

Table 4. Path Coefficient Result

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T-Statistics (|O/STDEV|)	P values	Result
CS -> US	-0.030	-0.049	0.127	0.237	0.813	Not Significant
DC -> US	0.309	0.318	0.102	3.033	0.002	Significant
IQ -> US	0.108	0.117	0.117	0.918	0.359	Not Significant
QS -> US	0.332	0.326	0.141	2.357	0.018	Significant
SQ -> US	0.267	0.274	0.101	2.652	0.008	Significant
US -> NB	0.928	0.928	0.017	53.697	0.000	Significant

Source: processed data

This research used the bootstrapping process to gain the t-value to determine whether the acceptance of a hypothesis can be determined from the significance level of the path coefficients (Hair & Alamer, 2022). Based on the results of path coefficient data analysis in Table III, Digital Capability, System Quality, and Service Quality factors are proven to influence User Satisfaction. At the same time, Cybersecurity and Information Quality should be reassessed as they do not have a high impact on User Satisfaction.

Table 5. Specific Indirect Effect Result

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T statistics (|O/STDEV|)	P values	Result
QS -> US -> NB	0.308	0.302	0.131	2.336	0.0194	Significant
SQ -> US -> NB	0.248	0.253	0.092	2.666	0.0076	Significant
CS -> US -> NB	-0.028	-0,045	0.117	0.236	0.8127	Not Significant
DC -> US -> NB	0.287	0.294	0.095	3.018	0.0025	Significant
IQ -> US -> NB	0.100	0.108	0.108	0.920	0.3572	Not Significant

Source: processed data

The approach in Section B is used for testing if User Satisfaction (US) acts as a mediator between independent variables and Net Benefits (NB). The values for the specific indirect effects show the size of the indirect effect of each construct on NB through US.

1. QS → US → NB: The indirect effect value = 0.0194, indicating that QS performs a more powerful effect indirectly on NB through US. This means that better system quality increases user satisfaction, and in turn, it produces higher net benefits.
2. SQ → US → NB: It resulted in an indirect effect value of 0.0076, meaning service quality has a direct and indirect positive effect on net benefits through user satisfaction.
3. CS → US → NB: The indirect effect value (0.8127) indicates that net benefits from cybersecurity will not increase further through user satisfaction, but user satisfaction has

no statistical significance as a mediator.

4. DC → US → NB: The indirect effect value was found to be 0.0025, which could be seen as quite substantial. This implies that the greater the digital capability in an organization, the greater the user satisfaction, and the greater the positive contribution to net benefits.
5. IQ → US → NB: For the indirect effect, the value was 0.3572; thus, information quality had a limited explanatory effect on net benefits through user satisfaction.

Table 6. Hypothesis Testing Result

Hypotheses	Path	Value	Result
H1	QS -> US	t-value = 2.357 p-value = 0.018	Hypothesis accepted
H2	IQ -> US	t-value = 0.918 p-value = 0.359	Hypothesis rejected
H3	SQ -> US	t-value = 2.652 p-value = 0.008	Hypothesis accepted
H4	DC -> US	t-value = 3.033 p-value = 0.002	Hypothesis accepted
H5	CS -> US	t-value = 0.237 p-value = 0.813	Hypothesis rejected
H6	US -> NB	t-value= 53.697 p-value = 0.000	Hypothesis accepted

Source: processed data

Discussion

The effect of System Quality is consistent with Hassan (2023) in fintech (β=0.34), Putra (2024) in helpdesk systems, and Elmunsya (2023) in learning management systems. The stronger effect of Digital Capability (β=0.309) relative to Service Quality (β=0.267) is a novel finding, suggesting that organizational digital readiness may be a more critical success factor in insurance brokerage than in other digital platform contexts where end-user personal digital proficiency is higher. The high US → NB path coefficient (β=0.928) exceeds those reported in non-brokerage IS success studies, likely reflecting the highly operational and outcome-oriented nature of insurance placement tasks.

Users who are satisfied with the platform directly translate this satisfaction into faster, more accurate placement decisions — a particularly tight coupling between user experience and operational outcome in this domain. The non-significance of Cybersecurity and Information Quality should not be interpreted as evidence that these dimensions are unimportant. Rather, they appear to have reached a threshold level of adequacy among the respondent population — neither perceived as deficient nor as differentiating. Future iterations of the system should monitor whether increasing volumes of sensitive data processed through the platform will elevate user attention to security as a satisfaction differentiator.

The positive effects of System Quality (H1 accepted: β=0.332, p=0.018) and Service Quality (H3 accepted: β=0.267, p=0.008) on User Satisfaction confirm two of the three core D&M antecedent pathways within the insurance brokerage context. These findings are consistent with the D&M model's proposition that higher-quality system characteristics generate greater user satisfaction — replicating prior D&M applications in e-learning Elmunsyah (2023), fintech Hassan (2023), and e-CRM (Anaam et al., 2023).

The positive effect of Digital Capability (H4 accepted: β=0.309, p=0.002) on User Satisfaction provides empirical support for the theoretical extension proposed in this study. This finding suggests that organizational digital readiness functions as an IS success antecedent in the same causal layer as System Quality, broadening the D&M model's explanatory power in digital transformation contexts. The non-significant effect of Information Quality (H2 rejected: p=0.359) challenges the universal applicability of this D&M construct. This finding suggests that when system functionality and service support are strong, information quality may not be a differentiating satisfaction driver — supporting the "ceiling effect" interpretation in high-quality system contexts.

To determine whether a hypothesis is accepted or rejected, we can examine the significance level, where the path coefficient t-value is generated by running the bootstrapping algorithm. A hypothesis is accepted if the t-value > 1.96 and the p-value < 0.05, indicating that a latent variable has a significant impact on another latent variable. We can see the results of this study's hypothesis testing in Table 4, which consists of four accepted hypotheses and two that were rejected.

CONCLUSION

The present study explored the factors that influence user satisfaction and net benefits from the use of a digital insurance placement system through an extended DeLone and McLean Information Systems Success Model. The developed model incorporated System Quality, Information Quality, Service Quality, Digital Capability, and Cybersecurity as antecedent variables, User Satisfaction as a mediating variable, and Net Benefits as an outcome variable. Results offer practical evidence on the impact of digital transformation initiatives on insurance brokerage activities. The findings revealed that System Quality, Service Quality, and Digital Capability positively and significantly affect User Satisfaction. These results reinforce prior empirical research: system attributes such as reliability, user-oriented characteristics such as ease of use and adequate technical support, and the digital preparedness of the organization significantly influence the adoption of digital insurance systems. In contrast, Information Quality and Cybersecurity do not show a significant effect on User Satisfaction, indicating that users perceive information accuracy and system security as prerequisites rather than drivers of user satisfaction.

Moreover, there was a significant positive effect of User Satisfaction on Net Benefits. Greater satisfaction leads to better operational efficiencies, shorter insurance placement cycles, better engagement with partner insurers, and higher-quality decision-making. Recent studies have substantiated the important role of user satisfaction in leveraging the adoption of digital systems to benefit organizations. This study has certain limitations. The cross-sectional nature of our study means we cannot capture how user perceptions change over time, and the fact that we studied only a single brokerage firm could limit the applicability of our findings. Longitudinal approaches, larger samples across industry sectors, and the inclusion of constructs such as trust, perceived risk, or technology readiness in follow-up studies are encouraged to enrich the understanding of digital system success in the insurance sector.

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AUTHOR CONTRIBUTION STATEMENT

Shan Thi contributed to conceptualization, methodology development, formal analysis, and writing of the original draft. Viany Utami Tjhin contributed to supervision, project administration, and manuscript review and editing. All authors have read and approved the final version of the manuscript and agree to be accountable for all aspects of the work.

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