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Article

Digital Trust as a Mediator between Digital Banking Service Quality and Consumer Satisfaction: Empirical Evidence from Malaysia

Khalil Awjan¹

¹ PhD in Accounting, Universiti Malaysia Terengganu. Email: P4854@pps.umt.edu.my

Abstract

This paper investigates how digital trust mediates the relationship between the important attributes of digital banking services and consumer satisfaction in Malaysia. Based on the Online/Digital Trust Theory, Expectation-Confirmation Theory, and the Unified Theory of Acceptance and Use of Technology 2 (UTAUT2), the research explores the impact of security, ease of use, speed, and technical support on consumer satisfaction based on digital trust. The study used a quantitative, cross-sectional design, and a structured questionnaire was used to gather data on 543 digital banking users in Malaysia. Partial least squares structural equation modeling (PLS-SEM) was used to test the proposed model. The results show that digital trust is positively influenced by security, ease of use, speed, and technical support, and consumer satisfaction is positively influenced by digital trust. Moreover, digital trust plays a significant mediating role in the relationships between security, ease of use, speed, and consumer satisfaction, but the mediating role of technical support is not supported. These findings underscore the fact that digital trust is a key factor that influences the results of satisfaction. The research adds to the literature by generalizing trust-based and post-adoption models and offers practical implications by highlighting the need to increase security, usability, and system performance to improve customer trust and satisfaction.

Keywords: Digital Trust, Consumer Satisfaction, Technical Support, Speed, Security, Ease of Use.

1. Introduction

The high pace of digital technologies development has radically changed the banking sector, altering the nature of designing, delivering, and experiencing financial services. Digital banking has become the main interface between banks and customers and has become more convenient, efficient, and accessible. Nevertheless, the change has also brought about the issue of security, system reliability, and responsiveness of the services, thus making consumer trust a key factor of digital banking success (Raviteja, 2024; Kothari et al., 2025).

Security is also a key issue because threats like data breaches, cybercrime, and privacy violations are still a major concern to the confidence of users in digital financial systems (Ahmed et al., 2024; Tran et al., 2024; Waliullah et al., 2025). Meanwhile, system-related features, such as ease of use (EOU) and speed of transactions, help to create a sense of control, reliability, and general system competence, which are critical in building trust in technology-mediated financial services (Gunawan & Tjokrosaputro, 2024; Wijayanti et al., 2024).

Although much has been done on the antecedents of digital trust (DT), the extent to which it is a predisposing factor affecting consumer satisfaction (CS) has not been studied in detail. In the digital banking setting, CS represents the evaluative judgments of the users about the performance of the service in comparison to previous expectations (Dewi & Zulkifli, 2024; Tater & John, 2025; Pratama, 2024). Based on Expectation-Confirmation Theory (ECT), satisfaction is a result of expectation confirmation via perceived performance, and psychological variables like trust might influence post-adoption judgment (Khanfar & Omar, 2025; Minhaj & Khan, 2025; Arora & Banerji, 2024).

There are a number of gaps in the literature. First, previous research has mostly investigated direct correlations between service attributes and satisfaction, neglecting the mediating psychological mechanisms by which these effects are mediated (Effendi et al., 2024; Palamidovska-Sterjadovska et al., 2025; Bhatnagar et al., 2024). Second, Technology Acceptance Model (TAM) and Unified Theory of Acceptance and Use of Technology (UTAUT) are widely used technology acceptance models that have mostly concentrated on adoption intentions, but not post-adoption outcomes, including satisfaction and trust (Hurani & Abdel-Haq, 2025; Mookerjee, n.d.; Wijaya et al., 2025). Third, there is a lack of empirical data on emerging digital banking markets, especially in Southeast Asia, where institutional factors, consumer risk attitudes, and digital maturity rates vary compared to the developed ones (Sujee & Solanki, 2024; Sayari, 2024; Ezmigna et al., 2024).

The Malaysian context is relevant to fill these gaps, as the country has a rapidly developing digital financial ecosystem with effective regulatory efforts and fintech usage. Although the digital banking adoption has grown tremendously, the perception of the security threats and service quality remain to influence the user perception, which supports the key role of trust in shaping consumer appraisals (Jafri et al., 2024; Munira, 2025).

It is against this backdrop that the current study examines the mediating role of DT in the relationship between the four main attributes of digital banking services (DBS), namely, security, EOU, speed, and technical support (TS), and CS in Malaysia. The study, combining Online/DT Theory, ECT, and UTAUT2,

adds to the literature in three key aspects. First, it contributes to the theoretical knowledge by placing DT as a mediating factor between service attributes and satisfaction outcomes. Second, it builds upon post-adoption studies by incorporating both the trust-based and expectation-based views into a cohesive empirical framework. Third, it offers a context-specific evidence of a developing digital banking market, which is especially applicable to similar developing economies. The study is empirically based and adopts a quantitative methodology with the help of partial least squares structural equation modeling (PLS-SEM) to test the hypothesized relationships and come up with theoretical and practical implications of digital banking strategy.

2. Literature Review

The fast-growing trend of digital banking has drawn significant academic interest, especially on the factors that determine trust and satisfaction in technology-mediated financial services. The initial research on digital banking focused mostly on adoption intentions and system usage, but more recent research has focused on post-adoption experiences, including trust formation and CS, as a sign of digital financial ecosystem maturation (Chinnasamy et al., 2024; Raviteja, 2024; Kothari et al., 2025).

One of the key currents of the literature describes security as a precondition of DT. Since financial transactions entail delicate personal and financial information, the perceived security is a major determinant of how users trust digital banking systems (Ahmed et al., 2024; Tran et al., 2024; Waliullah et al., 2025). The research that has been conducted on the context of online banking also supports the idea that strong security measures and open risk management strategies contribute to the increase of consumer trust by lessening the perceived uncertainty and vulnerability (Choudhuri et al., 2024; Munira, 2025). Although this is an agreement, the current body of research tends to consider security a direct determinant of satisfaction or adoption without taking into account the indirect role it plays by trust.

Other than security, EOU and system speed have been extensively studied in terms of technology acceptance models (Bhatnagr et al., 2024; Ogundipe et al., 2024; Paltayian et al., 2024). Nevertheless, although these aspects are often correlated with adoption intentions, the role of these aspects in constructing DT as a psychological mediator and not as technical peculiarities is less commonly studied.

Previous research indicates that prompt and efficient technical assistance is an indicator of institutional trust and customer focus, which strengthens the confidence of digital service providers (Bhaskaran, 2024; Alghizzawi et al., 2024). However, TS tends to be covered by the larger service quality constructs, preventing the understanding of its specific role in the formation of trust and the following satisfaction outcomes.

Empirical research is consistent that the levels of satisfaction are linked to better loyalty, retention, and word-of-mouth (Dewi & Zulkifli, 2024; Arora & Banerji, 2024; Tater & John, 2025). The ECT offers a strong explanatory framework of these relationships with the focus on satisfaction as perceived performance meets or surpasses initial expectations (Khanfar & Omar, 2025; Minhaj & Khan, 2025; Pratama, 2024). Nevertheless, most studies conceptualize satisfaction as a direct consequence of service quality without considering mediating psychological processes, including trust, that mediate the interpretation of service experiences by the user.

First, previous studies tend to focus on trust as a predictor of satisfaction or as a predictor of adoption, but they fail to empirically test the mediating role of trust between service attributes and satisfaction (Chang, 2024; Melnyk, 2024; Jafri et al., 2024). Second, existing empirical studies on the topic of emerging digital banking markets are still scattered, and very little attention is paid to Southeast Asian markets, including Malaysia, where the regulatory environment and the perception of consumer risk can be significantly different compared to Western economies (Sujee & Solanki, 2024; Sayari, 2024; Sultana & Faisal, 2024). Third, there is a lack of research that combines trust theory and expectation-based models of satisfaction and technology acceptance perspectives in one empirical study.

To address these gaps, the current research consolidates Online/DT Theory, ECT, and UTAUT2 to test DT as a mediating variable between the main attributes of DBS, i.e., security, EOU, speed, and TS, and CS in Malaysia (Figure 1). The empirical test of this integrated model with the help of PLS-SEM further develops the current literature by elucidating the psychological mechanisms according to which DBS influence the outcomes of the satisfaction thus providing not only theoretical clarification but also practice-oriented advice to digital banking strategy in emerging markets.

3. Theoretical Framework and Hypotheses Development

The current work is grounded on a combined theoretical framework, comprising of Online/DT Theory, ECT, and UTAUT2, to describe how the core attributes of DBS influence CS via the mediating role of DT (Bhaskaran, 2024; Melnyk, 2024; Chang, 2024). Lastly, ECT gives a complementary account of satisfaction as a result of the cognitive comparison of expectations and performance experienced by the users, which is presumably filtered by perceived trust in the banking platform and provider (Dewi & Zulkifli, 2024; Pratama, 2024; Minhaj & Khan, 2025).

The conceptualization of trust as a risk-reducing belief that facilitates involvement in uncertain digital interactions is used to explain the presence of trust in the context of digital interactions, especially when consumers do not have complete visibility of transaction processes and institutional protection (Jafri et al., 2024; Musyaffi et al., 2024; Choudhuri et al., 2024). In line with this, service attributes act as trust indicators: they create experiential proof that the platform is secure, operable, and helpful (Ahmed et al., 2024; Munira, 2025).

3.1 Hypotheses Development

3.1.1 Security

One of the most regularly highlighted antecedents of trust in digital banking is security which directly responds to the vulnerability of consumers when making a financial transaction (Addula, 2024; Tran et al., 2024). Extended data about digital risk also reveals that the increased severity of cyber threats increases the salience of security as a condition to maintain confidence in digital financial channels (Ahmed et al., 2024; Munira, 2025; Waliullah et al., 2025). Collectively, these observations indicate that the security perceptions are an institutional and technological guarantee signal that enhances the DT.

H1: Security has a significant positive effect on DT in DBS.

3.1.2 Ease of Use

UTAUT2 and other acceptance viewpoints point to the fact that the EOU lowers the expectancy of effort and perceived complexity which can influence the formation of trust by enhancing the perceived control and reducing friction in digital interactions (Gunawan & Tjokrosaputro, 2024; Citra et al., 2024). EOU in this sense is a signal of experiential credibility: the user-friendliness and simplicity of navigation and clarity increase the uncertainty of the system competency and reinforce the trust judgment.

H2: EOU has a positive effect on DT in DBS.

3.1.3 Speed

Previous studies on the performance of digital banking emphasize that the punctuality of transactions and the responsiveness of the system are associated with positive ratings of service reliability and professionalism (Bhatnagr et al., 2024; Ogundipe et al., 2024; Paltayian et al., 2024). Slow or interrupted processes in service-based digital environments can be seen as indicators of technical vulnerability, which can damage consumer trust. On the other hand, the reliability of the system and its stability, which can be supported by the consistency of fast service delivery, can increase trust in the system and provider (Chinnasamy et al., 2024; Kothari et al., 2025; Bhatnagr et al., 2024).

H3: Speed has a positive effect on DT in DBS.

3.1.4 Technical Support

TS is the ability of the bank to address service failures, user problems, and advice which may influence trust especially in high-stakes financial transactions. The findings on digital service environment imply that support responsiveness is a sign of reliability and customer orientation, which builds trust by reassuring and creating a sense of responsibility (Bhaskaran, 2024; Bataineh et al., 2024; Alghizzawi et al., 2024). Perceived risk can be reduced through effective support when the users face problems, and it will regain trust in the digital banking relationship. In this way, it is possible to conceptualize TS as a relational trust cue that is complementary to technological guarantees like security and speed.

H4: TS has a positive effect on DT in DBS.

3.1.5 Expectation-Confirmation Theory and the Trust-Satisfaction Link

ECT assumes that the source of satisfaction is the confirmation of expectations using perceived performance, which means that the evaluative judgments are based not only on the results but also on the psychological prism through which the performance is viewed. Trust in digital banking can organize the performance attribution of users: high trust decreases perceived uncertainty and promotes more positive assessment of service experiences, which leads to more satisfaction (Dewi & Zulkifli, 2024; Minhaj & Khan, 2025; Pratama, 2024). To this end, DT should have a positive effect on CS in digital banking situations.

H5: DT has a positive effect on CS with DBS.

3.1.6 Mediating Role of Digital Trust

Although the existing literature tends to conceptualize service quality as a direct driver of satisfaction, there is an increasing amount of evidence suggesting that trust is an important mediating variable, especially when digital risk and uncertainty are being salient (Jafri et al., 2024; Musyaffi et al., 2024; Minhaj & Khan, 2025). On the same note, usability and performance indicators, which are measured by EOU and speed, may increase trust via perceived competence and control, which in turn leads to satisfaction judgments (Addula, 2024; Citra et al., 2024; Ogundipe et al., 2024). An indirect impact can also be provided by TS, which reinforces relational assurance when faced with uncertainty, which increases trust and allows making more positive judgments of satisfaction (Bhaskaran, 2024; Bataineh et al., 2024; Alghizzawi et al., 2024). Thus, the DT is suggested to mediate between every service attribute and CS.

H6: DT mediates the relationship between security and CS in DBS.

H7: DT mediates the relationship between EOU and CS in DBS.

H8: DT mediates the relationship between speed and CS in DBS.

H9: DT mediates the relationship between TS and CS in DBS.

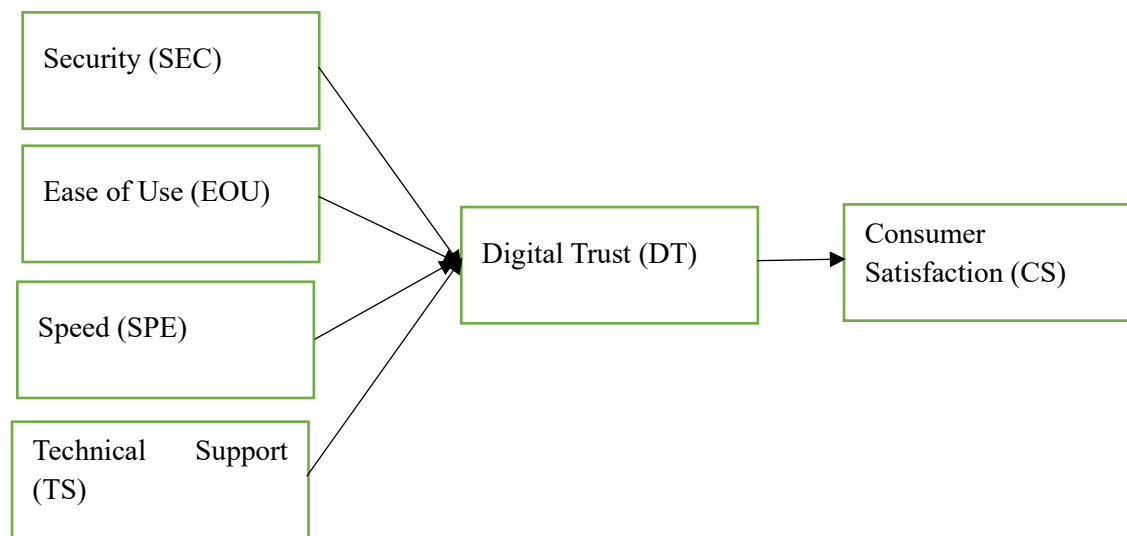


Figure 1: The study model, created by the researchers

4. Method

4.1 Design

This research used a quantitative and cross-sectional survey study to verify the hypothesized relationships between DBS attributes (security, EOU, speed, and TS), DT, and CS in Malaysia. The method of the survey was suitable since the recent digital banking studies have often operationalized the trust- and satisfaction-related measures as latent variables that were measured using structured questionnaires and analyzed using multivariate models (Pratama, 2024; Dewi & Zulkifli, 2024; Minhaj & Khan, 2025). PLS-SEM was used to test the hypotheses, and it was appropriate to predictive theory testing with multiple constructs and

mediation paths because recent studies on digital banking also used SEM to model satisfaction and post-adoption outcomes (Pratama, 2024; Arora & Banerji, 2024; Palamidovska-Sterjadovska et al., 2025).

4.2 Population and Sampling

The sample was made up of individuals who used digital banking in Malaysia and had prior experience of mobile or online banking services. The structured online questionnaire was used to gather data through online platforms and social media via Google Forms, and it followed a non-probability convenience sampling methodology that is typical of digital banking studies. Among 700 sent invitations, 543 valid responses were received and the response rate was 77.6%, which is sufficient to estimate the proposed PLS-SEM. The questions included in the questionnaire were based on the already tested scales in the literature on digital banking and information systems with slight modification to suit the Malaysian environment. They were also pre-tested using a pilot study to make sure that they are clear and relevant. Both statistical and procedural remedies were used to deal with the possibility of common method bias. The respondent anonymity and confidentiality were guaranteed in a procedural way, and the questions in the questionnaires were well-designed and randomized. The Harman's single-factor test was statistically significant to show that no single factor explained most of the variance, which means that the issue of common method bias is not a major concern in this research.

4.3 Data Collection Instruments

Each of the constructs was measured on a five-point Likert scale between strongly disagree and strongly agree. The survey included 3, 5, 4, 4, 5, and 5 items, respectively, relating to security, EOU, speed, TS, DT, and CS. The content of items was modified to capture conceptualizations that have been previously established in the digital banking literature where security and EOU perceptions are at the center of user ratings of digital channels (Addula, 2024; Tran et al., 2024; Wijayanti et al., 2024), and system performance measures like speed and service responsiveness are associated with perceived service quality and customer-centric results (Bhatnagr et al., 2024; Ogundipe et al., 2024; Paltayian et al., 2024). DT items were also in line with studies that focused on trust as a central psychological assessment in digital financial services and user experiences (Choudhuri et al., 2024; Musyaffi et al., 2024; Bhaskaran, 2024), whereas satisfaction items were based on expectation-based and service-performance evaluations commonly applied in e-banking and digital banking contexts (Dewi & Zulkifli, 2024; Effendi et al., 2024; Arora & Banerji, 2024).

5. Results and Data Analysis

5.1 Descriptive Analysis of Study Variables

5.1.1 Demographic Profile

The sample size was 543 digital banking users in Malaysia, which is reported in Table 1. The gender ratio was almost equal with 53.4% male and 46.6% female respondents. The majority of the participants were in the economically active age brackets, especially 25–34 years (33.1%) and 35–44 years (24.1%), then the younger users aged 18–24 years (18.2%). Education-wise, most respondents had a bachelor's degree (53.2%), then those with a master's degree (23.1%). In terms of employment, the respondents were mostly in the private sector (33.4%) and the public sector (19.5%) with a significant proportion of students and self-employed people.

In terms of banking behavior, the most frequently used were conventional banks (51.7%), Islamic banks (32.8%), and digital-only banks (15.5%). The majority of respondents indicated that they regularly use digital banking services, with 47.3% using them every day and 37.6% every week. The most common access channel (57.6%) was found to be mobile banking applications.

Table 1: Demographic profile of the respondents

	Category	Frequency	Percentage (%)	Cumulative Percent
Gender	Male	290	53.4	53.4
	Female	253	46.6	100
	Total	543	100%	
Age Group	18–24	98	18.2	18.2
	25–34	180	33.1	51.3
	35–44	131	24.1	75.4
	45–54	73	13.4	88.8
	55 and above	61	11.2	100
	Total	543	100%	
Education Level	Secondary or below	79	14.5	14.5
	Bachelor's degree	289	53.2	67.7
	Master's degree	125	23.1	90.8
	PhD/Doctorate	50	9.2	100
	Total	543	100%	
Employment Status	Student	74	13.6	13.6
	Public sector	106	19.5	33.1
	Private sector	181	33.4	66.5
	Self-employed	78	14.4	80.9
	Unemployed	42	7.7	88.6
	Retired	62	11.4	100
	Total	543	100%	
Type of Bank Used	Islamic bank	178	32.8	32.8
	Conventional bank	281	51.7	84.5
	Digital-only bank	84	15.5	100
	Total	543	100%	
Frequency of Use	Daily	257	47.3	47.3
	Weekly	204	37.6	84.9
	Monthly	59	10.9	95.8
	Rarely	23	4.2	100
	Total	543	100%	
Main Channel	Mobile banking app	313	57.6	57.6
	Internet banking (web)	67	12.3	69.9
	Both equally	163	30.1	100
	Total	543	100%	

5.1.2 Descriptive Statistics for Variables

Table 2 shows the descriptive statistics of the study constructs, such as security (SEC), ease of use (EOU), speed (SPD), technical support (TS), digital trust (DT), and consumer satisfaction (CS), with 543 valid responses measured on a five-point Likert scale. The mean values ranged from 2.982 to 3.168, with EOU (M = 3.168), SPD (M = 3.090), and SEC (M = 3.067) recording the highest means, while DT showed the lowest mean (M = 2.982), indicating comparatively lower trust perceptions (Choudhuri et al., 2024; Ahmed et al., 2024). The skewness and kurtosis values were within acceptable limits (± 2 and ± 7), indicating that there were no strong deviations to normality (Hair, 2014).

Table 2: Descriptive analysis of research variables

	N	Mean	SD	Skewness	Std. Error	Kurtosis	Std. Error
SEC	543	3.067	1.050	0.022	0.241	-0.988	0.478
EOU	543	3.168	0.926	-0.209	0.241	-0.846	0.478
SPD	543	3.090	1.007	-0.191	0.241	-0.695	0.478
TS	543	3.018	0.991	0.041	0.241	-0.481	0.478
DT	543	2.982	1.006	0.074	0.241	-0.763	0.478
CS	543	3.016	0.938	-0.003	0.241	-0.834	0.478
Valid N (list-wise)	543						

5.2 Assessment of the Measurement Model

The measurement model was evaluated to guarantee reliability and validity before structural analysis, according to the existing guidelines of PLS-SEM (Bacon et al., 1995; Hair et al., 2021). All indicator loadings were above the recommended level of 0.70 (0.760 -0.910) in Table 3, which signifies a satisfactory indicator reliability (Joseph et al., 2017). Internal consistency reliability was established, Cronbach alpha values were 0.854–0.907, and composite reliability (CR) (ρ_c) values were 0.905–0.931. Convergent validity was also confirmed, with all the average (AVE) values above the minimum of 0.50 (0.657–0.775), which indicates that the constructs measure what they are supposed to measure.

The heterotrait-monotrait ratio of correlations (HTMT) was used to determine discriminant validity and is regarded as a more rigorous and valid criterion than the conventional methods (Henseler et al., 2015). All of the HTMT values, as shown in Table 4, were significantly below the conservative value of 0.85, with the highest value being 0.412 (Henseler et al., 2015; Hair et al., 2021).

The diagnostics of collinearity were also investigated with the help of variance inflation factor (VIF) values to be sure that the multicollinearity does not prejudice the estimation of the model parameters. All VIF values, as indicated in Table 5, fell within the range of 1.611 and 2.796, which is significantly lower than the recommended value of 5.0 and the more conservative value of 3.3 (Joseph et al., 2017; Kock, 2015).

Table 3: Construct reliability and convergent validity

	Factor Loading	Cronbach's Alpha	CR (rho_a)	CR (rho_c)	AVE
CS1	0.809	0.87	0.877	0.905	0.657
CS2	0.834				
CS3	0.825				
CS4	0.787				
CS5	0.797				
DT1	0.857	0.907	0.908	0.931	0.728
DT2	0.865				
DT3	0.846				
DT4	0.844				
DT5	0.854				
EOU1	0.772	0.874	0.877	0.908	0.665
EOU2	0.835				
EOU3	0.811				
EOU4	0.843				
EOU5	0.814				
SEC1	0.845	0.854	0.858	0.911	0.775
SEC2	0.884				
SEC3	0.91				
SPD1	0.801	0.861	0.878	0.905	0.704
SPD2	0.845				
SPD3	0.866				
SPD4	0.844				
TS1	0.853	0.862	0.874	0.907	0.709
TS2	0.76				
TS3	0.904				
TS4	0.844				

Table 4: Discriminant validity (HTMT criterion)

	CS	DT	EOU	SEC	SPD	TS
CS						
DT	0.488					
EOU	0.099	0.343				
SEC	0.114	0.346	0.105			
SPD	0.138	0.334	0.175	0.202		
TS	0.25	0.36	0.412	0.22	0.166	

Table 5: Collinearity statistics (VIF values)

VIF					
CS1	2.2	DT1	2.525	EOU1	1.794
CS2	2.212	DT2	2.639	EOU2	2.099
CS3	2.011	DT3	2.412	EOU3	1.975
CS4	1.678	DT4	2.325	EOU4	2.272
CS5	1.97	DT5	2.411	EOU5	2.065
SPD1	1.886	TS1	2.227	SEC1	1.839
SPD2	1.965	TS2	1.611	SEC2	2.287
SPD3	2.049	TS3	2.796	SEC3	2.543
SPD4	2.175	TS4	2.127		

5.3 Structural Model Assessment

Figure 2 shows the standardized path coefficients and explained variance (R^2) of the endogenous constructs as the results of the structural model. The model has a moderate level of explanatory power based on the PLS-SEM standards, with 26.3% of the variance in DT and 19.8% in CS explained (Joseph et al., 2017; Hair et al., 2021). Service attributes, such as security, EOU, speed, and TS, have positive impacts on DT, and CS has a significant positive impact on DT.

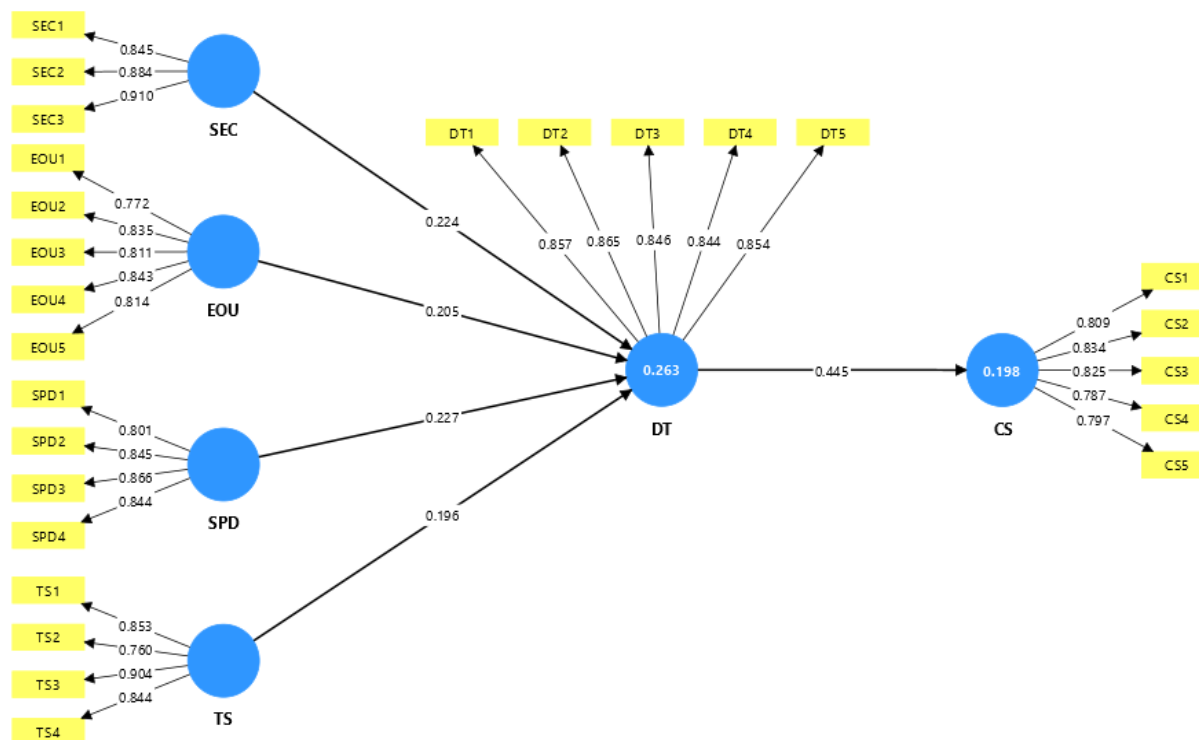


Figure 2: Structural model with path coefficients and R^2 values

The findings of bootstrapping (Figure 3) prove that all the hypothesized direct relationships are statistically significant ($p < 0.05$), which indicates the strength of the proposed model.

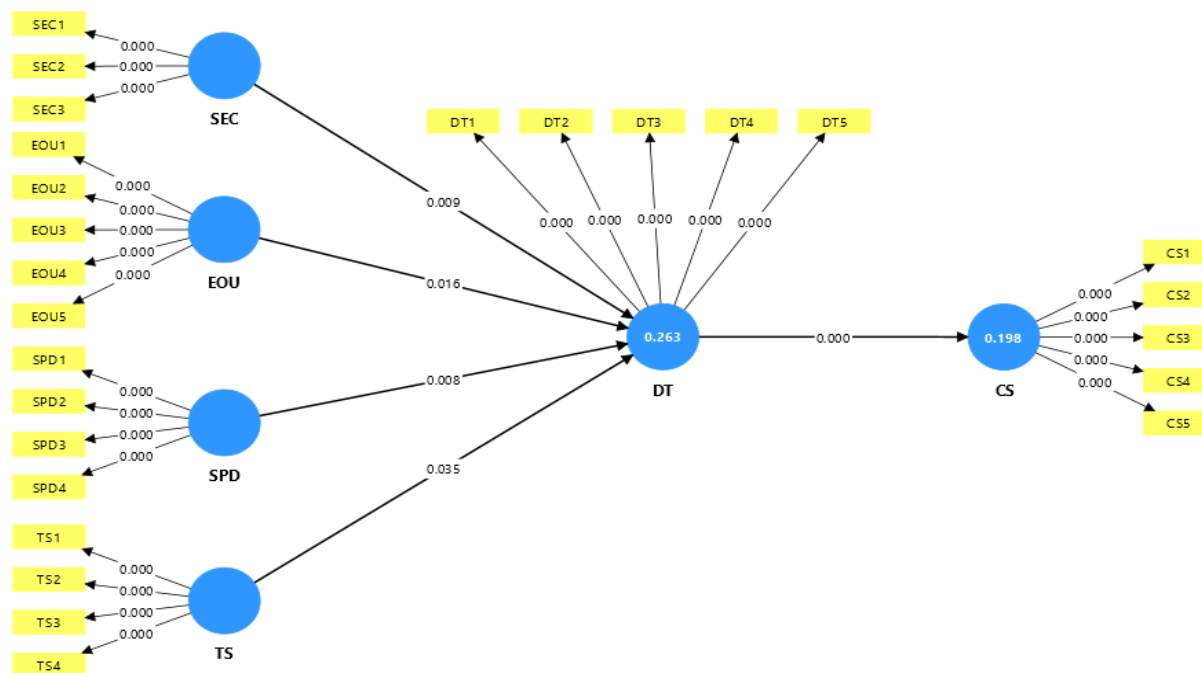


Figure 3: Structural model with bootstrapping results (p-values)

Table 6 provides model fit indices. The standardized root mean square residual (SRMR) of the saturated (0.072) and estimated (0.076) models is less than the recommended value of 0.08, which is a good model fit (Hu & Bentler, 1999; Hair et al., 2021). Additional fit measures (d_ULS, d_G, chi-square, and NFI) are also provided, but in the case of variance-based SEM, the global measure of fit is not the primary focus but rather the predictive accuracy and explanatory power (Joseph et al., 2017).

Table 6: Model fit indices

Fit Index	Saturated Model	Estimated Model
SRMR	0.072	0.076
d_ULS	1.843	2.053
d_G	0.738	0.748
Chi-square	409.496	413.232
NFI	0.753	0.751

5.4 Path Coefficients

The path coefficients were evaluated to test the hypothesized relationships between the attributes of digital banking services, DT, and CS. The standardized path coefficients (β), t-values, and p-values were estimated in a nonparametric bootstrapping process, which is per PLS-SEM guidelines (Joseph et al., 2017; Hair et al., 2021).

Table 7: Structural model results and hypotheses testing (PLS-SEM)

Hypothesis	Path	β	T-value	P-value	Result
H.1	EOU to DT	0.205	2.412	0.016	Supported
H.2	SEC to DT	0.224	2.620	0.009	Supported
H.3	SPD to DT	0.227	2.639	0.008	Supported
H.4	TS to DT	0.196	2.115	0.035	Supported
H.5	DT to CS	0.445	6.203	0.000	Supported
H.6	EOU to DT to CS	0.091	2.264	0.024	Supported
H.7	SEC to DT to CS	0.099	2.365	0.018	Supported
H.8	SPD to DT to CS	0.101	2.248	0.025	Supported
H.9	TS to DT to CS	0.087	1.873	0.061	Not Supported

The findings show that service attributes positively and significantly impact DT. Specifically, ease of use (EOU) ($\beta = 0.205$, $p = 0.016$), security (SEC) ($\beta = 0.224$, $p = 0.009$), speed (SPD) ($\beta = 0.227$, $p = 0.008$), and technical support (TS) ($\beta = 0.196$, $p = 0.035$) significantly influence DT, supporting H1–H4. Among them, speed and security have a relatively more significant impact, emphasizing the role of efficiency of the system and perceived safety in forming trust in digital banking settings. Moreover, DT has a powerful positive influence on CS ($\beta = 0.445$, $p < 0.001$), which confirms H5 and proves its pivotal role in post-adoption assessments.

The mediating effects of DT were also investigated. The findings indicate that DT is a significant mediator of the relationships between EOU, SEC, SPD, and CS (H6–H8) with indirect effects of 0.091 to 0.101 ($p < 0.05$). Conversely, the indirect influence of TS on CS via DT was not statistically significant (0.087, $p = 0.061$), which resulted in the rejection of H9. In general, the results confirm the hypothesis of the model and the mediating role of DT between the main service attributes and CS.

5.5 Structural Model Assessment

Table 8 indicates the predictive accuracy and effect size of the structural model using R^2 , adjusted R^2 , and f^2 . The findings show that the model accounts to 26.0 percent of the variance in DT and 20.0 percent of the variance in CS, which is a moderate predictive power as per the recommended standards of behavioral and information systems research (Joseph et al., 2017; Hair et al., 2021). The effect size analysis also indicates that DT has a medium influence on CS ($f^2 = 0.246$), which is a significant explanatory variable. Conversely, EOU, security, speed, and TS have small effect sizes on DT, indicating that although these service attributes are key contributors to the formation of trust, their respective impacts are not necessarily significant when taken together. This tendency is aligned with the previous works on digital banking that highlight the fact that trust is formed as a result of the joint effect of various service-related signals and not as a result of one overriding factor (Minhaj & Khan, 2025; Choudhuri et al., 2024).

Table 8: Predictive accuracy and effect size of the structural model

Endogenous	R ²	Adjusted R ²	Exogenous	f ² Effect Size	Effect Interpretation
CS	0.2	0.189	DT	0.246	Medium
DT	0.26	0.232	EOU	0.049	Small
			SEC	0.063	Small
			SPD	0.067	Small
			TS	0.044	Small

6. Discussion

The substantial positive impacts of security, EOU, speed, and TS on DT present the multifacetedness of trust formation in digital banking. Speed and security were relatively more effective among these factors, and this shows that the users were sensitive to efficiency and protection of the system when carrying out financial transactions (Choudhuri et al., 2024; Tran et al., 2024). Security cues seem to be especially salient as trust-building signals in the Malaysian context, where the adoption of digital banking is growing, and awareness of cybersecurity risks is increasing (Jafri et al., 2024; Munira, 2025).

The EOU also became a major predictor of DT, which confirms the findings of TAM and UTAUT-based studies that usability is related to not only adoption but also post-adoption decisions, such as trust (Addula, 2024; Gunawan & Tjokrosaputro, 2024; Wijayanti et al., 2024). This is consistent with the literature that responsive support systems are indicative of institutional responsibility and customer focus, which fosters trust in the time of doubt or service breakdown (Bataineh et al., 2024; Bhaskaran, 2024).

The given finding aligns with ECT, according to which satisfaction depends on the cognitive interpretation of service performance based on the comparison of service performance and expectations (Dewi & Zulkifli, 2024; Pratama, 2024; Minhaj & Khan, 2025). This adds to the previous findings of trust being associated with positive post-adoption results including satisfaction, loyalty, and further usage intentions (Arora & Banerji, 2024; Tater & John, 2025; Melnyk, 2024).

The mediation analysis also enriches the knowledge of these relationships by showing that DT is a critical mediator between the service attributes and CS. The strong indirect relationship of security, EOU, and speed to satisfaction via trust suggests that the above attributes determine satisfaction not only by influencing user confidence in digital banking systems but also by direct experiential channels alone. The results fill a significant gap in the existing research, where researchers commonly model service quality attributes as direct antecedents of satisfaction without taking into consideration intervening psychological mechanisms (Effendi et al., 2024; Palamidovska-Sterjadovska et al., 2025; Bhatnagr et al., 2024). This study expands the current body of literature in digital banking and provides a more detailed account of the process of transformation of service attributes into satisfaction outcomes by empirically validating trust as a mediator.

Interestingly, the indirect relationship between TS and CS via DT was not statistically significant. A potential reason is that the role of TS in increasing satisfaction is not always continuous but may be episodic, especially when the service is disrupted (Bhaskaran, 2024; Bataineh et al., 2024; Ogundipe et al., 2024). Users can also make satisfaction judgments based on system performance and system security rather than support interactions in fairly stable digital banking contexts.

This research contributes to the theoretical knowledge base on the mechanisms of trust-based satisfaction in new digital banking markets by making DT a main assessing prism in which the service characteristics influence the satisfaction. The Malaysian setting also adds value to the literature by presenting empirical evidence of a fast-digitizing financial ecosystem, which can be used to inform other similar emerging economies with similar technological and regulatory dynamics (Sayari, 2024; Sujee & Solanki, 2024; Ezmigna et al., 2024).

7. Implications

7.1 Theoretical Implications

Although previous studies of digital banking have often analyzed trust as a precursor of adoption or a direct predictor of satisfaction, the current results can be used to expand Online/DT Theory by showing that trust is an evaluative lens that users use to judge service features, including security, EOU, speed, and TS (Bhaskaran, 2024; Melnyk, 2024; Chang, 2024). Further, the study demonstrates that the formation of satisfaction in digital banking is not mediated by performance confirmation alone but is also greatly influenced by the perception of trust in users, especially in high-risk, technology-mediated settings by incorporating a DT factor into the ECT (Dewi & Zulkifli, 2024; Pratama, 2024; Minhaj & Khan, 2025). Besides this, the results also expand UTAUT2 to indicate that acceptance-related constructs do not lose explanatory power over time, affecting the outcomes of trust and satisfaction in the subsequent stages of mature digital banking use (Gunawan & Tjokrosaputro, 2024).

7.2 Practical Implications

To start with, security must be a strategic focus because more positive perceptions of safety have a direct and indirect effect on trust and satisfaction; thus, banks must invest in visible cybersecurity practices and open communication on data protection practices (Ahmed et al., 2024; Choudhuri et al., 2024; Munira, 2025). Second, trust can be reinforced by making the system easier to use by designing the interface intuitively and simplifying the transaction process, especially with less digitally confident users (Addula, 2024; Citra et al., 2024; Wijayanti et al., 2024). Third, the speed and reliability of the system must be kept at a high level, with the competence in the operation being manifested by the efficient delivery of services and helping to build trust (Bhatnagr et al., 2024; Ogundipe et al., 2024; Paltayian et al., 2024). Lastly, as much as TS promotes trust, its indirect contribution to satisfaction is minimal, indicating that banks must use support services as trust-maintenance strategies in case of service failure instead of focusing on them as drivers of satisfaction (Alghizzawi et al., 2024).

8. Study Limitations and Future Research Opportunities

The cross-sectional design does not allow a causal interpretation and fails to reflect the dynamic development of trust and satisfaction over time; longitudinal research can be used to understand the development of DT more thoroughly as a result of repeated service exchanges. Also, the model has concentrated on a set of service attributes that were selected, and future studies may include additional attributes that are relevant in the context of trust-based explanations of satisfaction, including personalization, perceived value, or emotional engagement. Lastly, since the empirical setting was restricted to Malaysia, comparative or cross-country research is recommended to determine the generalizability of the results in other regulatory and cultural settings.

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