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**Customer Attitude towards Digital Banking Adoption
in Sudan using the Expanded Task Technology Fit and
the Technology Acceptance Model**

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ABSTRACT

Digitization is crucial to the financial industry and greatly enhances bank performance. However, studies indicate that adoption of digital banking has not received sufficient attention from customers, especially in the Sudanese context. To address this gap, this study examined the key factors of digital banking adoption. The study employed a quantitative approach and proposed a conceptual model comprising perceived usefulness, perceived ease-of-use, behavioral intention, task technology fit, task technology misfit, and adoption of digital banking. To validate the conceptual model, 238 employees from Sudanese banks completed questionnaires. Exploratory factor analysis validated the questionnaire using Statistical Package for the Social Sciences version 27, and Structural equation modeling was also applied to analyze the data through Analysis of Moment Structures version 22. The findings reveal that perceived usefulness and perceived ease of use have a significant direct effect on digital banking adoption, whereas task-technology fit has an indirect effect through perceived usefulness. Behavioral intention and task-technology misfit were found to have no significant direct effect on adoption. These results indicate that digital banking adoption in Sudan is driven primarily by functional utility and usability rather than intention-based attitudes. The study contributes theoretically by extending TAM with task-technology misfit and empirically by providing context-specific insights for digital banking adoption in fragile economies.

Keywords: Digital banking, Technology Acceptance Model, Task-Technology Fit, Task-Technology Misfit, Structural Equation Modeling (SEM)

INTRODUCTION

The digital revolution necessitates a giant transformation, particularly in the banking sector, leading to changes in the financial roadmap and the provision of banking services anytime, anywhere (Madusanka & Kumari, 2021). Keeping up with digital technology is crucial, and ignoring it could put institutions in a bottleneck in terms of customer retention and competitiveness against fierce rivals. Therefore, integrating with technology is essential for improving financial services. Banks face numerous challenges in implementing digital banking, especially with the evolution of information systems (Duan et al., 2023). Banks face numerous challenges in implementing digital banking, especially with the evolution of information systems. There is a need to optimize processes and develop human resources through this digital technology. This requires significant investments within limited budgets. Investigating the effects of digital banking services and transformation on bank performance is essential, as digital banking allows access to financial services through electronic devices, enhancing money management (Pazarbasioglu et al., 2020).

Digital banking services include several forms. E-banking provides automated access to banking products (Bashaija, 2021), while mobile banking enhances transaction convenience via mobile devices (Zeeshan et al., 2025). Digital payment services facilitate quick electronic exchanges, and mobile wallets enable cashless transactions (Chin, 2025). Digital lending platforms leverage blockchain for asset borrowing and lending without intermediaries (Mach et al., 2023). UPI allows real-time mobile payments, and neobanks offer online banking without physical branches, often with lower fees and better interest rates than traditional banks (Kanujiya et al., 2025).

The ongoing war in Sudan, starting in April 2023, has caused significant damage to the basic infrastructure and economic consequences, including increased commodity prices and a significant impact on poor households. The political and conflict instability are expected to create challenges for the banking system, including budget deficit, inflation, and reliance on the Central Bank of Sudan (Sudan's Banking System : Challenges and Opportunities, n.d.). In Sudan, Digital banking is an emerging field influenced by several factors, e.g., technology, consumer preferences, and financial initiatives. This study aims to address gaps in the understanding of digital banking adoption in Sudan, focusing on the factors that trigger adoption. (Sciences et al., 2024; Rahi et al., 2019).

The study examines factors influencing customers to adopt digital banking, through Perceived usefulness, Perceived ease-of-use, Behavioral intention, Task-technology fit, and task-technology misfit as factors of the Expanded Task–Technology Fit and Technology Acceptance Model (ETTF-TAM) (B. Kaur & Batra, 2023; Albort-morant et al., 2022). In the context of digital banking, perceived usefulness refers to the extent to which a customer believes that using a particular technology will improve their execution. Perceived ease of use is the degree to which a user accepts employing a specific technology as straightforward (Rajput et al., 2025). Behavioral intention is influenced by some factors, e.g., perceived usefulness, ease of use, risk perception, and behavioral control (Bashir & Madhavaiah, 2026). In addition, Task-technology fit is crucial for ensuring that the technology used is effectively suited to their tasks. This alignment can support perceived usefulness, ease of use, and the intention to adopt digital banking (Wang, 2024). Task-technology misfit occurs when a technology has insufficient features of a task. It is important to recognize this misfit to enhance the adoption and efficacy of technology in the banks (Howard, 2023).

The purpose of this study is to explore the factors of the adoption of digital banking by customers in Sudanese banks using the ETTF-TAM model. Specifically, the study aims to:

- To illustrate determinants of the adoption of digital banking in Sudanese Banks.
- To determine the obstacles faced by customers in the adoption of digital banking in Sudan.
- To offer valuable insights into optimal methodologies and approaches for effectively adopting digital banking within the financial services industry.

LITERATURE REVIEW

Customers Attitude and Determinant Factors of Digital Banking in Sudan

Customers attitudes toward digital banking encompass the perceptions, beliefs, and behavioral inclinations of consumers regarding the use of digital financial services, including mobile banking, internet banking, and electronic payments. These attitudes significantly influence the acceptance or rejection of digital banking technologies among customers (Divekar & Shiva, 2024). In the context of Sudan, these consumer attitudes are primarily influenced by factors outlined in The Expanded Task–Technology Fit and Technology Acceptance Model (ETTF-TAM), which helps to explain how various technological and contextual elements affect users' acceptance of digital banking systems (Haroun et al., 2016).

Sudan differs from other emerging economies in that the adoption of digital banking is influenced by a distinct set of institutional, technological, and economic factors (Troya et al., 2022). Long-term economic instability, a lack of digital infrastructure, legislative changes, and interruptions to conventional banking operations are among the factors shaping the Sudanese banking industry (Hamza et al., 2022). ETTF-TAM is especially applicable in Sudan due to these circumstances, which have increased the strategic significance of digital banking while also limiting its acceptance.

Task–Technology Fit in Sudan indicates that platforms with reliable transactions and essential functions are more widely accepted, while those failing to meet user needs are less likely to be adopted (Mohamed & Hassan, 2025). The ETTF-TAM model emphasizes that a good task–technology fit increases perceived usefulness and ease of use, whereas Task–Technology Misfit hinders adoption due to issues like platform instability and poor integration, highlighting the challenges faced in Sudan's banking environment (Venkatesh et al., 2012) (Albort-morant et al., 2022).

Empirical Evidences from Sudan

In Sudan, research has analyzed banking technologies and customer acceptance, with significant insights from several studies. Hassan & Mansou (2025) pointed out that although internet banking users emphasize benefits and credibility, mobile banking customers focus on benefits, while ATM users value convenience and service quality (Hassan & Mansour, 2025). According to Aisha et al. (2024), the acceptance of e-banking is significantly influenced by security, dependability, and user-friendly designs (Aisha et al., 2024). According to Abubker et al. (2022), hedonic motivation and perceived price have a negative impact on intentions, but user satisfaction has a positive im-

impact on the uptake of mobile payments. These findings imply that to encourage the adoption of technology, Sudanese banks should match their offerings to customer preferences (Abubker et al., 2022).

Khater et al. (2020) examined age as a moderating factor in the link between effects on the behavioral intention to use online banking within the UTAUT model in Khartoum. Using 137 questionnaires and 100 valid replies, the study highlighted the importance of demographic aspects in tech adoption by finding that age has a substantial impact on the interplay among Effort expectation, social influence, and Performance expectancy (Khater et al., 2020). On the other hand, Ismail & Osman (2012) used a self-administered survey that received 269 valid responses to examine how Sudanese retail clients used e-banking. Although they found no significant correlations with gender, marital status, education, or occupation, their findings showed that e-banking services, particularly ATMs, were widely used, particularly by high-income and digitally literate clientele (Ismail & Osman, 2012). Furthermore, they identified eleven barriers to e-banking adoption, such as technical difficulties, lack of awareness, and high costs.

Sudanese studies predominantly use intention-based models and descriptive analyses, which provide minimal understanding of the impact of task alignment and misfit on adoption (Aisha et al., 2024; (Abubker et al., 2022)(Khater et al., 2020)Ismail & Osman, 2012). Additionally, there is a lack of advanced analytical methods, like structural equation modeling, to validate comprehensive theoretical frameworks.

METHODOLOGY

The study uses a cross-sectional survey and a quantitative, explanatory research approach to examine the factors impacting Sudan's adoption of digital banking. A systematic questionnaire that assessed digital banking constructs using validated five-point Likert scales was used to gather data from 238 seasoned bank clients of Sudanese commercial banks. The research tests the Extended Task–Technology Fit and Technology Acceptance Model (ETTF-TAM) with variables including perceived usefulness, perceived ease of use, and behavioral intention. Content validity was ensured through expert reviews tailored to the Sudanese banking context. With an emphasis on reliability analysis, exploratory factor analysis (EFA), and confirmatory factor analysis (CFA), the data were analyzed using SPSS version 27 and AMOS version 22 (Rattanachaihada et al., 2025) (Khine et al., 2018). Relationships were evaluated using structural equation modeling (SEM) in the ETTF-TAM framework (Blunch, 2012) and a minimum of mathematical knowledge, this is the ideal guide

for those new to SEM. Each chapter begins with learning objectives, and ends with a list of the new concepts introduced and questions to open up further discussion. Exercises for each chapter, including the necessary data, can be downloaded from the book's website. Helpful real life examples are included throughout, drawing from a wide range of disciplines including psychology, political science, marketing and health. Introduction to Structural Equation Modelling using SPSS and AMOS provides engaging and accessible coverage of all the basics necessary for using SEM, making it an invaluable companion for students taking introductory SEM courses in any discipline. (PsycINFO Database Recordc) .

Factoring Analysis

Factor analysis is a method used to identify underlying factors and explore their relationships with observed variables, which helps in reducing data dimensionality (Amos & Jones, 2025).. It utilizes the maximum likelihood estimation. This study employed a multi-step analytical approach, utilizing EFA for instrument validation, CFA for measurement model validation, and SEM to evaluate the conceptual model, reflecting a rigorous process in data analysis (Blunch, 2012).

Validation of the study Model

The study investigated the validity of constructs influencing digital banking adoption, focusing on perceived usefulness, perceived ease-of-use, behavioral intention, task-technology fit, and task-technology misfit through EFA of 31 items. Results showed that two items, TTF3 and ADB5, demonstrated unexpected cross-loading across dimensions, challenging the study's framework and validation process. The study validated the scale of factors by removing cross-loaded items. EFA results showed a high intercorrelation among the PU, PE, BI, TTF, TTM, and ADB scales (greater than 0.796). The Kaiser-Meyer-Olkin (KMO) test (Bernard et al., 2020) showed a statistically significant connection between items ($p = 0.000$) and an appropriateness score of 0.891 for EFA. These results were supported by Bartlett's Test of Sphericity, which yielded a chi-square value of 7212.6663. The items showed no multicollinearity, with a correlation of no more than 0.8. The six factors were identified through EFA with varimax rotation, explaining 38.281% of total variance. The highest eigenvalue observed was 11.101 for the first component, with subsequent valid components at 3.8326, 2.7022, 2.2234, 1.5915, and 1.3910. Communalities for all items in these factors exceeded 0.50.

After item deletion, a rotated component matrix revealed six components related to digital banking: PU, PE, BI, TTF, TTM, and ADB. PE accounted for 38.28% of the variance with loadings between

0.898 and 0.656. Task technology fit explained 13.22% with loadings from 0.910 to 0.768. Task technology misfit represented 9.32% variance with loadings of 0.890 to 0.830. Adoption of digital banking showed 7.67% variance, while behavioral intention and perceived usefulness contributed 5.49% and 4.80%, respectively, with corresponding loadings in their components. Convergent validity and composite reliability Results are illustrated in Table 1.

Table 1: Convergent Validity and Composite Reliability Results

Construct	Items	Composite Reliability	Average Variance Extracted	Convergent Validity
(Perceived Ease of Use (PE	5	0.919	0.694	Established
(Task–Technology Fit (TTF	5	0.931	0.730	Established
(Task–Technology Misfit (TTM	5	0.920	0.698	Established
(Adoption of Digital Banking (ADB	4	0.918	0.736	Established
(Behavioral Intention (BI	5	0.877	0.588	Established
(Perceived Usefulness (PU	5	0.832	0.503	Established

Source: The output of AMOS 22

The Five-Factor Measurement Model of ETTF-TAM

Task technology fit, task technology misfit, behavioral intention, perceived utility, and perceived ease of use are the five dimensions that configure the ETTF-TAM. These factors were examined using EFA, and their interrelationships were tested using CFA. Using 25 items from the EFA, the CFA model demonstrated significant construct loadings exceeding 0.71. The model did not meet the necessary criteria, according to fit statistics: $DF = 265$, $CMIN = 860.129$, $p < 0.000$, $RMSEA = 0.097$, $TLI = 0.884$, and $CFI = 0.897$. Modifications are needed to improve fit and address multi-collinearity, as indicated by high modification indices in the AMOS output. The ETTF-TAM consists of five dimensions: perceived usefulness, perceived ease-of-use, behavioral intention, task technology fit, and task technology misfit. EFA was conducted, followed by CFA, which revealed significant construct loadings over 0.71. Despite this, the model's fit statistics were inadequate, with $DF = 265$, $CMIN = 860.129$, $p < 0.000$, $RMSEA = 0.097$, $TLI = 0.884$, and $CFI = 0.897$. Modifications are necessary to enhance the model fit and address multi-collinearity indicated by high modification indices from AMOS. The estimated covariance matrix of the revised Five-Factor Measurement Model is shown in Table 2.

Table 2: Estimated Covariance Matrix of the Revised Five-Factor Measurement Model

Covariance Path	Estimate	.S.E	.C.R	P-value
PU ↔ PE	0.143	0.021	6.934	***
PU ↔ BI	0.120	0.021	5.809	***
PU ↔ TTF	0.116	0.021	5.523	***
PU ↔ TTM	0.100–	0.024	4.072–	***

Covariance Path	Estimate	.S.E	.C.R	P-value
PE ↔ BI	0.108	0.021	5.188	***
PE ↔ TTF	0.067	0.017	4.020	***
PE ↔ TTM	0.082-	0.026	3.088-	***
BI ↔ TTF	0.140	0.022	6.257	***
BI ↔ TTM	0.041-	0.032	1.301-	0.193
TTF ↔ TTM	0.018-	0.025	0.716-	0.474

Source: The output of AMOS 22

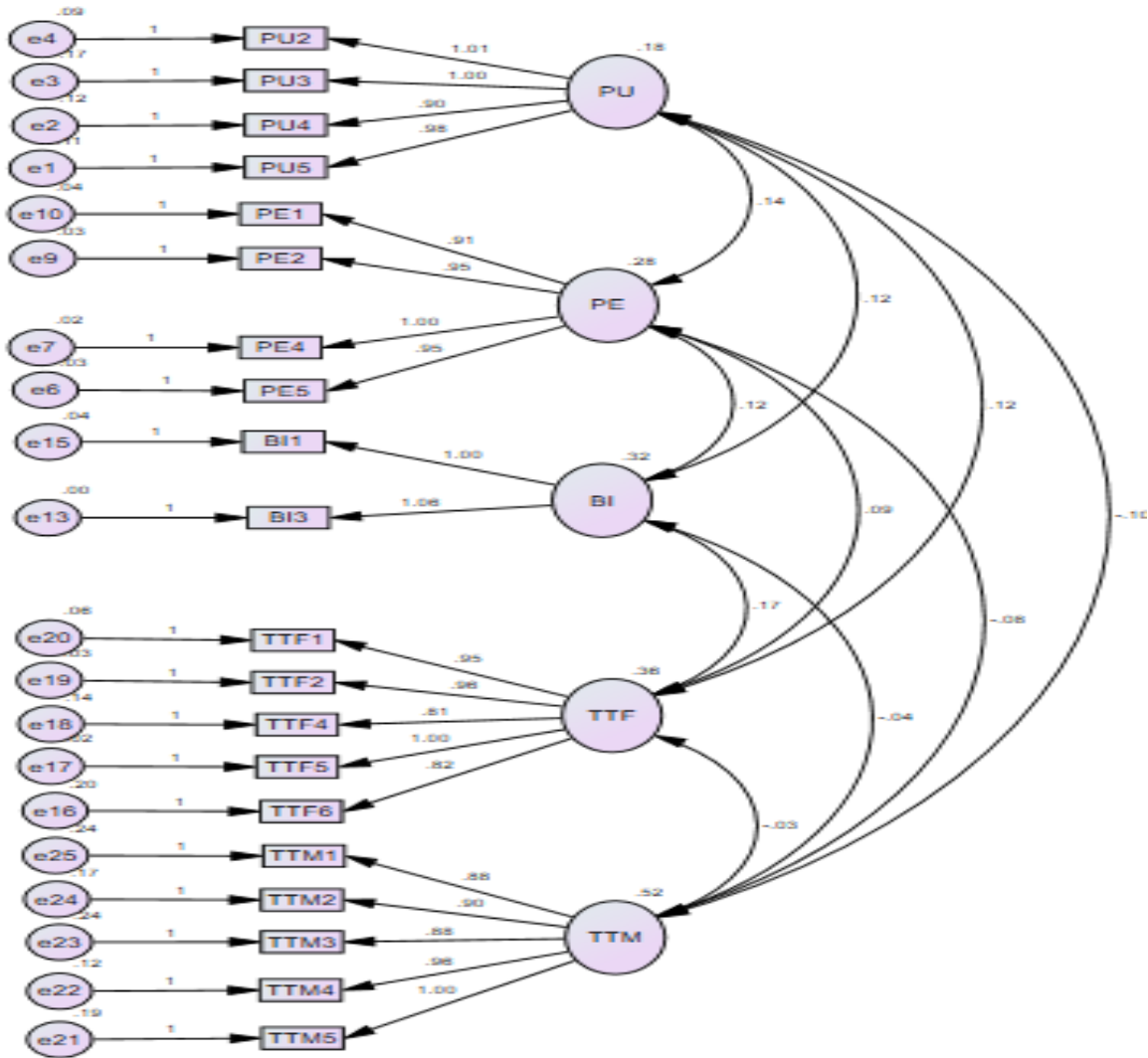


Figure 1: The revised Five-factor Measurement Model of ETTF-TAM

Source: The output of AMOS 22

Perceived usefulness (PU) and behavioral intention (BI) ($\beta = .51, p < .000$), BI and task-technology fit (TTF) ($\beta = .50, p < .000$), and perceived ease (PE) and BI ($\beta = .41, p < .000$) were among the factors that showed significant interrelationships in the revised Five-factor measurement model, as

shown in Figure 1. The model's capacity to capture variance and covariation across observable variables was validated by the overall fit statistics, which showed good alignment with the data. Its robustness was illustrated by key fit indices, which included loadings ranging from .720 to .967, CMIN = 409.012, DF = 160, $p < 0.000$, RMSEA = 0.801, CFI = 0.948, and TLI = 0.939.

The One-Factor Measurement Model of Adoption of Digital Banking

Confirmatory Factor Analysis (CFA) was used to validate the one-factor measurement model for digital banking adoption, as shown in Figure 2. All four significant items from Exploratory Factor Analysis (EFA) had loadings greater than .70. Although the chi-square (CMIN) should be less than 5 and the RMSEA should be less than .08, the model fit was good (CMIN = 7.708, DF = 2, $p < 0.000$, RMSEA = 0.110, CFI = 0.990, TLI = 0.971). Loadings ranged from .794 to .892, and high modification indices indicated potential multicollinearity issues, with no offending estimates found.

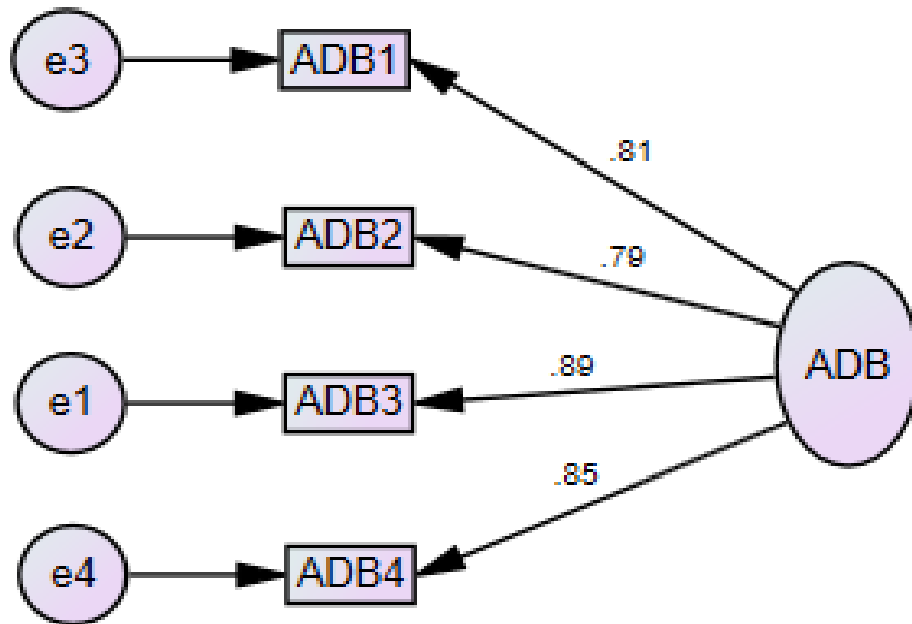


Figure 2: The One-factor Measurement Model

Source: The output of AMOS 22

Following the validation of the one-factor measurement model for the Adoption of Digital Banking (ADB), an analysis of the estimated covariance matrix was conducted to explore relationships among measurement error terms of the observed indicators. In this unidimensional model, co-

variances were only estimated when theoretically justified. The revised model included four indicators (ADB1–ADB4), with selected error covariances estimated to enhance model fit, to reflect common measurement traits. Table 3 shows the estimated covariance matrix of the One-Factor Measurement Model

Table 3: Estimated Covariance Matrix of the One-Factor Measurement Model

Covariance Path	Estimate	S.E.	C.R.	P-value
eADB1 ↔ eADB2	0.084	0.018	4.667	***
eADB1 ↔ eADB3	0.071	0.017	4.176	***
eADB2 ↔ eADB4	0.065	0.016	4.063	***
eADB3 ↔ eADB4	0.058	0.015	3.867	***

Source: The output of AMOS 22

Full-Fledged Structural Model for Estimating the Conceptual Model

The proposed conceptual model, incorporating the Five-factor measurement model of ETTF-TAM and a One-factor model for digital banking adoption, used 24 items, all validated through CFA. Perceived usefulness, perceived ease of use, behavioral intention, task-technology fit, task-technology misfit, and adoption of digital banking are some of the variables that these measures correlate with. Several items showed high modification indices, indicating multicollinearity, but the model's overall fit was insufficient (CMIN = 496.614; DF = 237; $p < 0.000$; RMSEA = 0.068; CFI = 0.953; TLI = 0.945), especially when the RMSEA was higher than the acceptable threshold of 0.08. Therefore, modifications are necessary to improve fit statistics and address this issue, with loadings ranging from .719 to .997.

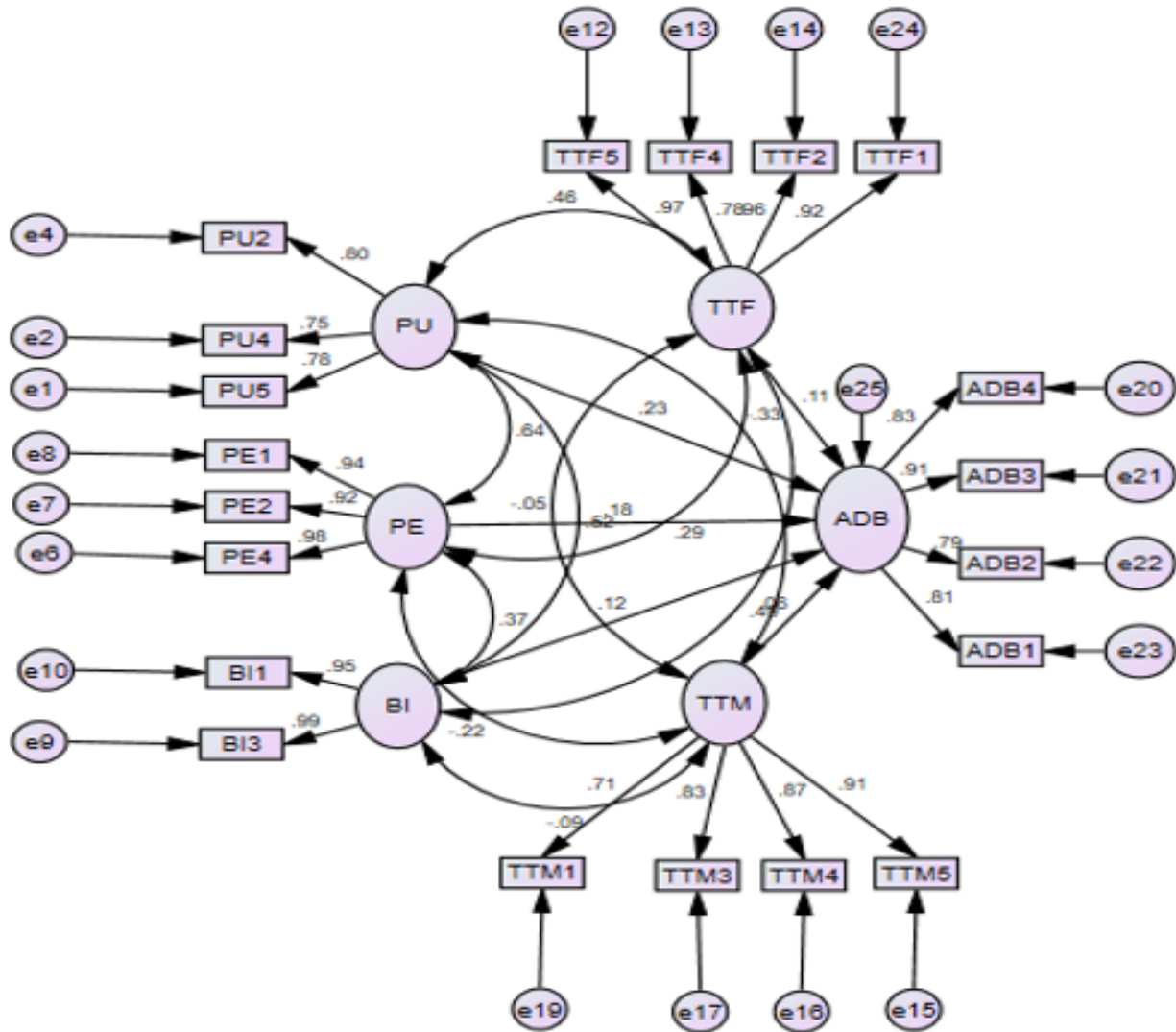


Figure 3: The Revised Conceptual Model of the Study

Source: The output of AMOS 22

The revised conceptual model, as illustrated in Figure 3, across six dimensions: perceived usefulness (PU), perceived ease-of-use (PE), behavioral intention (BI), task-technology fit (TTF), task-technology misfit (TTM), and adoption of digital banking (ADB), comprising 20 items. After eliminating four items due to modification indices, the model was analyzed using maximum-likelihood estimation with AMOS 22. Results showed good fit statistics: CMIN = 266.394, DF = 155; $p = 0.000$; RMSEA = 0.055; CFI = 0.974; TLI = 0.978, confirming the model's applicability to the research population and meeting the required statistical thresholds. The details of the estimated covariance matrix of the revised Conceptual Model are shown in Table 4. The standardized total effect sizes for exogenous and endogenous variables are shown in Table 5.

Table 4: Estimated Covariance Matrix of the Revised Conceptual Model (AMOS Output)

Covariance Items	Estimate	S.E.	C.R.	P
BI <--> TTM	-.041	.032	-1.301	.193
PE <--> TTM	-.082	.026	-3.088	***
PU <--> TTM	-.099	.024	-4.146	***
TTF <--> TTM	-.018	.025	-.716	.474
PE <--> BI	.108	.021	5.188	***
PU <--> BI	.120	.020	6.121	***
BI <--> TTF	.140	.022	6.257	***
PU <--> PE	.120	.017	6.914	***
PE <--> TTF	.067	.017	4.020	***
PU <--> TTF	.085	.016	5.317	***

Source: The output of AMOS 22

The results of the revised conceptual model show that adoption of digital banking is highly influenced by perceived utility and perceived simplicity of use. In particular, perceived usefulness has an indirect detrimental effect on task-technology mismatch ($\beta = -0.099$, $p < 0.000$) and a direct effect on adoption of digital banking ($\beta = 0.25$, $p = 0.04$). Likewise, perceived ease of use influences task-technology misfit indirectly ($\beta = -0.082$, $p < 0.002$) and adoption directly ($\beta = 0.152$, $p = 0.04$). Although behavioral intention has a beneficial impact on perceived usefulness and convenience of use, it has no direct effect on adoption ($\beta = 0.082$, $p = 0.131$). The results of the updated conceptual model show that adoption of digital banking is highly influenced by perceived utility and perceived simplicity of use. In particular, perceived usefulness has an indirect detrimental effect on task-technology mismatch ($\beta = -0.099$, $p < 0.000$) and a direct effect on adoption ($\beta = 0.25$, $p = 0.04$). Likewise, perceived ease of use influences task-technology misfit indirectly ($\beta = -0.082$, $p < 0.002$) and adoption directly ($\beta = 0.152$, $p = 0.04$). Although behavioral intention has a beneficial impact on perceived usefulness and convenience of use, it has no direct effect on adoption ($\beta = 0.082$, $p = 0.131$).

Table 5: The Standardized Total Effects Size of the Revised Conceptual Model

Standardized Total Effects Size	
ADB → PU	0.234
ADB → PE	0.177
ADB → BI	0.118
ADB → TTF	0.115
ADB → TTM	0.061

Source: The output of AMOS 22

In addition to having an indirect influence on task-technology misfit ($\beta = -0.041, p < 0.000$), task-technology fit also has a partial direct effect on adoption ($\beta = 0.10, p = 0.026$). Task-Technology Misfit has a negative impact on perceived usefulness and ease of use but has no direct effect on adoption ($\beta = 0.033, p = 0.382$). Table 6 offers a thorough synopsis of the research hypotheses.

Table 6: The Summary of the Research Hypotheses Results

Hypothesis	Description	Results
H1	Perceived Usefulness directly affects the adoption of digital banking.	Supported
H2	Perceived Ease of Use directly affects the adoption of digital banking.	Supported
H3	Behavioral Intention directly affects the adoption of digital banking.	Not Supported
H4	Task-Technology Fit directly affects the adoption of digital banking.	Partially Supported
H5	Task-Technology Misfit directly affects the adoption of digital banking.	Not Supported

DISCUSSION

According to the Extended Task–Technology Fit and Technology Acceptance Model (ETTF-TAM), attitude towards a specific technology reflects a potential customer’s evaluation of its desirability (Diffusion of Technologies and Social Behaviorl, 1991; User Aceance of IT.Pdf, 1993). Utility and simplicity are key attributes that significantly influence an individual’s attitude towards digital banking. Banks can further promote technology and reap its benefits. However, simpler, more functional electronic banking is needed to overcome the inhibitors to complete reliance on electronic media (Sandhu, 2020).

The conceptual model indicated that Perceived Usefulness directly affects the adoption of digital banking in Sudan ($\beta = 0.25, p = 0.04, CR = 2.035$), which validated the hypothesis (H1). Therefore, adoption of technology in banks is deeply influenced by their perceptions of usefulness, which is a significant driver of engagement with digital banking services. The study indicates that perceived usefulness plays a crucial role in motivating users to adopt and utilize digital banking effectively within Sundanese banks (Ghani et al., 2022). The conceptual model also indicated that perceived

ease of use has a direct effect on the adoption of digital banking in Sudan ($\beta = 0.152$, $p = 0.04$, $CR = 2.059$), thereby validating the hypothesis (H2). Therefore, the adoption of digital banking is significantly influenced by users' willingness to engage with these services. This focuses on how the effortless can navigate and operate within digital banking platforms (Hossain, 2023). Despite several previous studies that confirmed the relationship between behavioral intention and the adoption of digital banking (Abdelrhman et al., 2024; Karma et al., 2014; Haroun et al., 2016). In the current study, the effect of behavioral intention on the adoption of digital banking was found to be insignificant ($\beta = 0.082$, $p = 0.131$, $CR = 2.059$), thereby invalidating the hypothesis (H3). Behavioral intention does not affect the adoption of digital banking in Sudanese banks. This finding was consistent with past studies (Abdelrhman et al., 2024; Karma et al., 2014; Haroun et al., 2016) which reveal several differences in the factors that significantly impact behavioral intention toward the adoption of digital banking.

Task-technology fit has a direct effect on the adoption of digital banking. This finding partially validated the hypothesis (H4) ($\beta = 0.10$, $p = 0.026$, $CR = 1.529$). The alignment between tasks of customers and the technology used, known as Task-Technology Fit (TTF), plays a crucial role in the adoption of digital banking in Sudan. An optimal TTF enhances perceived usefulness, ease of use, and intention to adopt digital banking technologies, while a mismatch can lead to lower adoption rates (Holden & Karsh, 2010). The effect of Task-Technology Misfit on the adoption of digital banking was found to be not significant ($\beta = 0.033$, $p = 0.382$, $CR = 0.874$), thereby invalidating the hypothesis (H5). This means that task-technology misfit was not a vital issue related to the adoption of digital banking. As such, task-technology misfit does not affect the adoption of digital banking in Sudanese banks. This finding was consistent with some studies (Zeeshan et al., 2025), which reveal many differences regarding the factors that have a significant impact on behavioral intention on the adoption of digital banking.

This study examined the adoption of digital banking in Sudan using a variety of analytical techniques, including Confirmatory Factor Analysis (CFA) and Exploratory Factor Analysis (EFA) (Roos & Bauldry, 2024) According to the study's findings, the involvement of customers in Sudanese banks with digital banking services is greatly impacted by perceived utility (Ghani et al., 2022)). It made clear that when consumers recognize the functional value of digital banking, this improves their perception of its usability and behavioral intention, which are positively correlated with task-technology fit and negatively correlated with task-technology misfit. Banks can encourage

digital services by enhancing user interfaces and customer support, even in the face of Sudan's trust and acceptance issues (Wang, 2024). The study emphasized the need for user-friendly platforms by confirming that perceived ease of use also has a direct impact on adoption. In contrast to earlier research, it did not discover any meaningful correlation between behavioral intention and the adoption of digital banking (Zeeshan et al., 2025). The results highlight the necessity of user-friendly designs and educational programs to promote digital banking adoption, especially in areas with disparate degrees of digital literacy.

CONCLUSION

The financial industry has changed as a result of technological integration, particularly with regard to digital banking, which improves accessibility in places with low economic status. According to the Extended Task-Technology Fit –Technology Acceptance Model (ETTF-TAM), which links technology use and user performance, productivity and happiness are increased when technology is in line with work needs. Given that this study confirms the ETTF-TAM paradigm for analyzing client adoption of digital banking services, digital transformation in banking is essential for financial stability and inclusion in Sudan. Perceived utility, usability, and task-technology fit are important motivators, and adoption is strongly influenced by cognitive beliefs. Sudanese banks are advised to address system and infrastructure problems, match services with customer needs, and enhance perceived utility and use. A user-centered design approach is advocated, stressing continuous evaluation to minimize task-technology misfit, supported by policymakers through infrastructure investment and training. Limitations of the study include its focus on Sudanese banks and potential self-reporting bias.

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