

# The Impact of Internet and Mobile Banking on Customer Satisfaction in Afghanistan's Commercial Banks

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## ABSTRACT

This study examines the impact of Internet and Mobile banking on customer satisfaction in Afghanistan's commercial banks. With the increasing adoption of digital financial services, understanding how factors such as convenience, security, accessibility, and service quality influence customer experience is essential. Using a quantitative research approach, this study collected survey data from customers of Afghanistan International Bank, Azizi Bank, and the Islamic Bank of Afghanistan. Findings reveal that Internet and Mobile banking significantly enhance customer satisfaction by offering seamless transactions, increased accessibility, and reduced reliance on physical banking. However, security concerns and limited digital literacy in rural areas pose challenges to widespread adoption. The study highlights the need for improved digital banking infrastructure and stronger security measures to build customer trust. Based on these insights, policy recommendations are provided to enhance the efficiency, reliability, and security of digital banking services in Afghanistan's commercial banking sector.

**Keywords-** Afghanistan Banking, Mobile Banking, Internet Banking, Customer Satisfaction, Digital Banking.

## I. INTRODUCTION

The integration of Internet and Mobile banking services in Afghanistan has transformed the banking industry, offering customers greater accessibility, convenience, and efficiency. This digital shift has enabled customers to perform financial transactions remotely, reducing their dependence on physical bank branches. Despite these advancements, the adoption of digital banking remains inconsistent, primarily due to technological infrastructure limitations, security concerns, and low digital literacy. These challenges are particularly pronounced in Afghanistan, where the banking sector is still developing, and a significant

portion of the population remains unfamiliar with digital banking tools.

Afghanistan's banking sector includes major institutions such as Afghanistan International Bank (AIB), Azizi Bank, and Islamic Bank of Afghanistan (IBA), all of which are gradually transitioning towards digital banking platforms. However, customer adoption rates remain below expectations due to concerns over online banking security, trust in digital transactions, and usability challenges.

Existing studies highlight that Internet and Mobile banking have the potential to enhance customer satisfaction by reducing transactional delays, improving service quality, and increasing banking accessibility.

Syahrani (2023) found that digital banking positively influences customer satisfaction, while Bogicevic et al. (2017) and Chen et al. (2016) identified security vulnerabilities and trust issues as barriers to widespread adoption. A comparative analysis with Pakistan, India, and Iran suggests that Afghanistan requires stronger digital infrastructure and improved regulatory measures to ensure the security and reliability of online banking services.

The novelty of this research lies in its customer satisfaction-focused approach, assessing how usability, security, and service efficiency influence customer experiences with Internet and Mobile banking in Afghanistan. While previous research has examined the technological aspects of banking services, few studies have explored their impact on customer satisfaction. This study aims to provide actionable recommendations for improving digital banking adoption and trust.

More specifically, the objectives of this research are:

1. To assess the relationship between Internet banking adoption and customer satisfaction in Afghanistan's commercial banks.
2. To evaluate the role of Mobile banking services in customer satisfaction in Afghanistan's commercial banks.

## II. LITERATURE REVIEW

Customer satisfaction is a complex and abstract concept, defined as a customer's emotional reaction to a product or service after consumption. The manifestation of satisfaction can vary based on personal, economic, and psychological factors, as well as the quality of service provided (Sequeira, 2019). Satisfied customers tend to stay loyal to the company, make repeat purchases, and provide positive word-of-mouth, which is especially important in highly competitive industries (Pakurar et al., 2019). In the context of banking, customer satisfaction is a key determinant of loyalty and business success (Kasiri et al., 2017). For banks, enhancing customer satisfaction requires improving service quality, which can be achieved through the effective use of Self-Service Technologies (SSTs) such as Internet banking and Mobile banking. These technologies allow customers to perform financial transactions at their convenience, saving time and improving satisfaction. However, customer satisfaction is also influenced by service reliability, security, and the overall user experience.

In the banking industry, customer satisfaction is simply defined as the extent to which a product or service meets or exceeds a customer's expectations (Kasiri et al., 2017). Customers often evaluate their satisfaction after using a service, considering factors such as service quality, convenience, and trust. This aligns with findings by Fernandes and Pedroso (2017), who described satisfaction as a positive feeling produced by the consumption of services. Further research by

Alanazi & Bach (2016) showed that satisfaction with online banking services depends on the customer's experience over time, with rapid satisfaction judgments often made for services like Internet banking. The customer's perceived risk and ease of use are major determinants of their overall satisfaction (Özer, Argan & Argan, 2013).

Internet banking has had a transformative effect on customer satisfaction in the banking sector. Customers value the convenience of accessing their accounts, making transfers, and managing their finances without visiting a bank branch. In line with Jham (2016), who examined Internet banking in the UAE, factors such as reliability, efficiency, comfort, and security were significant in influencing customer satisfaction. Security, in particular, is a key factor in the success of digital banking platforms, as customers must feel confident that their transactions are secure. Ankit (2011) also found that core services, convenience, responsiveness, and privacy significantly contributed to the overall satisfaction with Internet banking in India. These findings are highly relevant to the context of Afghanistan, where Internet banking adoption is growing but must overcome challenges like low digital literacy and security concerns.

Mobile banking has emerged as a key service channel in developing countries like Afghanistan, where access to traditional banking services may be limited. Research by Zhou et al. (2010) highlights that Mobile banking adoption is driven by factors such as trust, perceived usefulness, and ease of use. The widespread use of mobile phones in Afghanistan, even in rural areas, makes Mobile banking a valuable tool for increasing customer satisfaction by providing flexible access to banking services. However, De Leon et al. (2020) note that security concerns still hinder the broader adoption of Mobile banking. In Afghanistan, where security risks can be heightened, banks must ensure the safety of mobile banking services to increase customer confidence and satisfaction.

Security plays a critical role in shaping customer satisfaction with digital banking services, including Internet banking and Mobile banking. Customers' concerns about the safety of their personal information and financial transactions directly affect their overall satisfaction. Research by Herington and Weaven (2007) indicates that security is one of the most significant factors influencing customer satisfaction with digital banking services. Customers are more likely to trust Internet and Mobile banking platforms if they feel secure using them. Hammoud et al. (2018) also found that privacy and security concerns were major barriers to the adoption of digital banking in Lebanon, directly impacting customer satisfaction. In Afghanistan, where trust in financial institutions can be low, ensuring robust security and privacy measures will be essential for increasing customer satisfaction with digital banking services.

Service quality is a major determinant of customer satisfaction in Internet and Mobile banking. The key dimensions of e-service quality, including efficiency, system availability, responsiveness, and privacy/security, have been shown to influence customer satisfaction significantly. Rod et al. (2009) emphasized that Internet banking service quality significantly impacts customer satisfaction, particularly when the platform is easy to use, efficient, and secure. Aljasser and Sasidhar (2016) also found that reliable and responsive services played a crucial role in determining customer satisfaction with Internet banking. In Afghanistan, where service quality is still being improved, addressing the technical and security challenges of Internet banking will be crucial for enhancing customer satisfaction.

Afghanistan's banking sector is increasingly adopting Mobile banking and Internet banking to serve a population that is growing increasingly accustomed to digital technologies. While Internet banking is more common in urban centers like Kabul, Mobile banking has a greater potential to reach rural customers who may not have access to stable internet connections but use mobile phones regularly. The adoption of Mobile banking in Afghanistan presents an opportunity to enhance financial inclusion and increase customer satisfaction by providing services that are more accessible. However, challenges such as digital literacy and security concerns must be addressed to improve the customer experience.

Based on the evidence briefly reviewed above, the hypothesis to be tested in the present research can be formulated as follows:

1. H1: Internet banking have a significant positive impact on customer satisfaction in Afghanistan's commercial banks.
2. H2: Mobile banking services have a significant positive impact on customer satisfaction in Afghanistan's commercial banks.

### III. RESEARCH METHODOLOGY

This study employs a descriptive research design to examine the impact of internet and mobile banking on customer satisfaction in Afghanistan's commercial banks, specifically Afghanistan International Bank, Azizi Bank, and Islamic Bank of Afghanistan. A non-probability purposive convenience sampling method was used, selecting 390 active digital banking customers from a total population of 15,228, determined using the Slovin formula with a 5% margin of error.

Primary data were collected through a structured questionnaire, adapted from Sekaran (2003), comprising two sections: demographic details and customer satisfaction assessment using a five-point Likert scale. To ensure linguistic accuracy, the questionnaire was translated into Dari and validated by

experts. Data were gathered online via Google Forms. A pilot study was conducted with a small sample to refine question clarity and structure.

Data analysis was conducted using SPSS, employing multiple linear regression to assess the relationship between internet and mobile banking (independent variables) and customer satisfaction (dependent variable). The model applied is:

$$\hat{Y} = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + U \dots I$$

$\hat{Y}$  = Customer Satisfaction

$\beta_0$  = Constant

$\beta_1$  &  $\beta_2$  = Regression coefficient

$X_1$  = Internet Banking Variable

$X_2$  = Mobile Banking Variable

$U$  = Disturbance term

T-tests and F-tests were used to evaluate hypotheses, while the R<sup>2</sup> test determined model explanatory power. Descriptive statistics, correlation analysis, and reliability testing (Cronbach's Alpha > 0.70) ensured data robustness.

This methodology ensures a systematic and reliable approach to data collection and analysis, providing valuable insights into the factors influencing customer satisfaction with digital banking in Afghanistan's commercial banks.

#### Validity & Reliability Analysis

Ensuring the validity and reliability of the research instrument is crucial for confirming the accuracy and consistency of the data collected. Reliability was measured using Cronbach's Alpha, with a value above 0.70 considered reliable (Kent, 2015), and values above 0.50 deemed acceptable (Byrne, 2016; Hair et al., 2014). To establish content validity, a qualitative approach was adopted, ensuring that the questionnaire fully covered all relevant aspects of the research domain (Almanasreh, Moles & Chen, 2019; Saunders, Lewis & Thornhill, 2016). Construct validity was tested to confirm that the variables and their items align with the theoretical constructs they are meant to measure, with the measurement model loadings checked for appropriateness (Carmines & Zeller, 1979; Garver & Mentzer, 1999). A pilot study conducted with faculty members from Ghalib University's Economics Department, followed by feedback from the supervising professor, helped refine the questionnaire and ensure its validity.

The reliability analysis indicated that the data collection tool is statistically reliable. The Cronbach's Alpha results for all variables exceeded the acceptable threshold of 0.70, confirming internal consistency. The table below provides the reliability test results for key variables in the study, indicating that all variables used in this research are reliable for measuring customer satisfaction and other digital banking factors.

**Table 1: Reliability Test Results**

Variable	Cronbach's Alpha	Number of Items
Overall Reliability	0.911	82
Mobile Banking	0.792	30
Internet Banking	0.776	30
Satisfaction	0.787	12

(Source: Primary Data, processed with SPSS 2024)

**IV. DATA ANALYSIS AND RESULT**

The results of the study were presented by analyzing the demographic data and the survey responses.

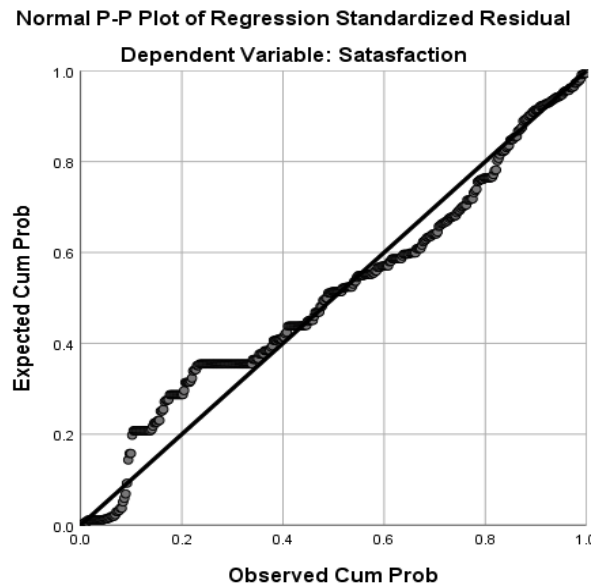
**Respondents' Demographic Profile**

The demographic profile shows a male majority (81.8%) and a dominant age group of 31–40 years (34.1%), followed by 28.5% below 30, indicating that

younger and middle-aged individuals are key banking users. Most respondents were married (83.6%) and well-educated, with 49.2% holding a Bachelor's and 32.1% a Master's degree. Additionally, 59.5% had 4–6 years of banking experience, while only 1.3% were new customers, suggesting mobile banking is mainly used by experienced individuals. These insights highlight the need for Afghan banks to tailor digital banking services to their educated and experienced customer base.

**Normality Test**

A normality test was conducted to assess whether the residuals in the regression model followed a normal distribution. As illustrated in Figure 1: Normality P-P Plot, the scatterplot displays black dots closely aligned along the diagonal line, indicating that the residuals are approximately normally distributed and exhibit a strong positive relationship.



**Figure 1: Normality P-P Plot**

(Source: Primary Data, processed with SPSS 2024)

**Model Fit and Determination Test (R<sup>2</sup>)**

The regression analysis presented in Table 2 shows a strong model fit, with an R value of 0.904, indicating a high correlation between the independent variables (Internet Banking, Mobile Banking) and customer satisfaction. The R-squared value of 0.816 suggests that 81.6% of the variation in satisfaction is

explained by these variables. The adjusted R-squared of 0.815 confirms the model's robustness after accounting for the number of predictors. The F-change value of 570.326, with a significance level of 0.000, further supports the model's statistical significance. These results indicate that the model effectively explains customer satisfaction.

**Table 2. Model Summaryb**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.904 <sup>a</sup>	.816	.815	.39381	.816	570.326	3	385	.000

a. Predictors: (Constant), Internet Banking, Mobile Banking,

b. Dependent Variable: Satisfaction

(Source: Primary Data, processed with SPSS 2024)

**Multiple Linear Regression Analysis**

The multiple regression analysis was conducted to determine the magnitude of the influence of Internet Banking (X1) and Mobile Banking (X2) on Customer Satisfaction (Y). The regression equation derived from the analysis, based on the results from SPSS, is as follows:

$$Y = 35.485 + 0.281X1 + 0.482X2 . . .II$$

This equation reveals that when both Internet Banking and Mobile Banking are not considered, the baseline customer satisfaction score is 35.485. The coefficients for Internet Banking (X1) and Mobile Banking (X2) indicate that for every unit increase in

Internet Banking, customer satisfaction increases by 0.482, while every unit increase in Mobile Banking results in a 0.281 increase in customer satisfaction, assuming all other variables are held constant.

The regression results demonstrate that both Internet Banking and Mobile Banking have a positive influence on customer satisfaction, with the Mobile Banking coefficient (0.482) having a slightly stronger impact than the Internet Banking coefficient (0.281). This shows that the inclusion of both banking platforms significantly contributes to the level of customer satisfaction, as both have statistically significant effects with p-values less than 0.05.

**Table 3: Results of Multiple Linear Regression Analysis**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
1	(Constant)	35.485	1.984		17.886	.000
	Mobile Banking	.482	.011	.230	11.503	.000
	Internet Banking	.281	.018	.199	8.619	.000

a. Dependent Variable: Satisfaction

(Source: Primary Data, processed with SPSS 2024)

**Hypothesis Testing, T-Test (Partial)**

Hypothesis testing is a statistical method used to determine whether there is enough evidence to reject the null hypothesis based on sample data. In this study, the influence of mobile banking and internet banking on customer satisfaction was assessed using a T-test. A hypothesis is considered statistically significant if the p-value is less than 0.05. If  $p < 0.05$ , it suggests a significant relationship between the independent variables (mobile banking and internet banking) and the dependent variable (customer satisfaction). On the other hand, if  $p > 0.05$ , it indicates no significant relationship. The degrees of freedom (df) were calculated as 387 (390 respondents - 2 independent variables - 1).

Based on the results of Table 4: Partial Test Results (t-test), T-value for mobile banking is 11.503,

which is greater than the critical T-table value of 1.98498, with a p-value of 0.000 ( $<0.05$ ). This shows that mobile banking has a significant and positive impact on customer satisfaction. As well The T-value for internet banking is 8.619, exceeding the critical T-table value of 1.98498, with a p-value of 0.000 ( $<0.05$ ). This indicates that internet banking also has a significant and positive impact on customer satisfaction.

Since both independent variables have p-values below 0.05, the null hypothesis ( $H_0$ ) is rejected. This confirms that both mobile banking and internet banking significantly enhance customer satisfaction in Afghanistan’s commercial banks. The results highlight the importance of digital banking in improving customer experiences.

**Table 4: Partial Test Results (t-test)**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
1	(Constant)	35.485	1.984		17.886	.000
	Mobile Banking	.482	.011	.230	11.503	.000
	Internet Banking	.281	.018	.199	8.619	.000

a. Dependent Variable: Satisfaction

(Source: Primary Data, processed with SPSS 2024)

**Findings and Analysis Overview**

The analysis results supported all hypotheses, as evidenced by the Beta coefficients and the statistically significant p-values for each hypothesis. The findings revealed that mobile banking, and internet banking significantly influence customer satisfaction.

The quantitative analysis not only provided insights into the demographic profile of the respondents but also offered valuable information regarding the relationships between various research variables and their impact on customer satisfaction. The use of robust statistical methods enhances the validity and reliability

of these findings, contributing to a deeper understanding of the factors influencing customer satisfaction in the context of mobile banking, and internet banking services.

The regression analysis shows that the independent variables explain 82.1% of the variation in the dependent variable, indicating a strong relationship. Therefore, the results suggest that the independent variables significantly affect customer satisfaction among digital service users in Afghanistan's commercial banks at a 95% confidence level. The Adjusted R-square value is 0.816, which adjusts the R-square to better reflect the goodness of fit for the model. Additionally, the ANOVA value is 0.000 (less than 5%), indicating that the overall model is a good fit.

The regression coefficients show that all independent variables have a direct and positive relationship with customer satisfaction. This suggests that as the independent variables (IV) increase, the dependent variable (DV) also increases.

#### *Comparison with Previous Studies*

These findings are consistent with those of other studies. For instance, Hammoud, Bizri, and El Baba (2018) confirmed that reliability has a significant and positive connection with customer satisfaction in Lebanon. In this study, the dimension of responsiveness also had a significant impact on customer satisfaction, supporting the findings of George, A., and Kumar (2014) and Ganguli and Roy (2011), who emphasized responsiveness as a vital dimension. Additionally, Alhawary and Alsmeran (2017) found that online banking services' dimensions significantly affect customer satisfaction in Jordan's Islamic banks. Similarly, Almotairi, Almeshal, and Alam (2013) revealed that the quality dimensions of commercial banks influence overall customer satisfaction in Saudi Arabia. Jun and Palacios (2016) found that SSTs dimensions impact customer satisfaction with mobile banking services in the U.S., while Rod et al. (2009) highlighted the widespread influence of online banking service dimensions on customer satisfaction in New Zealand.

## V. DISCUSSION AND CONCLUSION

### *Discussion*

The research findings show that internet banking has a significant effect on customer satisfaction. Customers derive high benefits from internet banking, which plays a crucial role in digital transactions. Additionally, to access mobile banking, customers must first be registered for internet banking. This highlights the foundational role of internet banking in the broader ecosystem of digital financial services. The findings of this study align with previous research by Rochmah & Ernawati (2022), Khumaini et al. (2022), and Syamtoro (2020), who also concluded that internet banking significantly influences customer satisfaction.

Similarly, the research reveals that mobile banking has a significant impact on customer satisfaction. Mobile banking services are increasingly popular among customers because they offer instant access, convenience, and ease of use. Customers greatly benefit from mobile banking as it allows them to complete various digital transactions without needing to visit a physical bank, and they can access these services anytime and anywhere. This study's findings are consistent with those of Agustina & Krisnaningsih (2023), Sari et al. (2022), and Harahap (2020), all of whom found that mobile banking positively affects customer satisfaction.

### *Conclusion*

This study looked into how Internet and Mobile banking impact customer satisfaction in Afghanistan's commercial banks. The results show that both types of digital banking play a crucial role in making banking more accessible, convenient, and efficient, all of which positively affect customer satisfaction. Internet banking, which forms the foundation for mobile banking, is particularly important in shaping the overall experience, supporting findings from Rochmah & Ernawati (2022), Khumaini et al. (2022), and Syamtoro (2020), who also found a strong link between internet banking and customer satisfaction.

Mobile banking, in particular, has become a favorite among customers for its convenience and flexibility, allowing them to complete transactions quickly and from anywhere. This aligns with research by Agustina & Krisnaningsih (2023), Sari et al. (2022), and Harahap (2020), all of whom observed the positive impact of mobile banking on satisfaction. That said, security concerns and lower digital literacy, especially in rural areas, still pose challenges, which is in line with the issues highlighted by Bogicevic et al. (2017) and Chen et al. (2016).

For Afghanistan's commercial banks to improve digital banking adoption and satisfaction further, it's essential to focus on strengthening security measures and promoting digital literacy. These efforts will help build trust and unlock the full potential of digital banking in the country.

### *Managerial Implications*

Based on the findings of this study regarding the influence of internet banking, mobile banking, self-service technology, and security concerns on customer satisfaction at selected commercial banks in Afghanistan, the following managerial implications are suggested for decision-makers in Afghanistan's commercial banking sector:

1. **Enhance Internet Banking Services:** The research indicates that internet banking has a significant positive impact on customer satisfaction (aligned with **H1**). Banks should focus on optimizing internet banking platforms by improving security features, enhancing the user interface, and streamlining transaction processes. This will not only enhance

user experience but will also encourage more customers to use internet banking, thereby increasing satisfaction.

2. **Promote and Develop Mobile Banking:** Mobile banking was also found to have a significant positive effect on customer satisfaction (H2). With mobile banking being a preferred and accessible platform for conducting digital transactions, banks should invest in further improving mobile banking applications. This includes enhancing features for convenience and ensuring ease of use, particularly to cater to the increasing demand for instant, on-the-go services, especially among younger customers.
3. **Address Security and Privacy Concerns:** A key finding from this research is the negative impact of security concerns on customer satisfaction. Security and privacy issues remain a major barrier to digital banking adoption. Commercial banks should prioritize strengthening their security measures to alleviate customer concerns about online fraud, identity theft, and data privacy. Improved security will help enhance customer trust and, consequently, customer satisfaction with digital banking services.
4. **Target Tech-Savvy and Younger Customers:** The research findings indicate that younger respondents (such as millennials and Generation Z) are more likely to appreciate and benefit from digital banking services, including internet banking, mobile banking, and self-service technologies. As these groups are highly digital-savvy, commercial banks should tailor their digital services and marketing strategies to this demographic. Offering personalized, easy-to-use, and engaging digital banking experiences will enhance satisfaction and build long-term customer loyalty among these generations.

By implementing these managerial implications, commercial banks in Afghanistan can optimize their digital banking offerings, address security concerns, and enhance the overall customer experience. This will result in increased customer satisfaction and loyalty, ultimately leading to greater success in the competitive banking sector.

#### *Contribution to Academic and Practical Knowledge*

On an academic level, this research helps to fill a gap in existing literature by exploring how digital banking services—especially internet banking and mobile banking—affect customer satisfaction in Afghanistan, a country where digital banking is still developing. While there's plenty of research on customer satisfaction in digital banking globally, not much has been done in the context of Afghanistan. This study sheds light on the importance of these services, confirming that internet and mobile banking play a significant role in how satisfied customers feel with their banks.

Moreover, the research highlights the important role security concerns play in shaping customer trust. In

today's digital world, security is a huge factor in whether or not customers feel comfortable using online banking services. By adding this layer to the conversation, the research helps to deepen our understanding of what makes customers trust digital banking services.

From a practical standpoint, the findings offer clear guidance for banks in Afghanistan to improve their digital services and better meet customer expectations. The research emphasizes the importance of internet banking and mobile banking services in driving customer satisfaction, which means Afghan banks should invest in improving these services to stay competitive.

#### *Research Limitations and Future Directions*

While this research offers valuable insights, there are some limitations to consider. For instance, the study was conducted with a specific sample from selected commercial banks in Afghanistan, which may not represent the experiences of all customers across the country. Future research could involve a broader sample from various cities and regions in Afghanistan, allowing for a more comprehensive understanding of customer satisfaction in digital banking.

Also, it might be interesting to explore how different customer segments—such as age, education level, or digital literacy—affect how they perceive and use digital banking services. This could provide a more personalized approach to understanding customer satisfaction. Additionally, future studies could also look at how security features directly impact customers' willingness to trust and use digital banking services over time.

#### *Recommendations for Afghan banks*

Here are some actionable recommendations for Afghan banks based on the study's findings:

1. **Make Mobile and Internet Banking Easier to Use:** Banks should work on making their mobile and internet banking platforms more intuitive. A smoother, hassle-free experience can encourage customers to adopt digital banking and use it more frequently.
2. **Invest in Customer Education:** To encourage more people to adopt digital banking, it's important to invest in customer education. Providing clear, easy-to-follow tutorials, guides, and customer support will help customers feel more confident in using digital banking services.
3. **Tailor Services to Younger Customers:** Younger, tech-savvy customers—especially millennials and Generation Z—are more likely to use digital banking services. Banks can personalize their services to cater to this demographic, offering features and interfaces that meet their preferences and habits.
4. **Improve Digital Service Security:** Given how crucial security is for building trust, banks should focus on enhancing security measures across all digital banking channels. Multi-factor

authentication, encryption, and fraud prevention tools are just a few examples of how banks can safeguard customer data and increase satisfaction.

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