

Evaluating Demographic Influences on Electronic Banking Adoption in Jordan: Evidence from User Experience Data



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Abstract

The main objective of the study is the evaluation of the electronic banking services of Jordanian banks with an analysis of the impact of gender and age on the adoption of these services. A descriptive quantitative approach was used to collect data for the study. This included secondary data from previous studies and primary data from a questionnaire distributed to a sample of bank customers. SPSS was used to analyze the data and arrive at the results. Among the most important findings was the high quality of electronic banking services (overall average: 3.9), with ATM services recording the highest usage (4.3), while biometric authentication appeared to be the least adopted service (3.5). Statistical analysis using Mann-Whitney and Kruskal-Wallis tests also revealed significant demographic differences: gender significantly impacts user satisfaction (men are more satisfied with the clarity of applications (4.35 vs. 3.65) and the speed of transactions (4.50 vs. 3.90) at a significance level of $p < 0.05$), and age determines the level of adoption of technical services (young people <25 years use fingerprint (4.75) and applications (4.50) significantly more than older people 41-55 years (3.07 and 3.67) at $p < 0.05$), confirming the existence of a digital divide that requires designing services tailored to the elderly and women to ensure inclusiveness of digital transformation.

Keywords: Electronic banking services, Online Banking, Jordanian Banks, gender, E-Banking, Service Quality, E-Commerce.

1. Introduction

Banks are essential to the economy because they show how developed and prosperous the economy is. In order to finance exchanges and transactions, their operations depend on deposits from people, organizations, institutions, and businesses. These deposits are then reinvested and disbursed through a variety of credit facilities. The activities of commercial banks are not limited to loans, advances, discounting commercial bills, opening documentary credits, or maintaining current and savings accounts in order to make use of the bank's financial resources, though, due to the natural expansion of the finance and business sector. Rather, banks have grown to provide a wider range of banking goods, including computerized banking services.

Online banking, commonly referred to as electronic banking (E-banking), is essentially a system that allows users to perform banking activities conveniently from their own homes through the internet. This system facilitates access to accounts, enables transactions, and offers information about financial products and services to individual customers or organizations via public or private networks like the internet. While various services, such as e-government, are gaining traction online, internet banking stands out by granting users significant independence in managing their transactions and utilizing banking services electronically, with e-commerce being a prominent example (Nazaritehrani & Mashali, 2020).

The Jordanian financial sector is undergoing a significant transformation, reshaping how banking and financial services are delivered. This shift includes the integration of a wider range of service delivery channels, with e-banking emerging as a central platform for these advancements. At the same time, commercial banks in Jordan are striving to optimize their operations and minimize costs through electronic banking systems. However, to encourage broader adoption of internet banking by customers, Jordanian banks and e-commerce entities must proactively address consumer concerns and understand the critical factors influencing customer acceptance of e-banking. Tackling these barriers is essential for facilitating the transition to digital solutions.

Research on the factors influencing the adoption of e-banking has been conducted, but very little of it has been done in developing nations like Jordan. To date, no research has been conducted on how demographic characteristics affect sector bank customers' acceptance of e-banking in Jordan.

The rest of the paper is described as follows: section two provides the literature review, while section three considers briefly the methodology, section four and section five focus on hypothesis and descriptive statistics respectively. Data analysis and test hypothesis is discussed in section six while the conclusion is presented in the last section.

2. Literary Review

Many previous studies have addressed the topic evaluation of e-banking services of Jordanian banks:

Alawna and Rawajbeh (2019) examined barriers to electronic banking adoption in Palestinian banks, measuring the impact of (gender, age, education level, and job nature) using analytical descriptive methodology. Their study surveyed 1,327 individuals via a 55-item questionnaire across five domains. The results showed that, with the exception of technical-technological barriers, all domains had moderate-to-high barrier levels with statistically significant disparities. Gender, age, education, job type, bank's operational scope, ownership country, founding year, and stock exchange listing all showed significant statistical influences. Raising ATM cash withdrawal and deposit limits, educating customers on e-service mechanisms, and charging more for traditional services to encourage the shift to digital were among the recommendations.

Dienerand Spacek, (2021), address the inadequately researched obstacles hindering digital transformation in banking—a pervasive challenge requiring comprehensive process adaptation amid disruptive innovation. From a managerial perspective, it identifies key barriers in private/commercial banking through contextual interviews with German bank board members, inductive content analysis, and best-practice evaluation. Findings reveal strategy/management, technology/regulation, customer dynamics, and employee factors as primary concerns. Secondary barriers emerged in market knowledge/product development, stakeholder participation (employee/customer), and public benefit considerations. Each major barrier comprises sub-barriers of varying significance, all critically examined to elucidate their impact on banks' digital overhaul.

According to (AlNaaji & Qusef, 2021), e-banking is a global and ubiquitous phenomenon that is essential to the survival of modern financial institutions. Customers who utilize e-banking services genuinely trust them and perceive them as safe and reliable methods for handling their financial transactions. Additionally, e-banking capabilities are seen by investors as critical to the competitiveness and efficiency of banking. The question still remains, though, because so many people do not use online banking, especially in underdeveloped countries.

Ghezali (2022). aims to determine which electronic banking channels are most crucial and how they contribute to higher-quality banking services. 41 questionnaires that were valid for the study were obtained from a random sample of 54 Gulf Bank Algeria-M'sila Agency consumers after a questionnaire was created and delivered to them. It is shown that ATM services are the most popular and utilized services by bank clients, and that there is a substantial association between the aspects of electronic banking and the quality of banking services. The author points out that there are still a number of fundamental issues with electronic work, the most significant of which are the inadequate technical

infrastructure and the dearth of administrative and technical cadres capable of carrying out electronic banking tasks with great proficiency and efficiency.

Ayinaddis et al. (2025) examined factors influencing the acceptance and use of e-banking from the customer's perspective using a cross-sectional survey research design. Through the use of a questionnaire for respondents, primary sources provided the data used in this investigation. The results demonstrated that while security concerns and customer attitudes had a limited impact on e-banking adoption, a number of factors, including perceived usefulness, accessibility, ease of use, and compatibility with customer needs, all play a role in customers' acceptance and use of e-banking. This study adds significantly to the body of knowledge on Ethiopia's adoption of e-banking and has significant policy ramifications for the industry's decision-makers. The policy makers may encourage the use of e-banking, enhance digital banking's financial inclusion, and support the expansion and advancement of Ethiopia's banking industry by addressing the reasons that have been identified and putting the right laws and procedures in place.

3. Methodology

We employ a descriptive and analytical method based on the analysis of survey data provided to various bank branches in order to investigate and quantify the evaluation of Jordanian banks' e-banking services. Various descriptive statistical techniques, including percentages, arithmetic averages, percentages of averages, and analytical statistical techniques that are suitable for the study's data and goals, have been applied to the processed quantitative study data. we used 5-point Likert scales, ranging from 1 (strongly disagree) to 5 (strongly agree).

4. Hypotheses

This study is based on the following two hypotheses:

Hypothesis 1: There is no statistically significant effect of gender on the use of e-banking services.

Hypothesis 2: There is no statistically significant effect of age on the use of e-banking services.

5. Descriptive statistics

The purpose of this section is to examine the survey respondents' answers and ascertain their opinions regarding the use and uptake of virtual banking in Jordan. Therefore, this section covers the data source, data changes, statistical and inferential analysis of the data.

The main method of gathering data was through survey questionnaires. By employing a sampling method that was convenient, the researcher was able to gather a sample of people who were easily accessible.

5.1 Demographic Statistics

The questionnaire replies of 31 individuals were gathered from various Jordanian cities and locales. The questionnaire's participants' diverse demographic data may have an impact on opinions regarding the uptake of virtual banking.

Table 1 summarizes the statistics by Gender and by age. In particular, the percentage of male participants in the sample is 22.6%, while the percentage of female participants is 77.4%. In addition, the age range, which spans from 25 to 55 years and beyond, was separated into three periods. The table shows that less than 25, 25–40, 41–40, 41–55, and 55 years and older are the recorded intervals As can be seen, around 55% of participants were between the ages of 42 and 55, 35% of participants aged between 25 and 41 years old while the rest is below 25 years old.

Table 1 The Demographic Statistics

percentage	Statement
Gender	
22.6%	male
77.4%	female
Age	
9%	Less than 25 years
35%	25-41 years
55%	42-55 years
1%	More than 55 years

Regarding the education level, Figure 1 shows that most of the participants hold bachelor's degree (81%) while (13%) of them hold Master degree and 3% hold Ph.D degree from the total respondents.

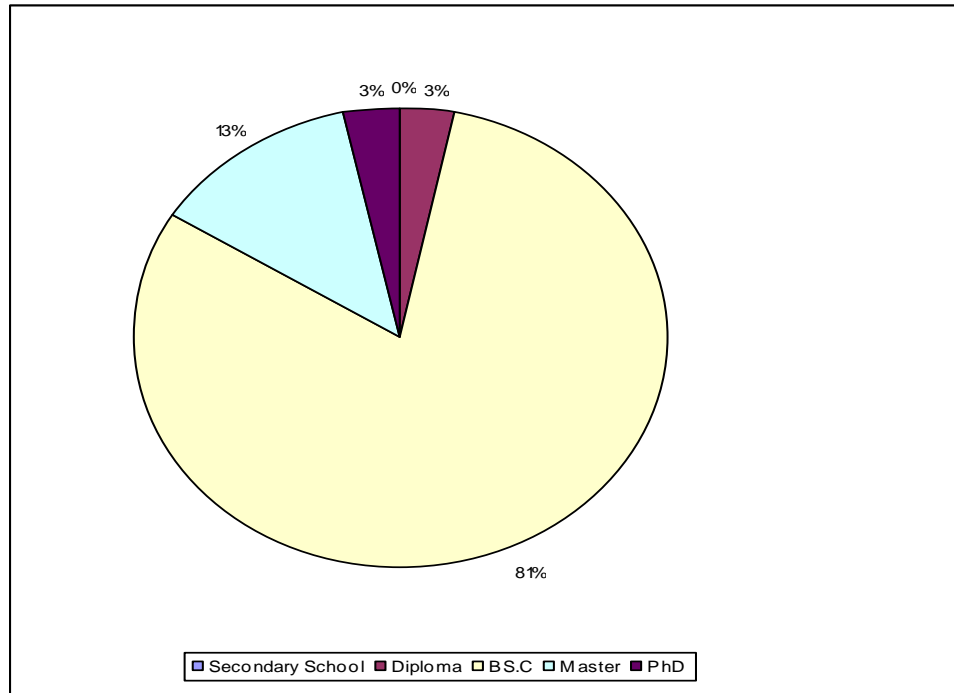


Figure 1. Educational Level

5.2 Electronic banking services

The reactions of the sample members to online banking services are displayed in Table 2. The statistical analysis's findings showed that a large number of electronic banking services are highly available. There was little variation in the responses on this topic, as indicated by the general arithmetic mean of 3.9 and the standard deviation of 1.0.

Table 2 Descriptive statistics on questions related to electronic banking services

Questions	Mean	Std. Dev.	Rank	Level of Importance
The bank's website allows customers to access and manage their accounts remotely.	4	0.85	3	High
The bank provides many electronic banking services.	4.25	0.68	2	High
I use biometric authentication (fingerprint) when logging into the bank app.	3.5	1.3	5	High
I use the bank's mobile app for most of my banking transactions.	3.7	1.2	4	High
I use my ATM card for most of my banking transactions.	4.3	0.8	1	High
I use the CliQ instant payment service.	3.7	1.3	4	High
General average	3.9	1		

The use of ATM cards came in first with an arithmetic mean of 4.3, followed by the availability indicator that the bank offers a wide range of electronic banking services (arithmetic mean of 4.3), the indicator that the bank's website is the best place to complete banking transactions (arithmetic mean of 4.25), and the use of the CliQ method and the mobile application came in equal place in fourth place (arithmetic mean of 3.7). The indicator of using fingerprint biometric authentication when accessing the bank's application came in last, with an arithmetic mean of 3.5. Overall, these findings suggest that Jordanian banks exhibit strong indications of available electronic banking usage.

6. Data Analysis and Test hypothesis

6.1 Characteristics of the study sample

The analysis of the questionnaire results shows that (77.4%) of the study sample members are females. It is also noted that the majority of them hold a bachelor's degree as a minimum, with a percentage of approximately (81%), which means that they are suitably qualified. As for the age group that most uses banking services, (50%) of the sample members are between the ages of 41 and 55. Confidence in the results is reinforced by respondents' extensive banking experience, with nearly 58% having over 10 years of engagement with their bank.

These findings collectively demonstrate respondents' sufficient knowledge and capability to comprehend and answer the survey questions accurately.

6.2 Test hypothesis

Hypothesis 1: There is no statistically significant effect of gender on the use of e-banking services.

In order to test the hypothesis, Mann-Whitney U Test was used for two independent groups. The results of Table 3 show that: Males are 95% more satisfied with the clarity of applications and they are 75% more satisfied with the speed of transactions. Other than that, the impact of gender on the use of electronic banking services does not differ statistically significantly at the significance level ($\alpha=0.05$).

Table 3 First Hypothesis testing

Item	Average Male Rating	Average Female Rating	Difference	Statistical Significance
Clarity of applications in banking services	4.35	3.65	0.7	yes
Use fingerprint	4.0	3.3	0.7	no
Speed of electronic banking transactions	4.5	3.9	0.6	yes

Hypothesis 2: There is no statistically significant effect of age on the use of e-banking services.

In order to test the hypothesis, The Kruskal-Wallis test was used. at Significance level: $\alpha = 0.05$. Table 4 shows the youth category (<25 years old) recorded the highest average use of fingerprints, with an average of 4.75, while the 41-55 age group recorded the lowest average (3.07), a difference of 1.68 points. A similar gap appeared in the evaluation of mobile app use (4.50 vs. 3.67) and app clarity (4.50 vs. 3.60). This means that older adults face technical challenges such as using fingerprints and mobile apps, while basic services appear acceptable across all age groups.

Table 4 Second Hypothesis testing

Item	Less than 25 years	25-41 years	42-55 years	Kruskal-Wallis	Statistical Significance
Use fingerprint	4.75	4.45	3.07	12.85	yes
Clarity of applications in banking services	4.50	4.36	3.60	7.93	yes
Use the bank's mobile app	4.50	4.73	3.67	9.27	yes
Speed of electronic banking transactions	4.75	4.55	3.93	6.15	no

7. Conclusion

The objective of the study is to find out the acceptance of e-banking offered by the banks in Jordan based on demographic variables. This study demonstrates notable gender and age-based digital divides in the adoption of e-banking in Jordan: females report lower satisfaction with interface clarity and transaction speed than males, and older adults (41–55 years) use biometric authentication and mobile apps significantly less frequently (mean=3.07 vs. 4.75 for <25 years, $*p < 0.05$). Therefore, bank managers should have different strategies in targeting different groups of customers living in Jordan in terms of age, occupation, sex held in order to promote and encourage e-banking adoption. This includes making interfaces simpler for senior citizens, improving user experience for women, and boosting biometric trust. Additionally, they must make sure that digital transformation is in line with national objectives for rapid economic growth.

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