



The mediating roles of structural assurance and task characteristics: An integrated UTAUT-TAM-TTF model of mobile banking acceptance

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ABSTRACT

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This study aims to examine the mediating roles of structural assurance and task characteristics in shaping behavioral intention to adopt mobile banking by integrating the UTAUT, TAM, and task-technology fit frameworks. A quantitative, survey-based approach was employed, collecting data from mobile banking users. The proposed integrated model was tested using structural equation modeling to assess the direct and mediating effects among the constructs. The key findings reveal that structural assurance notably mediates the effects of effort expectancy, facilitating conditions, perceived trust, and perceived security on behavioral intention, with the strongest mediation path originating from perceived security. The integrated model demonstrates strong explanatory power, accounting for 81% of the variance in behavioral intention. Task characteristics significantly mediate the relationships of performance expectancy, effort expectancy, and facilitating conditions with intention, with the strongest effect for effort expectancy. However, task characteristics do not mediate the impacts of perceived trust and perceived security on behavioral intention. For practitioners, the findings underscore the need to enhance system security, ensure functional alignment with user tasks, and strengthen institutional guarantees to drive mobile banking adoption. Specifically, banks should prioritize structural assurance mechanisms (e.g., clear security policies, institutional guarantees) as they serve as the most robust mediator connecting perceived security to behavioral intention. Additionally, reducing user effort through task-characteristic alignment is critical, as effort expectancy emerges as the most important component indirectly affecting intention through task-technology fit.

Contribution/Originality: This study's primary contribution is finding that structural assurance is the strongest mediator between perceived security and behavioral intention, thereby enriching UTAUT and TAM. Furthermore, it demonstrates that effort expectancy indirectly affects intention through task-technology fit, making it the most important component in mobile banking adoption.

1. INTRODUCTION

Over the last ten years, Baptista and Oliveira (2015) found that the financial sector has gone through many changes, which have altered how people act, led to new technology, and provided clients with new products and services. People are increasingly using e-banking to complete typical banking operations and transactions as part of this change. However, studies reveal that there are still challenges with how individuals use e-banking services in mobile banking, especially in developing countries (Baabdullah, Alalwan, Rana, Kizgin, & Patil, 2019). iResearch, a

leading consulting firm specializing in Indonesia's Internet sector, conducted a 2021 survey revealing that only 14.3% of mobile Internet users engaged in mobile banking. This figure was significantly lower than the adoption rates for other mobile value-added services, including mobile instant messaging (72%), image and ringtone downloads (48.4%), mobile gaming (43.8%), and mobile search (34.3%). Banks can improve their services by recognizing and addressing the difficulties that prevent individuals from utilizing mobile banking. Researchers and practitioners are highly interested in understanding what motivates individuals to use mobile banking because of this. They view mobile banking as a disruptive technology that could enhance the efficiency of standard customer tasks, saving time, financial resources, and customer support efforts, while reallocating resources to ensure mobile service network quality. The biggest challenge for payment banks in Indonesia is encouraging people to use them instead of other payment methods. Since payment bank services are accessed via mobile phones, technical issues, perceived risks, lack of trust, and security concerns are the main reasons customers avoid using these services (Laukkanen, 2016; Zhou et al., 2021). Conversely, value-added services and perceived monetary and non-monetary benefits motivate users to adopt these services (Lee, Cheng, & Cheng, 2007). From the perspective of the technology acceptance model (TAM), understanding and meeting consumers' needs and behaviors are essential to improving their interactions with payment institutions. Additionally, Alalwan, Dwivedi, and Rana (2017) explained that the uptake of mobile banking and financial services does not meet expectations, especially in developing nations where consumer interest in these services is minimal. Indonesian customers, as well as others, are especially reluctant to adopt mobile-based payment solutions. These ideas provide a robust framework for elucidating why individuals engage with technology based on their perceptions of its attributes and associated hazards. But it's been challenging for people to start using mobile banking, and the number of individuals who do hasn't changed. About 30% of people who use mobile banking don't use it very often, even after a few months, according to statistics. This means that consumers won't be able to use all of the features of mobile banking. Because of this, it is now very important to find out what factors affect customers' decisions to use mobile banking. The Unified Theory of Acceptance and Usage of Technology (UTAUT) has been used as the main theoretical framework in several studies on mobile banking acceptance models (Jadil, Rana, & Dwivedi, 2021). They identified various factors that clarify client acceptance of MBs, such as performance expectancy, effort expectancy, and facilitating conditions. These models mostly demonstrate how individuals feel about MBs or how they feel about MBs in financial transactions. They do show that they could help explain why people embrace MBs. A recent review of mobile banking literature reveals that current studies frequently fail to evaluate whether a mobile banking platform has the requisite functionality to enable specific financial operations. As a result, there is a significant lack of theory. We know how users feel about things, but we don't have a single framework that combines these feelings (UTAUT/TAM) with an assessment of functional value (TTF) to give us a complete picture of what makes people accept something. While some studies have integrated TTF with UTAUT or TAM, a simultaneous integration of all three models to clarify mobile banking adoption has not been comprehensively examined, particularly in identifying the distinct mechanisms via which these dimensions interact. The main question that hasn't been answered yet is how perception-oriented components from UTAUT (Unified Theory of Acceptance and Use of Technology) and TAM (Technology Acceptance Model) work together with task-fit qualities from TTF (Task-Technology Fit) to affect behavioral intention. People may think a technology is new or useful, but if it doesn't help them, they won't use it. The TTF model suggests that a person will use a piece of technology only if it fits the needs of the job. This means that consumers who need to do their banking quickly, on the go, and often will find mobile banking to be better. By examining the functions of task features and structural assurance as essential connections between perception-driven factors and task technology alignment in the context of mobile banking adoption, this study fills the current gap. The goal of this study is to create and test a model that combines UTAUT, TAM, and TTF to look at how structural assurance and task features affect people's willingness to use mobile banking. This study contributes to the field in three principal ways. First, it advances theory by integrating UTAUT, TAM, and TTF into a singular model for mobile banking adoption. Second, it provides new

real-world evidence on the different and simultaneous ways that structural assurance and task characteristics might work together. Third, it focuses on the Indonesian market to give stakeholders meaningful information that is specific to that market.

2. LITERATURE REVIEW

This research focuses on what has been written about the use of information systems (IS) and information technology (IT), specifically regarding mobile payments, internet banking, and mobile banking. Ajzen (1991) with the Theory of Planned Behavior, Davis (1989) with the Technology Acceptance Model, Hanif and Lallie (2021) and Goodhue and Thompson (1995) with the Task–Technology Fit (TTF) model, and Venkatesh, Morris, Davis, and Davis (2003) are only a few of the basic theories used to examine adoption aspects in the field. Studies often integrate trust-based frameworks with TAM and TPB, especially in mobile banking, to explore what influences initial trust. TAM is used to assess perceived efficacy, trust, and security as key variables. Findings indicate that relative benefits, structural assurances, and a strong reputation all contribute. Crabbe, Standing, Standing, and Karjaluoto (2009) noted that research using UTAUT shows that performance expectancy, effort expectancy, and facilitating conditions are even more critical for promoting adoption than TAM.

Venkatesh et al. (2003) developed the UTAUT as a comprehensive theoretical framework for investigating the adoption of information systems. The model is better at explaining things since it accounts for around 70% of the differences in behavioral intention, compared to 30% to 40% for previous models. It posits three primary direct determinants: performance expectancy, effort expectancy, and enabling factors (Venkatesh et al., 2003). According to Tarhini, El-Masri, Ali, and Serrano (2016), UTAUT is the best and most reliable model for forecasting how people would utilize technology in diverse settings. This is because it is simple, strong, and can be applied in many different situations. Experts say it's especially good for figuring out why individuals utilize mobile banking services. Davis created the Technology Acceptance Model (TAM) in Davis (1989). This is a simple framework that is often used to judge technology. Since then, it has been changed to include TAM2 and TAM3. In the field of mobile banking, TAM is often expanded to encompass essential perceived traits of security and trust, seen as crucial in influencing behavioral intentions. Zhou et al. (2021) utilized the Technology Acceptance Model (TAM) to demonstrate that enhancing the sense of security among elderly individuals in Indonesia could promote their engagement with mobile banking.

The TTF model serves as the primary theoretical foundation for this research. According to Gebauer and Ginsburg (2009), the TTF model suggests that people will only use technology if it helps them do their jobs better. This model has been shown to work in many digital settings. For example, it has been used to learn more about how people utilize new web services like blogs. Researchers discovered that the task and technology needed to be aligned for individuals to assess and utilize them effectively. Lee et al. (2007) also noted that TTF has worked successfully in the field of mobile technologies, including insurance services. A study by Junglas, Abraham, and Watson (2008) on mobile banking found that task characteristics and structural certainty are important elements for achieving a high level of TTF, which then predicts how well a person would perform. Lee et al. (2007) showed that this theory is influenced by individual variations, including self-efficacy and computer proficiency, particularly in contexts such as liquidity management. As shown in Figure 1, the concept is that job characteristics and structural assurance work together to change TTF, which then influences how people actually use technology.

2.1. Research Hypotheses

This study utilizes the Task–Technology Fit (TTF) model as its principal framework for analyzing mobile banking uptake, grounded in the aforementioned theoretical underpinning. Gebauer and Ginsburg (2009) assert that the TTF model indicates technology adoption depends on the congruence between a technology's attributes and the user's task demands, where a superior fit results in enhanced performance outcomes. The application of this theoretical framework has been demonstrated in a variety of digital environments. For example, research on new online services

such as blogs has demonstrated that the degree to which individuals perceive the task requirements and technology as cohesive influences their evaluation of the service and subsequent utilization (Gebauer & Ginsburg, 2009). Based on this theoretical logic, which posits that task characteristics and structural assurance jointly influence TTF, which subsequently shapes actual technology utilization, the following hypotheses are proposed to guide this investigation. The conceptual relationships are illustrated in Figure 1. We think that PE has an effect on Structural Assurance. People appreciate mobile banking because it is simple and quick. It also helps clients save time and work. The platform is easier to use and works better than internet banking, which is sometimes complicated and has many functions. This makes things easier to do and gives users more faith in the system's safety and dependability. A good evaluation of high PE should make users feel more secure with the system's defenses, which is Structural Assurance. Dishaw and Strong (1999) also said that TTF is what makes this relationship work. The technology will only be beneficial to a user if its features, such as speed and ease of use, satisfy their needs for making payments quickly and easily.

Blut (2016) says that SA is the trust individuals have in the laws, rules, and encryption technology that keep digital spaces safe and private. Santos (2003) stated that online platforms make some things easier, like comparing prices, but they also put privacy and security at risk. Blut (2016) noted that SA has a major effect on how people feel and think about how safe it is to buy things online. Ben Mansour (2016) said that studies show that people are far more likely to trust and buy things online when they think the site is more trustworthy. The SA perspective is grounded in the concepts of institutional trust and risk management. Thus, we hypothesize:

H_{1a}: Structural assurance mediates the positive effect of Performance expectancy and behavioral intention to use mobile banking.

H_{1b}: Task Characteristic mediates the positive effect of Performance expectancy and behavioral intention to use mobile banking.

Venkatesh et al. (2003) trust that EE is the perceived ease of using a technology and is a strong predictor of whether or not someone will adopt it. Miltgen, Popovič, and Oliveira (2013) agreed with this. McKnight, Choudhury, and Kacmar (2002) suggested that in the context of payment banks, where services require certain user skills, a low EE indicating good ease of use is expected to positively influence SA. SA also considers how much a user follows rules and procedures that ensure safe online transactions. We say that a payment system perceived as easy to use makes security features and institutional guarantees easier to understand and believe. According to Fang et al. (2014), this higher perception of ease makes the user feel less vulnerable and more confident in the stability of the transaction environment. This successfully strengthens SA. Oliveira, Faria, Thomas, and Popovič (2014) and Alalwan et al. (2017) have shown that EE has a significant effect on the likelihood of using mobile financial services. We suggest that this effect is partly caused by increased structural assurance.

For mobile banking (MB), it is especially critical that the technology works well with key user tasks, including moving money, keeping track of balances, and managing accounts. The basis for gaining user trust is how you handle money. Baabdullah et al. (2019) also state that individuals like mobile banking services when they regard them as "helpful" instruments that make life easier and better. Oliveira et al. (2014) finally argued that this alignment fosters task optimization, hence enhancing efficiency, effectiveness, and the overall user experience. Because of this, the user's financial responsibilities are not just contextual considerations; they are also important indicators of whether or not people would utilize mobile banking and be happy with it. So, we made the following hypothesis:

H_{2a}: Structural assurance acts as a mediator for the beneficial effects of effort expectancy and behavioral intention on mobile banking usage.

H_{2b}: Task Characteristic mediates the favorable impact of Effort Expectancy and Behavioral Intention on mobile banking utilization.

Venkatesh et al. (2003) assert that Facilitating Conditions (FC) are comparable to perceived behavioral control within the framework of the Theory of Planned Behavior. These include how a person thinks about the help they get from the group and the technology they use to access the system, as well as their own skills, knowledge, and resources.

People who want to utilize mobile banking need to know how to connect their devices to the internet, have enough money to pay for data and transaction expenses, and know how to use advanced features like controlling cash flow. Chen and Chan (2014) suggested that consumers are more inclined to view technology as user-friendly and demonstrate increased willingness to interact with it when they believe they possess sufficient abilities and the system offers suitable protections (high FC and SA). FC has a positive effect on TC when it comes to mobile banking. FC creates an environment that includes user resources, skills, and support that allow mobile banking's natural benefits, such as being everywhere, being quick, and having simple interfaces, to be fully realized. This change influences how users perceive and define their financial tasks. Specifically, with a powerful FC, customers can utilize mobile banking to make payments more easily and quickly, which alters how they perform their tasks to require fast, on-the-go, and simple financial management. Zhou et al. (2021) stated that this change in how people view TC is important because TTF theory suggests that a user's behavioral intention depends on how well technology features match these task characteristics. Therefore, FC does not modify the task itself; instead, it enables the technology to address hidden user needs. This makes speed and convenience more critical in the user's task profile, increasing the likelihood of technology adoption. Thus, we hypothesize:

H_{3a}: Structural assurance mediates the positive effect of the Facilitating Condition and behavioral intention to use mobile banking.

H_{3b}: Task Characteristic mediates the positive effect of Facilitating Condition and behavioral intention to use mobile banking.

Choudrie, Junior, McKenna, and Richter (2018) assert that the aesthetics, functionality, and user-friendliness of technology significantly influence its utilization, perception, and engagement by individuals. They also claimed that how well people execute their work and how well technology fits into their lives can depend on how they regard it as a useful and simple tool. This is usually because it makes work easier and more fun. Baabdullah et al. (2019) also discussed how significant the tasks are to this process. These are the factors about how the customer operates that motivate them to make changes. Malaquias and Hwang (2016) noted that mobile banking makes it very easy for individuals to tell if someone is lying when they send money or check their accounts. Individuals think that MB services are "kind" because they assist with these tasks daily. We might observe this trend in how we plan for the assignment itself. This research builds on earlier studies that employ task variables to predict MB behavior. It claims that the work's characteristics are an important part of the relationship. We propose that perceived trust affects behavior indirectly by changing how people see the technology's ability to help them meet their most important financial responsibilities. According to McKnight et al. (2002), SA in mobile banking refers to the technological and legal safeguards, such as encryption and regulations, that ensure transactional security. Given the inherent vulnerabilities perceived in wireless networks, Oliveira et al. (2014) described that robust SA can be seen through SSL certifications, regulatory frameworks, and authentication protocols like OTPs. Research indicates a reciprocal relationship between SA and user trust: while strong SA mechanisms provide the objective foundation for secure interactions, the user's subjective trust in these mechanisms is itself a critical contributor to the perception of strong SA, as Baptista and Oliveira (2015) explained. Baptista and Oliveira (2015) and Oliveira et al. (2014) both claimed that an interdependent relationship, meaning that elements affect each other, is very crucial for people to start using mobile banking (MB). We believe that SA is not just a contextual component but also an active and important construct that increases the likelihood of a consumer taking action by making them feel more confident in the system's safety and reliability.

H_{4a}: Structural assurance is what makes the favorable effect of Perceived Trust and the intention to utilize mobile banking happen.

H_{4b}: Task Characteristic mediates the favorable effect of Perceived Trust and the propensity to use mobile banking.

Basar et al. (2019) assert that mobile banking is rather secure due to features such as multi-factor authentication, automatic lockouts following unsuccessful attempts, real-time fraud monitoring, and end-to-end encryption. McKnight et al. (2002) elucidated that these features protect data and constitute the essence of security assurance

(SA), the institutional procedures that guarantee the safety of the transactional environment. We assert that these concrete security measures are the primary factors influencing a user's perceived security. To put it another way, SA is the most essential method by which digital security measures make people feel safe. This enhanced confidence or assurance is a vital precursor to user satisfaction and, ultimately, behavioral intention in digital contexts, as Zhou et al. (2021) stated. Therefore, SA is posited to mediate the relationship between the objective security features of an app and the user's resulting intention to adopt or persist in utilizing the service. Shareef, Baabdullah, Dutta, Kumar, and Dwivedi (2018) evaluated consumers' intentions to use mobile banking services in three adoption stages, i.e., static stage where consumers can only check account balances or view account and investment-related information and interest, interaction stage where consumers can communicate with service providers for two-way communication, and transactional stage where consumers can accomplish some sensitive financial operations such as money transfer from one account to another and payment of bills, and found that driving factors of consumers' behavioral intentions to adopt mobile banking. In mobile banking contexts, the decision of whether to accept a transfer task is completely under the control of the user. We observed many types of suspicious activities with various degrees of expected harm to customer mobile banking. For example, we observed that many security tasks request customers to provide different types of personally identifiable information, such as their user ID, email addresses, and phone numbers. When people do something that makes the system perform something, that's a task. Real and specific subordinate tasks have a major effect on abstract and value-laden superordinate activities. They both have an effect on the user's choices and the result. It's crucial to study secondary tasks because users focus on the current activity, which has clear and immediate goals, in order to do more abstract tasks. Among various characteristics, *perceived security* is salient in determining the intent to complete a transactional task.

Central to the TTF model is the congruence between a technology's capabilities and the user's task requirements. Task characteristics are specific to the needs of the user's activities, set the level of fit, and can change depending on the situation. In MB, they may include difficulty, need for security, and sense of urgency that come with handling personal finances. A high level of TTF is reached when the technology's features, such as real-time processing and a user-friendly interface, match the needs of the tasks, making it easier for people to accept it. Literature points to a complex relationship. This means that while task features directly and positively affect behavioral intention, they may also impose demands on technology that, if not met, lead to a lower perceived fit, as Wang and Wang (2020) stated. Putting all these ideas together shows that task traits are not only a way to describe something but also an important factor that affects both how well the service fits and the customer's decision to use it. Thus, we suggest the following hypothesis:

H_{5a}: Structural assurance mediates the positive effect of perceived security and behavioral intention to use mobile banking.

H_{5b}: Task Characteristic mediates the positive effect of perceived security and behavioral intention to use mobile banking.

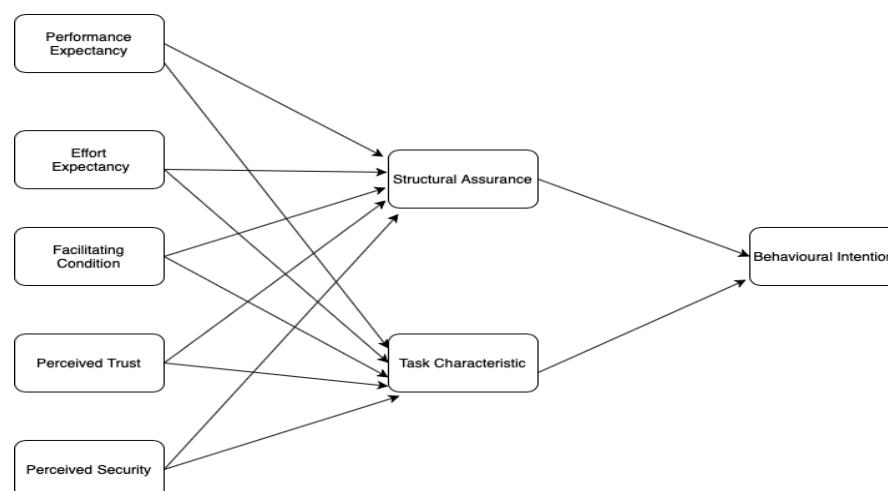


Figure 1. The research model.

3. RESEARCH METHOD

3.1. Instrument

This research employs a cross-sectional survey design for data collection. Based on Iacobucci and Churchill (2010), participants indicate their level of agreement on a scale ranging from strongly disagree to strongly agree. The instrument consists of closed-ended questions measured using a five-point Likert scale, facilitating efficient administration and analysis.

3.2. Measurement Items

The research model comprises eight constructs, each measured using multiple indicators. Straub, Boudreau, and Gefen (2004) stated that most measurement items were adapted from existing studies to ensure content validity. All constructs in the conceptual framework were operationalized using measurement scales validated in prior mobile banking research and reported in peer-reviewed journals. The specific items and their sources are presented in Table 2.

3.3. Sample and Data Collection

This study seeks to examine the mediating effects of structural assurance and task characteristics on behavioral intention to adopt mobile banking in Indonesia. Based on that, it is assumed that the target group is people in Indonesia who use mobile banking. Because there wasn't a complete list of mobile banking customers in Indonesia, this study used a non-probability convenience sampling method to pick respondents. Dillon, Madden, and Firtle (1993) selected this technique to ensure the procurement of an adequate sample size. Alternative sampling methods were considered; however, judgment sampling was deemed unsuitable because it requires researchers to predetermine specific sampling units within the population, while snowball sampling was not applied due to the relatively large sample size required for this study, as Soloff, Lawrence, and Johnstone (2005) stated. We clarify that our objective was not to achieve strict population representativeness for broad generalization but rather to gather valid data to test the hypothesized relationships or nomothetic causality within a relevant user group.

Social media platforms are among the many ways that online surveys can be shared. Facebook claims that because of its extensive usage in Indonesia, where a large portion of the population has access to the platform, it was chosen as the distribution platform and a suitable medium for data collection in this study. The survey was disseminated in six large online groups related to banking, which had members from all over the country and from different banks. This method allowed many people to see the survey. As a result, the survey page had 1,345 views, and 268 people completed the entire questionnaire, as shown in Table 1. We calculated the response rate by dividing the number of completed surveys by the total number of impressions, resulting in a response rate of 19.92%. According to Nulty (2008), this response rate is considered acceptable, given that online surveys generally tend to have lower participation rates than traditional paper-based surveys.

Table 1. Demographics.

Characteristic	Frequency	Percent
Gender		
Male	178	66.41%
Female	90	33.59%
Age		
< 21	34	12.68%
21 – 30	122	45.52%
30 – 40	67	25%
> 40	45	16.8%
Education		
High School or below	45	16.79%
Bachelor	165	61.56%

Characteristic	Frequency	Percent
Master's degree or above	58	21.65%
Employment		
Students	67	25%
Working Professional	201	75%
Months using mobile banking		
< 3	221	82.46%
3 – 12	32	11.94%
> 12	15	5.6%
Total Respondents	268	100%

4. DATA ANALYSIS

4.1. Evaluation of the Reflective Measurement Model

The principal data analysis method utilized in this study was Structural Equation Modeling (SEM). Straub et al. (2004) characterized SEM as a multivariate methodology that concurrently analyzes empirical data and the proposed model to assess both direct and indirect interactions among components. Hair, Matthews, Matthews, and Sarstedt (2017) state that this study employs the Partial Least Squares (PLS) SEM methodology, which is proficient for generating predictions and examining complex structural relationships. Sarstedt, Ringle, Smith, Reams, and Hair Jr (2014) also noted that PLS SEM is an effective way to determine if mediation is partial or full and to analyze the consequences of mediation. We used SmartPLS version 3 to analyze it in two steps. First, the measurement model was evaluated to ensure that the constructs and their indicators are both valid and reliable. Second, the structural model was examined to verify the relationships among latent variables, including the roles of task characteristics and structural assurance. To evaluate the measurement model, indicator loadings were initially analyzed to determine item dependability. Next, Cronbach's alpha and composite reliability (CR) were used to assess internal consistency reliability. Finally, the average variance extracted (AVE) was examined to see how well each construct explained the variance across its indicators. This process tested how well the constructs and indicators function together.

Table 3 shows that indicator loadings are higher than the required level of 0.70. This means, according to Sarstedt et al. (2014), that each construct explains more than 50% of the variance in its indicators. Also, all CR values above 0.70 indicate good internal consistency, as Hair et al. (2017) state. The Cronbach's alpha coefficients range from 0.787 to 0.914, exceeding the minimum acceptable level. The average variance extracted (AVE) values range from 0.605 to 0.809. Fornell and Larcker (1981) state that all constructs have sufficient convergent validity if they exceed the criterion of 0.50.

Discriminant validity, as described by Hair et al. (2017), was assessed using the heterotrait-monotrait (HTMT) ratio of correlations. This method compares correlations between indicators of different constructs with those of the same construct. Following the criterion suggested by Henseler, Ringle, and Sarstedt (2015), a threshold value of 0.90 was applied. As shown in Table 3, all HTMT values are below this threshold, indicating that discriminant validity is well established in the measurement model.

Table 2. Item measurement model.

Item Name	Item	Measures	Cronbach's Alpha	CR	AVE	Sources	Loading Factor
Performance Expectancy	PE1	I think mobile banking is helpful	0.962	0.973	0.898	Modified from Zhou et al. (2021)	0.945
	PE2	Mobile banking enhanced my payment efficiency					0.937
	PE3	Mobile banking enhanced my payment convenience					0.952
	PE4	I can pay for things faster with mobile banking					0.957
Effort Expectancy	EE1	I can easily use mobile banking	0.958	0.969	0.887	Modified from Zhou et al. (2021)	0.952
	EE2	I think that mobile banking is simple to use					0.943
	EE3	It's easy for me to learn how to use mobile banking.					0.943
	EE4	I can easily comprehend how to use mobile banking.					0.930
Facilitating Condition	FC1	I have the resources required to use mobile banking	0.951	0.969	0.912	Modified from Wang and Wang (2020)	0.958
	FC2	I have the knowledge to utilize mobile banking					0.951
	FC3	If I have trouble using mobile banking. There will be a virtual customer service to assist me					0.955
Perceived Trust	PT1	Mobile banking keeps its promises.	0.961	0.971	0.895	Modified from Geebren, Jabbar, and Luo (2021)	0.951
	PT2	Mobile banking services meet my needs					0.940
	PT3	Mobile banking is trustworthy.					0.953
	PT4	I believe mobile banking has my best interests in mind					0.939
Perceived Security	PS1	Transactions by mobile banking are safe.	0.949	0.967	0.907	Modified from Rahi and Abd.Ghani (2019)	0.951
	PS2	My transaction data is protected by secured layer					0.953
	PS3	I feel at ease when conducting transactions through mobile banking.					0.952
Structural Assurance	SA1	I feel confident that encryption and other technological advances on the mobile internet make it safe for me to use mobile banking.	0.949	0.967	0.907	Modified from Geebren et al. (2021)	0.944
	SA2	I feel assured that legal and technological structures adequately protect me from payment problems on the mobile Internet					0.963
	SA3	Mobile Internet is a robust and safe environment in which to use mobile banking.					0.954
Task Characteristics	TC1	I need to transfer money anytime, anywhere.	0.945	0.965	0.901	Modified from Geebren et al. (2021)	0.948
	TC2	I need to manage my account anytime, anywhere.					0.956
	TC3	I need to acquire account information in real time.					0.943
Behavioural Intention	BI1	I think I would utilize mobile banking to manage my account information.	0.936	0.959	0.886	Modified from Wang and Wang (2020)	0.950
	BI2	I am able to develop a habit of using mobile banking soon					0.921
	BI3	I will use mobile banking a lot in the future to manage my cash flow.					0.954

Table 3. Discriminant validity (HTMT).

Construct	Behavioral Intention	Effort Expectancy	Facilitating Condition	Perceived Security	Perceived Trust	Performance Expectancy	Structural Assurance	Task Characteristic
Behavioral Intention	—							
Effort Expectancy	0.758	—						
Facilitating Condition	0.678	0.589	—					
Perceived Security	0.654	0.543	0.632	—				
Perceived Trust	0.712	0.451	0.589	0.557	—			
Performance Expectancy	0.543	0.433	0.512	0.532	0.723	—		
Structural Assurance	0.467	0.567	0.487	0.468	0.533	0.456	—	
Task Characteristic	0.634	0.512	0.698	0.455	0.411	0.424	0.589	—

Table 4. The hypotheses results.

Hypotheses	Relationship	Standardized effect	P-value	Test Result
H1a	Performance Expectancy → Structural Assurance → Behavioural Intention	0.056	0.126	Non-Significant
H1b	Performance Expectancy → Task Characteristic → Behavioural Intention	0.162	0.021	Significant 95%
H2a	Effort Expectancy → Structural Assurance → Behavioural Intention	0.067	0.082	Significant 90%
H2b	Effort Expectancy → Task Characteristic → Behavioural Intention	0.250	0.000	Significant 99%
H3a	Facilitating Condition → Structural Assurance → Behavioural Intention	0.056	0.021	Significant 95%
H3b	Facilitating Condition → Task Characteristic → Behavioural Intention	0.103	0.095	Significant 90%
H4a	Perceived Trust → Structural Assurance → Behavioural Intention	0.056	0.084	Significant 90%
H4b	Perceived Trust → Task Characteristic → Behavioural Intention	0.071	0.210	Non-Significant
H5a	Perceived Security → Structural Assurance → Behavioural Intention	0.071	0.026	Significant 95%
H5b	Perceived Security → Task Characteristic → Behavioural Intention	0.026	0.610	Non-Significant

4.2. The Outcome of the Mediation Analysis

The mediation effects were tested using the bootstrapping procedure in PLS-SEM (Hair et al., 2017). The results, summarized in Table 4, confirm the significant mediating roles of both Structural Assurance (SA) and Task Characteristic (TC) in the model, albeit for different antecedents. A clear pattern emerges from the analysis. Structural Assurance significantly mediated the relationship between Effort Expectancy (EE), Facilitating Condition (FC), Perceived Trust (PT), and Perceived Security (PS) on Behavioral Intention (BI). However, the mediation between PE and BI was not significant. Conversely, TC had a substantial effect on the pathways from PE, EE, and FC to BI. Its mediation functions for PT and PS were not supported. As a result, hypotheses H2a, H2b, H3a, H3b, H4a, and H5a were validated. H1b was supported, whereas H1a was not. There was no evidence to support hypotheses H4b and H5b. Figure 2 illustrates the research model, explaining the influence between variables based on path analysis coefficients.

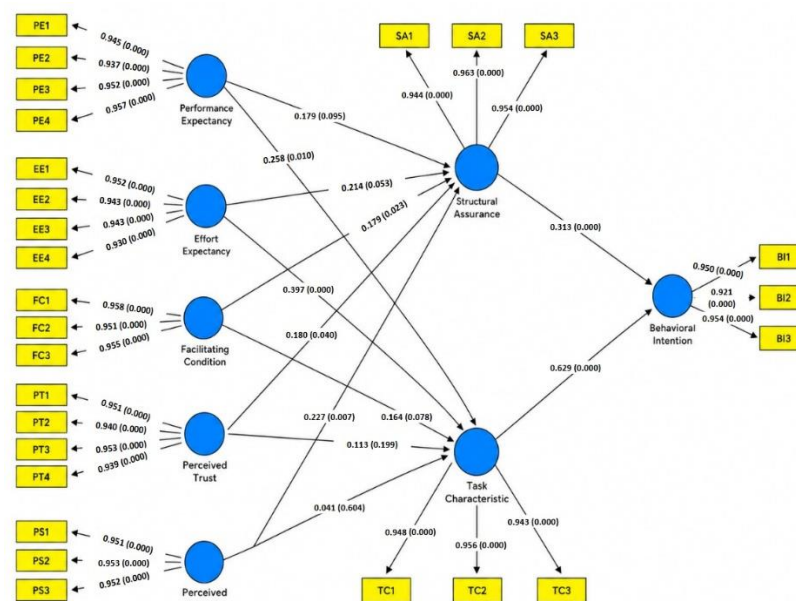


Figure 2. The Result Model.

4.3. Assessment of the Structured Model

The evaluation of the structural model shows how well it can anticipate outcomes. The model accounts for 81% of the variance in BI ($R^2 = 0.81$), indicating substantial explanatory power, as per (Chin, 1998). The Stone-Geisser Q^2 value for BI was positive (>0), confirming that the model could predict the endogenous construct. We also provided R^2 values for the two mediating constructs, SA and TC, which is a good method to show PLS-SEM results. We preserved the R^2 number in the Discussion section but modified the phrasing to avoid repetition. Instead, we discussed how to compare it. This model has a higher R^2 value (0.81) than other models in similar conditions.

5. DISCUSSIONS

This study aimed to investigate the primary mediating functions of SA and TC between five essential antecedents, PE, EE, FC, PT, and PS, and BI in MB. According to established criteria (Chin, 1998), the integrated model explained 81% ($R^2 = 0.81$) of the variance in BI, a statistically significant value. It also explained BI better than earlier models (e.g., Wang and Wang (2020) with $R^2 = 0.68$). This substantiates that SA and TC are direct and essential antecedents of BI.

The study makes two important contributions. First, it demonstrates that SA is an essential mediator that has not been extensively studied. Our research shows that SA is the most effective means of influencing an individual's intention to act, surpassing other factors such as EE, PT, and FC in this mediating pathway. Baptista and Oliveira (2015) and Zhou et al. (2021) assert that this addresses a notable gap in the literature, as prior research has mainly focused on SA as either an independent construct or a byproduct of trust, without directly evaluating its mediating role between core UTAUT/TAM predictors and intention. Wu and Chen (2017) stated that this is because users are becoming more proficient with technology, which increases their confidence in the system's security infrastructure. The adequate provision of resources (e.g., devices, networks) via FC reduces perceived effort and enhances this assurance.

Moreover, for the TAM model, perceived security has been more influential on SA rather than PT, and then increases customer behavior to use mobile banking. Our research expands and contributes to the literature on understanding the complicated role of institutional structures in the banking context (Fang et al., 2014; Malhotra, Sahadev, Leeftang, & Purani, 2021) by demonstrating that PT and security significantly bolster the positive effect of SA on BI. This finding, as told by Malhotra et al. (2021), retains particular significance within the information-intensive e-banking sector, where pronounced information asymmetry exists. In such an environment, according to Wells, Valacich, and Hess (2011), consumers largely rely on observable indicators, such as strong structural assurance, to determine the transaction platform's security and inform their choices. Laroche, Yang, McDougall, and Bergeron (2005) stated that online transactions are generally perceived as riskier than offline transactions, with a strong perception of structural assurance functioning as an important risk mitigation tool. They address worries about both behavioral uncertainty (like how trustworthy a vendor is) and environmental uncertainty (like how safe a system is). Kesharwani and Bisht (2012) note that this job is especially important in economies that are not highly advanced yet. This is because security problems that are frequent are often attributed to poor adoption rates of digital banking. Structural guarantees that are clear and reliable are not only helpful but also necessary for encouraging adoption.

The latter portion of this study investigates the indirect influences of PE, EE, FC, PT, and PS on BI via TC. From a UTAUT perspective, the results demonstrate that all mobile banking acceptability factors affect behavioral intention indirectly through trust. From a TAM perspective, the results demonstrate that all factors affecting mobile banking acceptability influence behavioral intention indirectly through trust. Building on this stream of research, this study further highlights the role of EE as the strongest antecedent mediated by TC. This finding suggests that when mobile banking applications are designed with features that closely support users' financial tasks, such as real-time account monitoring, liquidity management tools, and dashboards that show their information in one

place. As a result, users perceive mobile banking as easier to use and less effort-intensive, thereby strengthening their intention to adopt the service.

In contrast, the TAM model indicates that PT and PS exert no substantial influence on TC, despite increasing user intention to adopt MB. However, it contrasts with the findings of Geebren et al. (2021), who indicated direct effects of PT and PS on TC. This is a very important problem for MB since customers might fear that wireless networks make them easy targets for hackers and data theft. To attract more people to use MB, you need to make them feel safer and more trusting. When users believe that their information is safe and their transactions are private, they are more likely to trust the system. This makes them assume that MB is a good way to conduct money-related chores.

6. IMPLICATIONS

6.1. Implications for Theory and Practice

This investigation has both theoretical and practical implications. The results, from a theoretical standpoint based on an Indonesian sample, confirm the established relationships proposed in UTAUT and TAM, thereby supporting the applicability of these models in explaining MB adoption. Moreover, this study advances the literature by integrating UTAUT and TAM with the TTF framework and by examining several underexplored relationships across these models, such as the links between TC and EE, as well as between SA and PE. The results also provide empirical support for the interaction between TAM and TTF by validating the relationships between PT and SA and between PS and SA. Overall, the integrated acceptance model extends existing theories by demonstrating the critical role of TTF in shaping users' BI to adopt MB.

The findings suggest that managers aiming to increase the adoption and continued use of MB should focus on enhancing PE, EE, FC, PT, and PS. These aspects are still very important, even though MB systems are improving. People like TC and SA because they are quite similar. Banks might enhance MB services by speeding up the mechanism, making it less disruptive and more useful, as well as offering services specific to each customer. To establish trust with clients, boost PS, and maintain MB service usage, it is necessary to use substantial security measures and ensure that SA rules are clear.

6.2. Policy Implications

The outcomes carry important policy implications because SA plays a vital role in connecting PS and BI. The Indonesian Financial Services Authority (OJK) should prioritize establishing clear, transparent policies for MB, especially regarding digital security and data protection. This involves setting standards for strong encryption, promoting more secure login methods beyond SMS-based OTP, and ensuring simple, reliable processes for customers to submit and resolve complaints.

In order to build user trust and attract people to use a service, it needs strong organizational frameworks, such as advanced authentication requirements and good ways to handle complaints. Second, the features of tasks are crucial; therefore, authorities should back mobile banking designs that fit the financial tasks of individuals who are underprivileged. Micro companies, farmers, and informal workers can get more money by using simplified interfaces, localized features, and task-oriented capabilities. Third, it is important to show that government agencies, banks, and telecommunications providers work together to increase digital infrastructure and financial literacy, especially in areas that are not as developed.

7. CONCLUSIONS, LIMITATIONS, AND FUTURE RESEARCH

7.1. Conclusions

This study empirically illustrates that individual-level structural assurance increases customer propensity to utilize mobile banking services. Our findings indicate that structural assurance serves as the most significant factor

connecting perceived security and behavioral intention, in contrast to effort expectancy, perceived trust, and facilitating conditions as precursors of behavioral intention. In the TAM model, perceived security has a greater impact on structural assurance than perceived trust, thereby enhancing customer behavior towards mobile banking usage. Our study, grounded in the UTAUT framework, found that all mobile banking acceptance factors indirectly influence behavioral intention through task characteristics, except for perceived trust and perceived security, which did not function as antecedents in this pathway. In examining the mediating role of task characteristics, it is worth noting that their strongest mediating effect was observed in the relationship with effort expectancy.

7.2. Limitations and Future Research

This section clearly presents several important limitations of the study. First, we acknowledge that the sample is not fully representative of the Indonesian mobile banking user population. Most of the people who answered were men, at 66.4%, and working professionals, at 75%. This means that the descriptive data, including mean values and reported adoption levels, cannot be used to establish conclusions about the full country. Second, the study admits that self-selection bias may be present. People who chose to take part in the poll may have a better attitude toward, be more interested in, or know more about mobile banking than those who didn't, which could influence the results. Third, we see the possibility of bias from using Facebook to collect data. This is because those who don't use Facebook are not included, adding another source of sample bias. These problems are closely related to suggestions for more research in the future.

Future research should use stratified or quota sampling to ensure demographic balance or employ national consumer panels to verify if the strength and importance of mediating channels are consistent across different groups. Specifically, subsequent studies should adopt more robust sampling methods, such as stratified random sampling, quota sampling aligned with national demographic profiles, or professional research panels, to improve representativeness and external validity.

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REFERENCES

- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179-211. [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)
- Alalwan, A. A., Dwivedi, Y. K., & Rana, N. P. (2017). Factors influencing adoption of mobile banking by Jordanian bank customers: Extending UTAUT2 with trust. *International Journal of Information Management*, 37(3), 99-110. <https://doi.org/10.1016/j.ijinfomgt.2017.01.002>
- Baabdullah, A. M., Alalwan, A. A., Rana, N. P., Kizgin, H., & Patil, P. (2019). Consumer use of mobile banking (M-Banking) in Saudi Arabia: Towards an integrated model. *International Journal of Information Management*, 44, 38-52. <https://doi.org/10.1016/j.ijinfomgt.2018.09.002>
- Baptista, G., & Oliveira, T. (2015). Understanding mobile banking: The unified theory of acceptance and use of technology combined with cultural moderators. *Computers in Human Behavior*, 50, 418-430. <https://doi.org/10.1016/j.chb.2015.04.024>

- Basar, E., Di Renzo, M., De Rosny, J., Debbah, M., Alouini, M.-S., & Zhang, R. (2019). Wireless communications through reconfigurable intelligent surfaces. *IEEE Access*, 7, 116753-116773. <https://doi.org/10.1109/ACCESS.2019.2935192>
- Ben Mansour, K. (2016). An analysis of business' acceptance of internet banking: An integration of e-trust to the TAM. *Journal of Business & Industrial Marketing*, 31(8), 982-994. <https://doi.org/10.1108/JBIM-10-2016-271>
- Blut, M. (2016). E-service quality: Development of a hierarchical model. *Journal of Retailing*, 92(4), 500-517. <https://doi.org/10.1016/j.jretai.2016.09.002>
- Chen, K., & Chan, A. H. S. (2014). Gerontechnology acceptance by elderly Hong Kong Chinese: A senior technology acceptance model (STAM). *Ergonomics*, 57(5), 635-652. <https://doi.org/10.1080/00140139.2014.895855>
- Chin, W. W. (1998). Issues and opinion on structural equation modeling. *MIS Quarterly*, 22(1), 1-7. <https://doi.org/10.2307/249674>
- Choudrie, J., Junior, C.-O., McKenna, B., & Richter, S. (2018). Understanding and conceptualising the adoption, use and diffusion of mobile banking in older adults: A research agenda and conceptual framework. *Journal of Business Research*, 88, 449-465. <https://doi.org/10.1016/j.jbusres.2017.11.029>
- Crabbe, M., Standing, C., Standing, S., & Karjaluoto, H. (2009). An adoption model for mobile banking in Ghana. *International Journal of Mobile Communications*, 7(5), 515-543. <https://doi.org/10.1504/IJMC.2009.024391>
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319-340. <https://doi.org/10.2307/249008>
- Dillon, W. R., Madden, T. J., & Firtle, N. H. (1993). *Essentials of marketing research* (2nd ed.). Homewood, IL: Irwin
- Dishaw, M. T., & Strong, D. M. (1999). Extending the technology acceptance model with task-technology fit constructs. *Information & Management*, 36(1), 9-21. [https://doi.org/10.1016/S0378-7206\(98\)00101-3](https://doi.org/10.1016/S0378-7206(98)00101-3)
- Fang, Y., Qureshi, I., Sun, H., McCole, P., Ramsey, E., & Lim, K. H. (2014). Trust, satisfaction, and online repurchase intention: The moderating role of perceived effectiveness of e-commerce institutional mechanisms. *MIS Quarterly*, 38(2), 407-428. <https://doi.org/10.25300/MISQ/2014/38.2.04>
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39-50. <https://doi.org/10.2307/3151312>
- Gebauer, J., & Ginsburg, M. (2009). Exploring the black box of task-technology fit. *Communications of the ACM*, 52(1), 130-135. <https://doi.org/10.1145/1435417.1435447>
- Geebren, A., Jabbar, A., & Luo, M. (2021). Examining the role of consumer satisfaction within mobile eco-systems: Evidence from mobile banking services. *Computers in Human Behavior*, 114, 106584. <https://doi.org/10.1016/j.chb.2020.106584>
- Goodhue, D. L., & Thompson, R. L. (1995). Task-technology fit and individual performance. *MIS Quarterly*, 19(2), 213-236. <https://doi.org/10.2307/249689>
- Hair, J. J. F., Matthews, L. M., Matthews, R. L., & Sarstedt, M. (2017). PLS-SEM or CB-SEM: Updated guidelines on which method to use. *International Journal of Multivariate Data Analysis*, 1(2), 107-123. <https://doi.org/10.1504/IJMDA.2017.087624>
- Hanif, Y., & Lallie, H. S. (2021). Security factors on the intention to use mobile banking applications in the UK older generation (55+). A mixed-method study using modified UTAUT and MTAM - with perceived cyber security, risk, and trust. *Technology in Society*, 67, 101693. <https://doi.org/10.1016/j.techsoc.2021.101693>
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, 43(1), 115-135. <https://doi.org/10.1007/s11747-014-0403-8>
- Iacobucci, D., & Churchill, G. A. (2010). *Marketing research: Methodological foundations* (10th ed.). Mason, OH: South-Western Cengage Learning.
- Jadil, Y., Rana, N. P., & Dwivedi, Y. K. (2021). A meta-analysis of the UTAUT model in the mobile banking literature: The moderating role of sample size and culture. *Journal of Business Research*, 132, 354-372. <https://doi.org/10.1016/j.jbusres.2021.04.052>

- Junglas, I., Abraham, C., & Watson, R. T. (2008). Task-technology fit for mobile locatable information systems. *Decision Support Systems*, 45(4), 1046-1057. <https://doi.org/10.1016/j.dss.2008.02.007>
- Kesharwani, A., & Bisht, S. S. (2012). The impact of trust and perceived risk on internet banking adoption in India: An extension of technology acceptance model. *International Journal of Bank Marketing*, 30(4), 303-322. <https://doi.org/10.1108/02652321211236923>
- Laroche, M., Yang, Z., McDougall, G. H. G., & Bergeron, J. (2005). Internet versus bricks-and-mortar retailers: An investigation into intangibility and its consequences. *Journal of Retailing*, 81(4), 251-267. <https://doi.org/10.1016/j.jretai.2004.11.002>
- Laukkanen, T. (2016). Consumer adoption versus rejection decisions in seemingly similar service innovations: The case of the Internet and mobile banking. *Journal of Business Research*, 69(7), 2432-2439. <https://doi.org/10.1016/j.jbusres.2016.01.013>
- Lee, C.-C., Cheng, H. K., & Cheng, H.-H. (2007). An empirical study of mobile commerce in insurance industry: Task-technology fit and individual differences. *Decision Support Systems*, 43(1), 95-110. <https://doi.org/10.1016/j.dss.2005.05.008>
- Malaquias, R. F., & Hwang, Y. (2016). An empirical study on trust in mobile banking: A developing country perspective. *Computers in Human Behavior*, 54, 453-461. <https://doi.org/10.1016/j.chb.2015.08.039>
- Malhotra, N., Sahadev, S., Leeftang, P. S. H., & Purani, K. (2021). New insights into e-loyalty of internet banking users in an emerging market context: A multilevel analysis. *Information Systems Frontiers*, 23(6), 1521-1536. <https://doi.org/10.1007/s10796-020-10046-z>
- McKnight, D. H., Choudhury, V., & Kacmar, C. (2002). The impact of initial consumer trust on intentions to transact with a web site: A trust building model. *The Journal of Strategic Information Systems*, 11(3-4), 297-323. [https://doi.org/10.1016/S0963-8687\(02\)00020-3](https://doi.org/10.1016/S0963-8687(02)00020-3)
- Miltgen, C. L., Popovič, A., & Oliveira, T. (2013). Determinants of end-user acceptance of biometrics: Integrating the “Big 3” of technology acceptance with privacy context. *Decision Support Systems*, 56, 103-114. <https://doi.org/10.1016/j.dss.2013.05.010>
- Nulty, D. D. (2008). The adequacy of response rates to online and paper surveys: What can be done? *Assessment & Evaluation in Higher Education*, 33(3), 301-314. <https://doi.org/10.1080/02602930701293231>
- Oliveira, T., Faria, M., Thomas, M. A., & Popovič, A. (2014). Extending the understanding of mobile banking adoption: When UTAUT meets TTF and ITM. *International Journal of Information Management*, 34(5), 689-703. <https://doi.org/10.1016/j.ijinfomgt.2014.06.004>
- Rahi, S., & Abd.Ghani, M. (2019). Investigating the role of UTAUT and e-service quality in internet banking adoption setting. *The TQM Journal*, 31(3), 491-506. <https://doi.org/10.1108/TQM-02-2018-0018>
- Santos, J. (2003). E-service quality: A model of virtual service quality dimensions. *Managing Service Quality: An International Journal*, 13(3), 233-246. <https://doi.org/10.1108/09604520310476490>
- Sarstedt, M., Ringle, C. M., Smith, D., Reams, R., & Hair Jr, J. F. (2014). Partial least squares structural equation modeling (PLS-SEM): A useful tool for family business researchers. *Journal of Family Business Strategy*, 5(1), 105-115. <https://doi.org/10.1016/j.jfbs.2014.01.002>
- Shareef, M. A., Baabdullah, A., Dutta, S., Kumar, V., & Dwivedi, Y. K. (2018). Consumer adoption of mobile banking services: An empirical examination of factors according to adoption stages. *Journal of Retailing and Consumer Services*, 43, 54-67. <https://doi.org/10.1016/j.jretconser.2018.03.003>
- Soloff, C., Lawrence, D., & Johnstone, R. (2005). *The Longitudinal Study of Australian Children: Sample design*. LSAC Technical Paper No. 1. Melbourne, Australia: Australian Institute of Family Studies.
- Straub, D., Boudreau, M.-C., & Gefen, D. (2004). Validation guidelines for IS positivist research. *Communications of the Association for Information Systems*, 13(1), 380-427. <https://doi.org/10.17705/1CAIS.01324>
- Tarhini, A., El-Masri, M., Ali, M., & Serrano, A. (2016). Extending the UTAUT model to understand the customers’ acceptance and use of internet banking in Lebanon: A structural equation modeling approach. *Information Technology & People*, 29(4), 830-849. <https://doi.org/10.1108/ITP-02-2014-0034>

- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 27(3), 425-478. <https://doi.org/10.2307/30036540>
- Wang, W. Y. C., & Wang, Y. (2020). Analytics in the era of big data: The digital transformations and value creation in industrial marketing. *Industrial Marketing Management*, 86, 12-15. <https://doi.org/10.1016/j.indmarman.2020.01.005>
- Wells, J. D., Valacich, J. S., & Hess, T. J. (2011). What signal are you sending? How website quality influences perceptions of product quality and purchase intentions. *MIS Quarterly*, 35(2), 373-396. <https://doi.org/10.2307/23044048>
- Wu, B., & Chen, X. (2017). Continuance intention to use MOOCs: Integrating the technology acceptance model (TAM) and task technology fit (TTF) model. *Computers in Human Behavior*, 67, 221-232. <https://doi.org/10.1016/j.chb.2016.10.028>
- Zhou, Q., Lim, F. J., Yu, H., Xu, G., Ren, X., Liu, D., . . . Xu, H. (2021). A study on factors affecting service quality and loyalty intention in mobile banking. *Journal of Retailing and Consumer Services*, 60, 102424. <https://doi.org/10.1016/j.jretconser.2020.102424>

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