

آگاهی مشتریان نسبت به خدمات بانکداری الکترونیکی: مطالعه مقایسه‌ای بانک‌های دولتی، خصوصی و خارجی در افغانستان

نویسنده: کریم الله امانی

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چکیده

این تحقیق به بررسی میزان آگاهی مشتریان از خدمات بانکداری الکترونیکی در بانک‌های دولتی، خصوصی و خارجی افغانستان می‌پردازد. این مطالعه با استفاده از رویکرد کمی انجام شده و داده‌ها از طریق پرسشنامه ساختاریافته از ۳۵۲ پاسخ‌دهنده معتبر جمع‌آوری و ذریعه آمار توصیفی، تحلیل واریانس یک طرفه (ANOVA) و تحلیل رگرسیون چندگانه مورد تجزیه و تحلیل قرار گرفته‌اند. یافته‌ها نشان می‌دهند که میان بخش‌های مختلف بانکی از لحاظ آگاهی نسبت به بانکداری موبایلی، کارت‌های خودپرداز، کارت‌های بدهی و اعتباری، انتقال آنلاین وجوه، خدمات سوئیفت، خدمات ویس‌تورن یونین، نرم‌افزارهای بانکی، مقررات بانکداری الکترونیکی و استفاده از وب‌سایت‌های بانکی تفاوت معنادار احصائیوی موجود است ($p < 0.05$) با این حال، در زمینه آگاهی عمومی از بانک‌ها و بانکداری الکترونیکی، درخواست آنلاین قرضه، خریدهای الکترونیکی و بررسی صورت حساب‌ها تفاوت معنادار احصائیوی مشاهده نگردید ($p < 0.05$). نتایج همچنین نشان می‌دهد که کمبود آگاهی نسبت به محصولات بانکداری الکترونیکی، محدودیت دسترسی به اینترنت، نگرانی‌های امنیتی و کمبود امکانات تخریکی از مهم‌ترین موانع پذیرش بانکداری الکترونیکی به شمار می‌روند. نتایج تحلیل رگرسیون نشان داد که مدل تحقیق ۲۵٫۲ درصد از تغییرات آگاهی مشتریان را تبیین می‌کند ($p=0.003$; $F=18.45$; $R^2=0.252$). در میان عوامل جمعیت‌شناختی، تنها متغیر درآمد دارای رابطه معنادار با سطح آگاهی مشتریان بود ($p < 0.001$; $\beta=0.379$)، در حالی که جنسیت، وضعیت تأهل، سطح تحصیلات و شغل تأثیر معناداری نشان ندادند. این تحقیق پیشنهاد می‌کند که تقویت برنامه‌های آگاهی‌دهی، بهبود زیرساخت‌های الکترونیکی و کاهش نگرانی‌های امنیتی می‌تواند به گسترش پذیرش و استفاده مؤثر از خدمات بانکداری الکترونیکی در افغانستان کمک نماید.

اصطلاحات کلیدی: بانکداری الکترونیکی، آگاهی مشتری، سکتور بانکی، بانک‌های دولتی، بانک‌های خصوصی، بانک‌های خارجی.

Customer Awareness Toward E-Banking: A Comparative Study of Public, Private, and Foreign Banks in Afghanistan

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Abstract

This study aims to examine customer awareness regarding electronic banking services across public, private, and foreign banks in Afghanistan. Using a quantitative approach, data were compiled from 352 respondents through a structured questionnaire and analyzed utilizing descriptive statistics, one-way ANOVA, and multiple regression analysis. The findings show significant differences among banking sectors in awareness of mobile banking, ATM cards, debit and credit cards, online fund transfers, SWIFT services, Western Union services, banking applications, e-banking regulations, and banking websites ($p < 0.05$). However, no significant differences were found regarding general awareness of banks and e-banking, online loan requests, electronic purchases, and account statement checking ($p > 0.05$). The study also identifies insufficient knowledge, limited internet access, security concerns, and inadequate technological facilities as major barriers to e-banking adoption. Regression results show that, the model explains 25.2% of the variation in customer awareness ($R^2 = 0.252$; $F = 18.45$, $p = 0.003$). Income was the only demographic factor significantly associated with customer awareness ($\beta = 0.379$, $p < 0.001$), whereas gender, marital status, education, and occupation had no significant effects. The study suggests that strengthening customer awareness programs, improving digital infrastructure, and addressing security concerns may enhance the adoption and effective use of e-banking services in Afghanistan.

Keywords: Electronic banking, awareness, Banking Sector, Private banks, Foreign Banks, Public Banks.

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

الحمد لله رب العالمين والعاقبة للمتقين، والصلاة والسلام على أشرف الأنبياء والمرسلين محمد و
على آله وأصحابه أجمعين.

1. Introduction

“E-Banking” or “Internet banking” is referred to as a remote banking service, provided by the authorized banks, or their proxies by equipment operated either under the bank’s direct control or management or under the outsourcing agreement (Khan,2017).

E-Banking do its functions via lots of different channels. The delivery outlets contain direct dial – up connections, private networks, public networks etc., and the devices include telephone, PCs including the ATMs, etc.

Along with the popularity of Personal computers, easy access to Internet and WWW, Internet is increasingly utilized via banks as a medium of obtaining instructions and delivering their products to customers (Bendigeri,2014).

Without technology banking industry has remained static and rigid over many decades, but with emergence of technology, banking affairs across the world experienced rapid growth and development abruptly. In recent years the rapid growth of information technologies and techniques, specifically in banking sector, has led to drastic changes and brought many facilities in banking services. E-banking has not only connected people with faster banking services, but also provided people with convenient process of conducting the banking affairs (Gichuki and Jagongo,2018).

Nowadays the traditional banking usage is decreasing. so instead of visiting the branches of banks physically, customers are using ATM in areas of cashier tellers, credit cards and electronic cash for their transactions.

Also, it permits the customer to deliver their requests for multiple services, make queries on their account balances and send instructions to the bank and also electronically transfer E-cash to their accounts,

pay bills, and conduct other transactions online. It relies greatly on information and communication technology (ICT) to attain 24 hours availability and faster delivery of financial services (Devanathan,2019).

While electronic banking has been expanded quickly in developed countries, its growth in developing countries, including Afghanistan is also accelerating. This growth has the power to advance accountability, transparency, speed and access to financial services in a country that has long faced infrastructure challenges (Karimi,2016).

But one of the tough challenges in developing countries, especially in Afghanistan is the lack of literacy of utilizing electronic banking and also the inadequate infrastructure of E-banking. In spite of this bitter reality, endeavors have been made since 2001 in the country to rebuild the infrastructure of banking industry as well as for adopting and promulgating of E-banking nationwide (Joya, 2012).

In Afghanistan, the banking sector has grown considerably over the past two decades, and despite security and economic tough circumstances, private public and foreign banks have made efforts since 2011 to offer electronic banking services to their customers. Nevertheless, there are pivotal divergence between public, private and foreign banks about the implementation and adoption of these services. Foreign banks for instance The First Micro-Finance due to their access to advanced technology and international norms and standards, have played a more prominent and distinguished role compared to local banks in Afghanistan (Karimi,2016).

While domestic private banks have also made notable strides, public banks have faced greater challenges in this area, including technological barriers and customer resistance to digital and electronic developments owing to the lack of knowledge and literacy of utilizing E-banking (Fahiq,2023).

Previous researches inside and outside the country, have shown that customers' awareness of electronic banking services and how to use them is a pivotal factor in the prosperity of these systems. In

Afghanistan, public awareness of electronic banking remains low, and many customers are hesitant to use these services due to unfamiliarity with their benefits and security (Ahmadi, 2018). On the other hand, some studies have indicated that foreign banks have succeeded in enhancing the customers perception and awareness to E-banking services, while local public and private banks continue to struggle with these challenges (Safdari & Mahdi, 2022).

This study tries to examine customer awareness regarding E-banking in public, private and foreign banks in Afghanistan. Using a comparative approach, this research aims to identify the factors affecting the adoption of E-banking in these banks and provide solutions for improving the current situation. Given the raising and vital role of electronic banking in facilitating financial and economic transactions in Afghanistan, the findings of this research could help banks improve their electronic services and raise public awareness.

2. Theoretical Framework

2.1 Customer Awareness

Customer awareness refers to consumers' knowledge and understanding of the availability, features, advantages and hazards associated with electronic banking (Davis, 1989). Awareness enables customers to make informed decisions, increases confidence in digital financial services, and impact adoption behaviors across platforms such as internet-based banking, mobile-based banking, and digital wallets (Lavuri, 2018). Key elements of awareness include familiarity with system usability, security measures, and service reliability. Functional awareness relates to understanding how e-banking services operate, while security awareness refers to recognizing fraud-prevention mechanisms and privacy safeguards (Davis, 1989; Alkhowaiter, 2019).

Previous research consistently demonstrates that higher customer awareness is linked to increased adoption of e-banking services, improved satisfaction, and enhanced service efficiency (Aker, 2010). Awareness initiatives implemented by banks-such as education

campaigns, tutorials, and customer support programs-have been shown to strengthen customer loyalty and encourage wider usage (Tandon, Goel, & Beshnoi, 2016).

From a theoretical standpoint, customer awareness is deeply embedded within technology adoption models. The Technology Acceptance Model (TAM) by Davis (1989) exhibits that perceived ease of use (PEU) and perceived usefulness-both influenced by awareness-shape behavioral intentions. Ajzen's Theory of Planned Behavior (TPB) (1991) further shows that, awareness affects attitudes, subjective norms, and perceived behavioral control, thereby influencing intentions to adopt digital services.

While numerous studies have examined awareness, gaps remain. Research often underemphasizes demographic influences such as age, income, and education, despite evidence showing their significant roles in shaping awareness levels (Alkhowaiter, 2019). Cultural variations and regional differences in digital literacy are also insufficiently explored, particularly in contexts similar to Afghanistan. Addressing these gaps is essential for designing tailored awareness strategies that target diverse customer segments.

In summary, customer awareness remains a vital precursor to successful e-banking adoption. Banks must invest in comprehensive awareness programs that communicate both the opportunities and risks associated with digital financial services. Doing so enhances customer trust, improves digital literacy, and supports broader financial inclusion.

2.2 Theories of Technology Adoption and E-Banking

Electronic banking (e-banking) encompasses online platforms and digital devices such as internet banking, mobile applications, ATMs, and digital wallets (DWs) that facilitate financial transactions (Singh & Srivastava, 2019; Nisha & Rashid, 2017). E-banking enhances convenience, accessibility, and efficiency, reduces dependence on physical branches, and fosters customer satisfaction (Khan &

Mahapatra, 2009; Gan et al., 2006). In developing regions, e-banking also contributes significantly to financial inclusion (Demirgüç-Kunt et al., 2018).

The Technology Acceptance Model (Davis, 1989) lingers foundational in illustrating users' adopting of e-banking services, emphasizing perceived usefulness and ease of use as key determinants. Complementing TAM, Rogers' Diffusion of Innovations (2003) highlights the role of social influence, relative advantage, and compatibility in driving adoption (Venkatesh et al., 2003; Rahi & Ghani, 2016).

Historical and global analyses reveal that e-banking initially emerged in technologically advanced economies before expanding to emerging markets. However, countries with limited digital literacy and cybersecurity frameworks continue to face significant challenges (Mishra et al., 2013; Zhao et al., 2010). Cybersecurity concerns, in particular, remain among the primary barriers to adoption (Abu-Shanab & Pearson, 2007).

Seminal scholars such as Davis and Rogers have shaped the understanding of digital adoption, and their models continue to guide institutions in designing customer-centric e-banking services (Venkatesh et al., 2016; Amin, 2007). These theories provide a strong conceptual foundation for linking awareness to adoption behaviors in this study.

2.3 Demographic Influences on Customer Awareness

The substantial body of research explores that how demographic variables—for instance as age, gender, education, income, and location form customer awareness and usage of e-banking. Studies from various countries demonstrate marked differences in awareness levels across demographic groups.

For instance, Kuisma et al. (2007) found that younger and more educated individuals show higher awareness and adoption rates in Finland. Similarly, Mansour et al. (2017) reported that people with higher income and education levels are more inclined to adopt e-

banking services in Iran. Laukkanen (2016) revealed significant urban–rural contrasts, with urban residents displaying stronger awareness due to better access to digital infrastructure.

Comparative studies across banking sectors also show variations in awareness. Singh and Malhotra (2014) demonstrated that Indian customers with greater exposure to digital security measures are more aware of e-banking. Nguyen et al. (2015) observed higher awareness among customers of foreign banks in Vietnam, while Tandon et al. (2016) found that awareness levels in private banks are often higher than in public-sector institutions.

Research from Afghanistan highlights similar patterns. Karimi (2018) noted that awareness varies considerably across demographic groups in Afghanistan, reflecting disparities in digital literacy and access. These findings collectively underscore that demographic variables act as a critical role in forming awareness and must be accounted for when designing awareness initiatives.

2.4 Barriers to E-Banking Awareness and Adoption in Developing Countries

literacy, and limited trust in technology have repeatedly been identified as primary obstacles.

Zhou, Lu, and Wang (2010) reported that low awareness and perceived security risks hinder adoption in China. Al-Somali, Gholami, and Clegg (2009) found a similar trend in Saudi Arabia, where cultural factors and lack of awareness negatively affected adoption. Studies in Kenya (Ondiege, 2015) and Egypt (El-Gohary, 2012) highlighted the importance of educating customers about online features, security protocols, and service benefits.

In Malaysia, Tan et al. (2018) demonstrated that awareness levels significantly differ by age, gender, and income. Awareness gaps were also found to decrease when banks implemented targeted education initiatives. Research by Gu et al. (2009) and Jebarajakirthy & Shankar (2013) emphasized the part of security awareness in forming customer trust. These studies collectively indicate that lack of awareness-

particularly regarding security, functionality, and risks-remains a major barrier in emerging markets. For Afghanistan, where digital banking is relatively new, these barriers are even more pronounced, underscoring the need for systematic awareness-building strategies.

3. Research hypothesis

H1: There is a significant difference in the level of awareness towards E-banking across public, private and foreign banking sectors in Afghanistan.

Rationale: Banking sectors differ in terms of technological investment, customer service quality, and digital promotion strategies, which are expected to influence customers' awareness levels. A "significant difference" refers to measurable variation in group means confirmed through ANOVA at $p < 0.05$, indicating that sectoral characteristics contribute meaningfully to awareness disparities.

H2: There is a significant positive relationship between the demographic variables (age, education and income) and awareness of E-banking in Afghanistan.

Rationale: Demographic characteristics such as education and income often influence technology adoption and financial literacy. Therefore, increases in these variables are expected to be associated with higher awareness levels. A "positive relationship" refers to a statistically significant correlation (e.g., $r > 0$, $p < 0.05$) showing that changes in demographic factors correspond to increases in e-banking awareness.

H3: E-banking awareness is negatively correlated with the perceived barriers to E-banking usage.

Rationale: As awareness increases, users typically gain better understanding of digital banking benefits, which may reduce their perceptions of risk, complexity, or security concerns. A "negative correlation" indicates an inverse statistical relationship (e.g., $r < 0$, $p < 0.05$) where higher awareness is associated with lower perceived barriers.

4. Methodology

The study utilized a quantitative descriptive approach to evaluate E-banking awareness among customers of public, private and foreign banks in Afghanistan. Cochran's formula was employed to calculate the required sample size at a 95% confidence level:

$$\frac{(1.96)^2 \cdot 0.5(1-0.5)}{(0.05)^2} = 384.56$$

4.1 Sampling Technique

The stratified random sampling (SRS) technique was used to ensure adequate and balanced representation of customers across three banking sectors- public, private, and foreign banks. The study was conducted in major urban centers of Afghanistan, where branches of all three types of banks are operational and have a sufficient customer base.

Each banking sector was considered as a separate stratum. Within each stratum, respondents were randomly selected from customer lists obtained from selected bank branches, ensuring that every customer had an fair opportunity of being included in the study.

Although the actual number of customers across the three banking sectors is not equal in practice, an equal allocation approach was adopted in this study, with approximately 128 respondents selected from each sector. This approach is commonly used in comparative studies and one-way ANOVA designs to ensure statistical balance, improve comparability between groups, and avoid the dominance of larger populations over smaller ones.

The use of equal sample sizes across strata enhances the robustness of group comparisons and allows for more reliable statistical testing of differences in customer awareness among public, private, and foreign banks.

4.2. Instrument and Questionnaire Design

Data were compiled using a structured questionnaire containing three sections, demographic information (6 items), E-banking awareness and

usage (15 items) and challenges and perceptions related to e-banking (15 items)

Awareness items were quantified using a five-point Likert scale varying from 1 = *very weak* to 5 = *Very High*, and problems of using E-banking items were measured using a five-point Likert scale ranging from 1 = *Strongly Disagree* to 5 = *Strongly Agree*. The questionnaire was adjusted from established instruments used in prior e-banking studies and reviewed by 8 academic experts for content validity.

A pilot test with 30 respondents was conducted, and reliability was verified with a Cronbach's alpha of 0.82, showing acceptable internal consistency.

4.3 Ethical Considerations

Ethical guidelines were followed across the research. The contribution to the research was optional, informed consent was acquired from all participator, and confidentiality was ensured. No personal identifying information was collected, and participants were informed that the data would be utilized strictly and merely for scientific aims.

4.4 Data Analysis Techniques

Data were analyzed utilizing SPSS. Prior to everything, the descriptive statistics (frequency and percentage) used in analyzing the findings. To compare awareness across banking sectors, one-way ANOVA was applied.

This combination of descriptive statistics, ANOVA, and regression provides a comprehensive analytical framework for understanding the determinants of e-banking awareness and adoption in Afghanistan.

The sample is proportionally divided among the three banking sectors, with approximately 128 respondents for each sector. Data will be collected using a structured questionnaire, focusing on demographic details, awareness regarding Electronic banking services, and challenges faced by customers. Collected data will be analyzed by SPSS software using descriptive statistics and ANOVA to identify and compare E-banking awareness levels across sectors, providing a comprehensive understanding of the topic.

5. Results& findings

Prior to presenting the results of the study, its mentionable that 385 questionnaires were handed out. Out of these, 352 questionnaires were correctly completed out and were suitable for analysis, and the remaining were filled out partially and some of them were rejected without any response. The data compiled from the valid questionnaires were analyzed using SPSS software, employing descriptive statistics and ANOVA to evaluate and compare e-banking awareness levels across the three banking sectors. The following section presents the results based on these analyses.

In this study, the criteria for hypothesis testing were based on conventional significance levels. Specifically, when the p-value was below 0.05, the null hypothesis (H_0) is rejected, illustrating a statistically significant relationship. Conversely, when the p-value was greater than 0.05, the null hypothesis is not rejected.

Regression analysis was employed to decide the strength and direction of associations between the independent variables (customer awareness factors) and e-banking adoption. The regression table provided at the end of the results section includes coefficients (β values), significance levels, and model fit indicators.

In the present section prior to analyzing the level of awareness towards e-banking in Afghanistan, the demographic characteristics are analyzed. Table1 depicts the demographic analysis:

Table1: Demographic Characteristics of the Respondents

Gender	Number	Percentage (%)
Male	265	75.3%
Female	87	24.7%
Total	352	100%
Education Level		
High School	133	37.78%
Bachelor	187	53.13%
Master	30	8.52%
Doctorate	2	0.57%
Total	352	100%

Marital Status		
Single	115	32.68%
Married	237	67.32%
Total	352	100%
Employment Status		
Private sector	181	51.42%
Public Sector	86	24.43%
Unemployed	85	24.15%
Total	352	100%

Source: Research Findings

Table 1 shows the demographic features of the participants of the study. Out of the total 352 participants, 265 respondents (75.3%) were male, while 87 respondents (24.7%) were female, indicating that male participants constituted the majority of the sample.

About educational attainment, more than half of the participants had a bachelor's degree, accounting for 187 participants (53.13%). This was followed by high school graduates with 133 respondents (37.78%). Participants holding a master's degree represented 8.52% (30 respondents) of the sample, while only 2 respondents (0.57%) possessed a doctoral degree. The findings suggest that most of the participants were relatively well educated, with most having completed at least undergraduate-level education.

In terms of marital status, 237 respondents (67.32%) were married, whereas 115 respondents (32.68%) were single. This indicates that married individuals formed the dominant group within the study population.

In terms of employment status, the biggest proportion of participants were employed in the private sector, representing 181 participants (51.42%). Public sector employees accounted for 86 respondents (24.43%), while 85 respondents (24.15%) were unemployed. The results demonstrate that more than half of the participants were engaged in private-sector employment.

Overall, the demographic profile reveals that the sample was predominantly male, largely composed of bachelor's degree holders, mostly married, and primarily employed in the private sector. These

characteristics provide important contextual information for interpreting respondents' awareness of electronic banking services in Afghanistan.

The table 2. presents a comparative analysis of customer awareness levels in terms of various electronic banking services across public, private, and foreign banks in Afghanistan. A one-way ANOVA test was conducted to examine whether significant differences existed in customer awareness of e-banking services among public, private, and foreign banks. The level of statistical significance was set at $\alpha = 0.05$. Accordingly, a p-value less than 0.05 illustrate a statistically significant difference among the groups, leading to the rejection of the null hypothesis (H_0). Conversely, a p-value greater than or equal to 0.05 indicates that the difference is not statistically significant, and therefore the null hypothesis is not rejected.

Table 2: Customer's level of awareness towards E-banking in Afghanistan

No	Level of awareness	Public banks (Mean)	Private banks (Mean)	Foreign banks (Mean)	Sig(P- Value).
1	Regarding the bank	3.67	3.91	3.71	0.23
2	Regarding the E-banking	3.72	3.88	3.44	0.07
3	Mobile Banking	3.61	3.92	3.92	0.00
4	ATM cards	3.56	3.99	3.44	0.03
5	Debit cards& Credit Cards	3.64	3.87	3.64	0.00
6	Online funds transfer	3.29	3.83	3.51	0.00
7	Purchasing goods and services	3.43	3.72	3.47	0.92
8	Online loan request	3.83	3.70	3.72	0.07
9	Purchasing the aviation tickets electronically	3.71	4.00	3.76	0.00
10	Awareness regarding the SWIFT system	3.61	3.94	3.75	0.02
11	Awareness regarding the Western Union system	3.27	3.93	3.91	0.00
12	Usage of Bank's application for conducting the transactions	3.22	3.44	3.65	0.00
13	Checking the statements	3.08	3.78	3.45	0.09
14	Awareness regarding the E-banking regulations	3.31	3.96	3.77	0.034
15	Usage of websites for conducting the transactions	3.41	3.97	3.69	0.004

(Source: Research Findings)

Table 2 shows the findings of the one-way ANOVA done to evaluate differences in customer awareness of electronic banking services among public, private, and foreign banks. Using a significance level of 0.05, the findings reveal that no statistically significant differences were observed regarding awareness of the bank itself ($p = 0.23$), awareness of e-banking ($p = 0.07$), purchasing goods and services

electronically ($p = 0.92$), online loan requests ($p = 0.07$), and checking account statements ($p = 0.09$). Although the mean scores varied slightly across the three banking sectors for these dimensions, the differences were not statistically significant.

In contrast, statistically significant differences were found in several important dimensions of e-banking awareness and usage. Significant differences were observed for mobile banking ($p < 0.001$), ATM cards ($p = 0.03$), debit and credit cards ($p < 0.001$), online funds transfer ($p < 0.001$), purchasing aviation tickets electronically ($p < 0.001$), awareness of the SWIFT system ($p = 0.02$), awareness of the Western Union system ($p < 0.001$), usage of bank applications for transactions ($p < 0.001$), awareness of e-banking regulations ($p = 0.034$), and usage of websites for conducting transactions ($p = 0.004$). These results indicate that customer awareness and utilization of several electronic banking services differ significantly among customers of public, private, and foreign banks.

A comparison of mean scores shows that users of private banks generally reported higher levels of awareness across most dimensions. For example, private bank customers demonstrated the highest awareness regarding ATM cards (Mean = 3.99), purchasing aviation tickets electronically (Mean = 4.00), awareness of e-banking regulations (Mean = 3.96), and usage of websites for conducting transactions (Mean = 3.97). Similarly, awareness of the SWIFT system (Mean = 3.94) and the Western Union system (Mean = 3.93) was higher among private bank customers than among customers of public and foreign banks. These findings suggest that private banks may be more effective in promoting electronic banking services and increasing customer awareness compared to public and foreign banks.

The table3 presents the findings, highlighting the most critical challenges faced by each type of bank.

Table3: Problems tackled by customers during the usage of E-banking

N o.	Problems during the usage of E-banking	Public banks (Mean)	Private banks (Mean)	Foreign banks (Mean)	Sig.
1	Insufficient knowledge regarding the usage of E-banking products	3.33	3.40	3.39	0.04
2	Lack of access to internet	3.05	3.60	3.45	0.00
3	Complicated procedures and systems of E-banking	3.44	3.62	3.49	0.00
4	Lack of transparency in E-banking procedures	3.45	3.45	3.71	0.09
5	Insecurity during the funds transfer form one account to another account	3.37	3.56	3.81	0.00
6	Hacking the account and money robbery	3.39	3.37	3.87	0.00
7	Inadequate equipment for using the E-banking	3.27	3.66	3.65	0.00
8	Continuous changes and adjustments in E-banking	3.27	3.61	3.39	0.00
9	Time consumer	3.29	3.67	3.27	0.00
10	Forgetting the password	3.08	3.64	3.29	0.00
11	Insecure logging in the account	3.01	3.45	3.22	0.00
12	Cultural obstacles	3.28	3.57	3.56	0.00
13	Imposing threat for stealing the personal information	3.56	3.61	3.64	0.00
14	Network Errors	3.54	3.47	3.61	0.06
15	Problems during conducting the huge E-transactions	3.65	3.63	3.66	0.03

(Source: Research Findings)

Table 3 illustrate the findings of the one-way ANOVA analysis regarding the problems encountered during the utilizing of electronic banking services among customers of public, private, and foreign banks.

The findings reveal that most of the identified challenges showed statistically significant differences across clients of public, private, and foreign banks. Significant differences were found for insufficient knowledge regarding the usage of e-banking products ($p = 0.04$), lack of access to the internet ($p < 0.001$), complicated procedures and systems of e-banking ($p < 0.001$), insecurity during fund transfers ($p < 0.001$), hacking and money robbery ($p < 0.001$), inadequate equipment for using e-banking ($p < 0.001$), continuous changes and adjustments in e-banking systems ($p < 0.001$), time consumption ($p < 0.001$), forgetting passwords ($p < 0.001$), insecure account login ($p < 0.001$), cultural obstacles ($p < 0.001$), threats of personal information theft ($p < 0.001$), and problems encountered during large electronic transactions ($p = 0.03$). These results indicate that customers of different banking sectors perceive these challenges differently.

On the other hand, no statistically significant differences were observed regarding lack of transparency in e-banking procedures ($p = 0.09$) and network errors ($p = 0.06$). This suggests that customers of public, private, and foreign banks share relatively similar perceptions concerning these two challenges.

Although statistical significance was the primary criterion for interpretation, the mean scores provide additional insights into the direction of the differences. Foreign bank customers reported higher concerns regarding insecurity during fund transfers (Mean = 3.81), hacking and money robbery (Mean = 3.87), lack of transparency in e-banking procedures (Mean = 3.71), threats of personal information theft (Mean = 3.64), and network errors (Mean = 3.61). Private bank customers reported higher mean scores for lack of internet access (Mean = 3.60), complicated e-banking procedures (Mean = 3.62), inadequate equipment (Mean = 3.66), continuous system changes

(Mean = 3.61), time consumption (Mean = 3.67), forgetting passwords (Mean = 3.64), insecure login (Mean = 3.45), and cultural obstacles (Mean = 3.57). Overall, the findings suggest that while the nature and severity of e-banking challenges vary significantly across banking sectors, concerns related to security, infrastructure, accessibility, and usability remain important barriers to the effective adoption of e-banking services in Afghanistan.

Now the regression analysis is done in the following section. The aim of this regression analysis is to investigate the factors that impact customer awareness of electronic banking services. This analysis' purpose is to provide a clearer understanding of how these factors contribute to customer awareness in the context of electronic banking.

Table 4: Regression Analysis

MODEL SUMMARY					
MODEL	R	R-Square	Adjusted Square	R-	Std. Error of the Estimate
1	.511	.252	.231		.381
a. PREDICTORS: (CONSTANT), GENDER, MARITAL STATUS, INCOME, EDUCATION, OCCUPATION					
b. DEPENDENT VARIABLE: ARE YOU AWARE ABOUT THE E-BANKING SERVICE PROVIDED BY YOUR BANK					

(Source: Research Findings)

The regression analysis shows that the independent variables-Gender, Marital Status, Income, Education, and Occupation-collectively explain 25.2% of the variation in customer awareness of e-banking services, as indicated by the R Square value of 0.252. This suggests a moderate relationship between these predictors and customer awareness, with about a quarter of the variation being explained by these factors. The Adjusted R Square of 0.231 further suggests that the model accounts for around 23.1% of the variance after adjusting for the number of predictors included. While these results are statistically significant, they also indicate that there are additional factors influencing customer awareness that have not been captured in the

model. The Standard Error of the Estimate of 0.381 suggests that the predicted values are relatively close to the observed values, but there is still some level of variance.

To further evaluate the effectiveness of the regression model, ANOVA was done. The ANOVA test helps determine whether the independent variables collectively contribute to explaining the variation in the dependent variable, which, in this case, is customer awareness of e-banking services. By comparing the model's explained variance with the residual (unexplained) variance, we can assess the overall significance of the regression model. The results are presented in the table below.

Table 5: ANOVA(Analysis of Variance)

ANOVA					
MODEL	Sum of Squares	Df.	Mean Square	F	Sig.
Regression	6.50	5	1.300	18.45	.000 ^b
Residual	24.40	346	0.071		
Total	30.90	351			
a. Dependent Variable: Are you aware about the E- banking service provided by your bank					
b. Predictors (Constant), Gender, Marital Status, Income, education, Occupation					

(Source: Research findings)

Table 5 presents the ANOVA for the regression model. This test assesses the overall significance of the model, showing whether the independent variables collectively have a statistically significant impact on customer awareness of e-banking services. The F-value of 18.45 with a p-value of 0.000 indicates that the regression model is statistically significant at the 0.05 level. This means that the model, which includes the independent variables Gender, Marital Status, Income, Education, and Occupation, is effective in explaining variations in customer awareness of e-banking services. The Sum of Squares for regression is 6.50, which reflects the variation explained by the model. The Residual Sum of Squares is 24.40, illustrating the

unexplained variation, while the Total Sum of Squares is 30.90, representing the total variation in the dependent variable. Given the significant F-statistic and p-value, we can conclude that the set of predictors used in the model-Gender, Marital Status, Income, Education, and Occupation-has a statistically significant collective relationship with customer awareness of electronic banking services.

To understand the impact of each individual predictor on client awareness of e-banking services, the regression coefficients are examined. These coefficients show the power and path of the relationship between each independent variable and the dependent variable. The unstandardized coefficients show the actual change in the dependent variable for a one-unit change in the independent variable, while the standardized coefficients permits for comparison of the relative importance of each predictor. Additionally, the significance levels (p-values) help to assess whether the individual predictors significantly contribute to explaining customer awareness. The results are summed up in the table below.

Table6: Coefficients of the regression Model

COEFFICIENTS					
MODEL	Unstandardized Coefficients		STD. Coefficients	T	Sig
	B	Std. Error	Beta		
1	(Constant)	2.58	.414	8.837	.00
	Gender	0.81	.118	.077	.46
	Marital status	0.41	.113	.032	.75
	Income	.273	.063	.379	.00
	Education	-.018	.083	-.023	.83
	Occupation	-.018	.079	-.031	.86

(Source: Research Findings)

Table 6 illustrate the results of the multiple regression analysis done to examine the influence of demographic factors on customer awareness of e-banking services. The significance level was set at

0.05; therefore, variables with sig. less than 0.05 were considered statistically significant predictors of customer awareness.

The findings indicate that income is the only demographic variable that has a statistically significant effect on customer awareness of e-banking services ($B = 0.273$, $\beta = 0.379$, $t = 4.33$, $p < 0.001$). The positive coefficient suggests that as customers' income levels increase, their awareness of e-banking services also increases. This

finding implies that higher-income individuals are more likely to be exposed to banking technologies, possess greater access to digital resources, and engage more frequently with modern financial services, thereby enhancing their awareness of e-banking products and facilities.

On the other hand, gender ($B = 0.081$, $p = 0.46$), marital status ($B = 0.041$, $p = 0.75$), education ($B = -0.018$, $p = 0.83$), and occupation ($B = -0.018$, $p = 0.86$) do not exhibit statistically significant effects on customer awareness, as their p -values exceed the 0.05 threshold. Although these variables show minor positive or negative coefficients, the effects are too weak to be considered meaningful predictors within the context of this study.

Among all explanatory variables included in the model, income demonstrates the strongest influence, as reflected by its standardized coefficient ($\beta = 0.379$). This indicates that income contributes substantially more to explaining variations in customer awareness than the other demographic characteristics. The findings therefore suggest that economic capacity, rather than personal demographic characteristics such as gender, marital status, education, or occupation, plays a more important role in shaping customer awareness of e-banking services in Afghanistan.

Overall, the regression results reveal that customer awareness of e-banking services is significantly associated with income levels, while the remaining demographic variables do not have a statistically significant impact. These findings highlight the importance of improving access to financial resources and digital banking

opportunities across different income groups in order to enhance awareness and adoption of e-banking services.

6. Discussions

This study examined customer awareness toward electronic banking services across public, private, and foreign banks in Afghanistan. findings indicate that awareness levels vary across different dimensions of e-banking services. While respondents demonstrated moderate awareness regarding general banking services and basic e-banking facilities, awareness of several advanced electronic services remained comparatively lower.

The results of the ANOVA analysis showed that no statistically significant differences existed among the three banking sectors regarding general awareness of banks, general awareness of e-banking, online loan requests, purchasing goods and services electronically, and checking account statements. However, significant differences were observed in several specific dimensions, including mobile banking, ATM cards, debit and credit cards, online fund transfers, electronic ticket purchasing, awareness of SWIFT and Western Union services, use of banking applications, awareness of e-banking regulations, and use of banking websites. These findings partially support previous studies suggesting that banking institutions differ in their promotion and delivery of electronic banking services (Nguyen et al., 2015; Tandon et al., 2016).

The results also show that private bank customers generally reported higher mean awareness scores in several e-banking dimensions. This may indicate relatively greater emphasis on customer communication and promotion of electronic services within private banks. Nevertheless, the absence of significant differences in some core awareness indicators suggests that awareness-related challenges are not limited to a specific banking sector and remain a broader issue within the Afghan banking industry.

Another important finding concerns the barriers associated with e-banking usage. Customers identified insufficient knowledge of e-

banking products, lack of internet access, complicated procedures, security concerns during fund transfers, fear of account hacking, inadequate equipment, and concerns regarding personal information theft as major challenges. These results are consistent with past researches done in developing countries, which emphasize that security concerns, limited digital literacy, and infrastructural constraints continue to hinder the effective adoption of electronic banking services (Zhou et al., 2010; Gu et al., 2009; Ondiege, 2015). The regression analysis further revealed that income was the only demographic variable significantly associated with customer awareness of e-banking services. The positive coefficient indicates that higher-income customers tend to have greater awareness of e-banking services. This result is consistent with past research that suggest individuals with stronger economic capacity are more likely to access digital technologies and interact with modern banking services (Mansour et al., 2017; Tan et al., 2018). In contrast, gender, marital status, education, and occupation did not demonstrate statistically significant relationships with awareness levels.

Overall, the findings suggest that customer awareness of e-banking in Afghanistan remains moderate and is influenced by both economic conditions and practical barriers related to technology usage. Although differences exist across certain e-banking services, challenges related to awareness, security, and accessibility remain common across all banking sectors. These findings highlight the importance of strengthening awareness programs, improving customer education, and enhancing the accessibility and security of e-banking services throughout Afghanistan.

7. Conclusion

This study investigated customer awareness toward electronic banking services among public, private, and foreign banks in Afghanistan using data collected from 352 valid respondents. The findings indicate that customer awareness differs across specific dimensions of e-banking services.

The ANOVA analysis revealed statistically significant differences among the three banking sectors in several areas, including mobile banking ($p < 0.001$), ATM cards ($p = 0.03$), debit and credit cards ($p < 0.001$), online fund transfers ($p < 0.001$), purchasing aviation tickets electronically ($p < 0.001$), awareness of the SWIFT system ($p = 0.02$), awareness of the Western Union system ($p < 0.001$), use of banking applications ($p < 0.001$), awareness of e-banking regulations ($p = 0.034$), and use of banking websites for transactions ($p = 0.004$). In contrast, no statistically significant variations were found regarding general awareness of banks ($p = 0.23$), general awareness of e-banking ($p = 0.07$), purchasing goods and services electronically ($p = 0.92$), online loan requests ($p = 0.07$), and checking account statements ($p = 0.09$).

The study also identified major barriers to e-banking usage. Customers reported insufficient knowledge of e-banking products, limited internet access, complicated procedures, insecurity during fund transfers, fear of account hacking, inadequate equipment, and threats to personal information as significant challenges. Most of these barriers showed statistically significant differences across the three banking sectors.

Regression analysis showed that the independent variables collectively explained 25.2% of the variation in customer awareness ($R^2 = 0.252$), and the overall model was statistically significant ($F = 3.901$, $p = 0.003$). Among the demographic variables, income was the only factor with a statistically significant effect on customer awareness ($B = 0.273$, $\beta = 0.379$, $p < 0.001$), illustrating that higher-income customers tend to have greater awareness of e-banking services. Gender, marital status, education, and occupation did not show statistically significant effects.

Overall, the findings indicate that awareness of e-banking services in Afghanistan remains uneven across different service dimensions, while practical challenges related to security, infrastructure, and

digital accessibility continue to affect customer engagement with electronic banking services.

8. Recommendations for policymakers

1. Banks should implement targeted awareness programs to improve customers' knowledge of advanced e-banking services, particularly online fund transfers, SWIFT services, Western Union services, banking applications, and online transaction platforms, where awareness levels were comparatively lower.
2. Since insufficient knowledge of e-banking products was identified as a major challenge, banks should provide regular customer training sessions, demonstrations, and educational materials explaining the characteristics and advantages of e-banking services.
3. The findings revealed that lack of internet access remains a significant barrier to e-banking usage. Therefore, banks should collaborate with telecommunication providers and relevant authorities to improve customers' access to reliable internet services.
4. Security-related concerns, including insecurity during fund transfers, account hacking, and threats to personal information, were among the most important barriers reported by respondents. Banks should strengthen customer awareness regarding security measures and provide clear guidance on safe e-banking practices.
5. Since customers reported difficulties related to complicated e-banking procedures, banks should simplify digital banking processes and improve the user-friendliness of their electronic banking platforms.
6. Inadequate equipment and technological limitations were identified as obstacles to e-banking usage. Therefore, banks should expand access to digital banking facilities and ensure that customers can easily utilize available electronic banking services.
7. The regression analysis showed that income significantly influences customer awareness of e-banking services. Therefore,

awareness programs should particularly target lower-income customers who may have less exposure to digital banking services and technologies.

8. Banks should establish periodic monitoring and evaluation mechanisms to assess customers' awareness levels and identify areas where additional educational and promotional efforts are required.
9. The Afghanistan banking sector should continuously review and improve e-banking service delivery in order to reduce operational challenges and increase customer confidence in electronic banking services.
10. Future awareness initiatives should focus on addressing the specific barriers identified in this study, including limited knowledge, security concerns, internet accessibility, and technological constraints, to elevate the effective use of electronic banking services.

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