

# The impact of Technology adoption on Customer Satisfaction in Banking Sector in Jordan

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## Abstract

Technology expansion nowadays is reshaping business growth and businesses will be able to fully exploit new technology and reap the benefits of doing so by adopting new technology. But Technology adoption requires more than just putting technology to work; it also entails successfully integrating new technology into the organization. Therefore, like any sector Technology has a significant impact on the banking sector as well. Banks are constantly focusing on customer satisfaction as they seek to exceed expectations, as well as keeping an eye on their clients' needs and aspirations. So, the purpose of this study was to identify the impact of technology adoption on customer satisfaction in the banking sector in Jordan by identifying the key factors that have an important impact on customer satisfaction in the banking sector as a result of the adoption of technology in the banking sector in Jordan. In addition, this study has discussed and analyzed the challenges that banks in Jordan might deal with when adopting technology. Also, it identified what technology and method is best to be adopted by the banking sector in order to maintain customer retention and satisfaction. At a first step, the researcher identified the terms and keywords for better understanding of the study. The study is based on a qualitative approach in order to achieve the study's aims and objectives. After that the researcher has analyzed the secondary data from previous several articles and studies that are relevant to the objective of this study.

**Keywords:** Technology Adoption; Satisfaction; UTAUT; Customer Retention; Bank; TAM; TPB.

## 1. Introduction

The expansion of Internet and technology has created a significant change in how businesses connect with their customers and the banking and financial sector are believed to be ahead of other industries that rely on the technology and internet to engage with clients through e-banking services (Rawwash et al., 2020). The concept of e-banking is often explained as online banking is an electronic payment system that allows a bank or financial institution's customer to carry on financial or non-financial transactions over the internet, such as: open

accounts, transfer money, and stock trading, Customers are able to use this service to access practically any bank service that was previously exist only at a bank branch, such as fund transfers, deposits, and online bill payments.

The banking industry is critical to the Jordanian economy; commercial banks keep growing impressively in terms of assets and servicing quality while supplying the Jordanian economy with the required finance and facilitation services (Khraiwish et al., 2022). Jordanian banks have devoted complete attention to

information technology, responding to massive developments in this sector and coping with these changes in order to achieve a competitive advantage, particularly for internet banking services. As a result, electronic banking (E-banking) services have become increasingly popular as an electronic route for executing financial transactions as Jordanian commercial banks continue to offer the majority of their financial transactions electronically (Al-Gharaibah, 2020).

According to United States Agency for International Development (USAID) this significant increase in the supply of financial services is a result of several causes, such as: the increased demand from entrepreneurship and startups during the last decade, The government's intention to economic diversification because of the entrepreneurial and innovative potentials to the market, which has attracted many foreign supportive collaborators, and lastly, the Syrian refugees' ongoing efforts to achieve economic independence as they are constrained not just by legal limits (and a faltering economy) that limit their opportunities for employment and self-employment, but also by an absence of a supplementary set of financial services. Also, banks, like other service firms, aim to improve customer service and build stronger relationships with their clients (Nazaritehrani, A., & Mashali, 2020). In Jordan's banking industry, previous research on technology adoption to satisfy clients has mostly focused on the evolution of technology adoption, the benefits of technology adoption over traditional banking, and the factors influencing on technology acceptance in commercial banks.

Technology's advancement has a significant impact on the banking industry in terms of satisfaction, profit, performance and other. It provides a wide range of benefits such as improved accuracy, cost savings, adaptability, and security. Adopting Technology in banks is defined as the use of innovative information and automation technologies in financial services, as well as a movement in how technology is used to create new services and business models. Banks are constantly focused on client satisfaction and seek to exceed satisfaction, as well as keeping an eye on their clients' needs and aspirations. However, in a digital age, it is difficult for banks to

consistently fulfill customer satisfaction. One of the first commercial applications of mobile commerce was (E-banking). Banks have developed their own mobile applications in order to satisfy the needs of their discerning clientele and to provide effective, trustworthy, and timely services (Zalloum et al., 2019). Banks, on the other hand, have learned that they must constantly modernize it and keep up with any new e-services (AbuShanab & Pearson, 2017; Hammouri et al., 2021c). As a result, technology has become a fundamental part of banking, making the creation and delivery of financial services more efficient and less costly.

The aim of this research is to investigate the relationship between technology adoption in banking sector in Jordan and customer satisfaction. The research will analyze the key factors that influence customer to accept technology and the factors that influence on customer satisfaction in terms of technology adoption. To achieve this, the focus will be on identifying the E-banking system and tools that are adopted in the banking sector in Jordan and analyzing its impact on customer satisfaction. In addition, the research will consider the pros and cons of technology adoption in the banking sector and the challenges that banks will or might deal with when adopting technology into their business in Jordan.

## 2. Literature Review

### 2.1 Technology Adoption

The acceptance, integration, and usage of new technology in society are referred to as technology adoption. This means a systematic strategy to implementation within an organization or portion of an organization for consultants (Al-Sharafi et al., 2018). This concept has been around for a long time and is frequently used in the context of digital technology. The term "technology" is used to describe the widespread usage of cell phones, smartphones, the internet, and other digital devices. This model can be used by firms that produce software or digital technology to find relevant customers for a product or service, which can aid them in a variety of ways.

Technology, in particular, is a major driving force in innovative ability, particularly in terms

of both the growth of innovations and the method in which they spread. Despite the fact that various research studies have been conducted to better understand the adoption process, only a few hypotheses are extensively used in the present literature. Also, most of the theoretical models are criticized for being fragmented and lacking a unified model that accounts for the many elements that impact technology use (Hammouri et al., 2022; Khasawneh & Abu-Shanab, 2012). As a result, it is necessary to comprehend theoretical models and the technology adoption lifecycle, which includes innovators and early adopters, as it is a classification of customer satisfaction concerning to the acceptance of a service or product (Hammouri et al., 2021d).

The Technology Acceptance Model (TAM) and the Universal Technology Adoption and Use Theory (UTAUT) models were developed in computer science to solve problems concerning technology adoption (Jaradat et al., 2020). And by reviewing the theoretical models, it is worth mentioning that the Unified Theory of Acceptance and Use of Technology (UTAUT) addressed many gaps in terms of integration and adoption of technology in banking, and it will be discussed later as advantages and disadvantages, as well as the necessity for mobile banking acceptance to bridge the gaps between banks and customers (Al-Gasawneh et al., 2022; Atobishi et al., 2021).

To fill those gaps, a study model was created by combining the Technology Acceptance Model (TAM) and the theory of planned behavior (TPB) and more models, to create a comprehensive inquiry. This would expand our understanding of the factors that help or hinder customers' attempts to use Jordan's electronic banking services. TAM by Davis (1989) among the various models that have been presented, it's one of the most often used models for studying the elements that cause people to accept and use a new technologies and information systems. But to study the enabling performance expectations, condition, social impact, and effort estimation, of the e-banking, unified theory of acceptance will perform better than other theories, such as the TPB, human conduct is arbitrated by the intention to do the behavior, which is influenced by attitudes toward behavior, subjective norms, and

perceived behavioral control (Schifter & Ajzen, 1985).

The UTAUT was created with the intention of being utilized in the context of employee acceptance of technology, but it has since been widely employed in consumer surveys. According to Williams et al., UTAUT was well-known in the field of information communication and technology (ICT). The UTAUT model is both compressive and relevant to clients' plans to use e-banking. The construct performance expectancy is used in this study to quantify the extent to which clients believe that using technology would increase their business and personal performance and hence add value. The facilitating conditions construct, according to UTAUT, can measure the ambient influence on real behavior (Venkatesh et al., 2003).

According to UTAUT, the main elements of effort expectancy, performance expectancy, and social influence have a direct impact on behavioral intention, such as using e-banking technology. It also claims that the two conceptions of behavioral intention and facilitating conditions have a direct impact on how e-banking technology is actually used (Al-Dwairi et al., 2019). UTAUT theory was used to provide the conceptual model since it is capable of capturing the most important aspects of Jordanian customers' E-banking adoption. It is basic model, for an information systems theory that explains how people come to accept and use technology.

Also, according to the Technology acceptance model (TAM), a user's intention to use a new information system, which is defined by the user's beliefs about the system, determines the user's adoption of the system. So based on TAM, two beliefs – perceived usefulness and perceived ease of use – are important in explaining the differences in users' intents. As a result, the key reasons for internet banking acceptance are time and cost savings. Based on TAM that perceived usefulness is influenced by perceived ease of use, because the easier a technology is to use, the more valuable it can be, and consumers who believe mobile banking services are valuable use them (Masoud, E., & AbuTaqa, 2017).

## 2.2 Customer Satisfaction

Customer satisfaction is a metric that indicates how satisfied the customers are with a firm's goods and services (Hammouri et al., 2020; Hammouri, Q., & Altaher, 2020). It refers to how well you, as a product or service supplier, meet your clients' wants and expectations (Ganapathi & Abu-Shanab, 2020). Understanding the technology adoption life cycle, when combined with other customer success and product experience's tools, is an approach to undertake customer classifications, including behavior, so that marketing, development, and sales strategies may be optimized and updates prioritized. The technology adoption lifecycle describes customer behavior associated with the acceptance of a new service or product, and can be divided into laggards, early majority, late majority, early adopters and innovators. Thus, in order to properly facilitate technology adoption, cognitive, emotional, and situational concerns must be addressed (Nusairat et al., 2020).

## 2.3 The impact of technology on customer satisfaction in banking

The use of internet to connect to a financial network is known as E-banking. And with the increased usage of technology, the customer experience environment has permanently changed. For example, long wait times and delayed responses are no longer acceptable for their banks as it has a significant impact on customer satisfaction. Satisfaction is influenced by a variety of aspects, including psychological, economic, and physical factors (Hammouri & Abu-Shanab, 2018). Satisfaction is the answer to the consumer's realization and prosperity. It is a determination of whether the constitution of a product or service has produced an agreeable level of comprehension and success in relation to consumption. Satisfaction with services is the result of comprehended quality or value. Customers base their evaluations on their service abilities and expectations (Abu-Shanab, E., & Anagreh, 2015).

Some of the factor affecting on customer satisfaction in the case of e-banking services is safety and trust. Technology trust has been proven to be critical for Customer Relation Management (CRM) performance. When CRM

effectiveness is measured in terms of customer intent to repurchase or reuse e-banking services, it is clear that trust is a factor in behavior intention in electronic services. According to Mahawrah et al (2016), CRM is a combination of activities, people, and technology that aim to understand the customer of a company. CRM has evolved as a result of developments in information technology and changes in customer-centric procedures within banks. Customer loyalty and long-term profitability will be rewarded for companies who successfully adopt CRM.

And according to SalesForce, 67% of customers are willing to spend more for a positive experience, customers expect companies to understand their requirements and expectations, according to 76% of respondents, and 70% of purchasing decisions are made depending on how the customer feels they are handled (Bass et al, 2020). A country's economy can run smoothly and without many hiccups if its banking system is not just adaptable but also capable of tackling new obstacles in regards to technology and other internal or external factors. That is why the backbone of any economy is a strong and efficient banking system. Moreover, when focusing a country like Jordan, commercial banks in Jordan have been providing electronic services to their customers since 1992, banks and financial institutions are constantly looking for new ways to attract more customers and admit them into their networks of business (Rawwash et al., 2020).

Also, it's important to note that technology is frequently seen as a crucial tool for increasing a company's economic competitiveness (Almajali et al., 2021). It is well acknowledged that technology has a significant impact on corporate productivity. Only if and when technology is widely spread and used will these effects be realized. It's crucial to understand the elements that drive technology adoption (Hammouri & Abu-Shanab, 2020). Therefore, banks have begun to look for mechanisms and new styles that can provide banking services that are more appealing, despite the fact that technological advancements are still limited in Jordan compared to America and Europe.

Electronic bank services include fund transfer, opening of bank account utility bill payments, view account activities, checking account

status, set up alerts, locations of nearest ATMs, schedule automatic payments, applying for loans, obtaining information on financial products and services etc. In Jordan the electronic bank services include ATMs, internet banks, online banking, home banking, phone banking, contact centers, electronic payment services, and money exchange devices. As for phone banking, mobile communication devices are revolutionizing banking transactions by utilizing wireless networks and the internet to attract customers. Mobile and Internet banking can assist in gaining full access to personal bank account details and transactions, as well as conducting installment of credit and pay utilities' bills and fund transfer. Customers who are interested in using mobile banking need to download the bank application to their phones. Once the application is installed, you can use the service for free; the only expense you will incur is the cost of normal mobile communication. It's a comprehensive range of services in a variety of fields (Hammouri & Abu-Shanab, 2017b).

So, if customers are pleased with the services provided by their bank along with the time and duration to complete transactions; they are more likely to use e-banking systems as mobile and other banking services again. They tend also to associate this with satisfied service from the company. However, if they are not pleased, they will prefer to keep on using traditional banking services or they might try other banks who can offer more amenable e-services and can offer ease of use (Masa'deh et al., 2022). Consequently, E-banking has offered several benefits, including eliminating the need for physical attendance at bank branches, increasing the precision of payments and receipts, quickening the flow of economic transactions, strengthening security, and many other benefits on one hand (Al-Kubaisi & Abu-Shanab, 2022).

On the other hand, it was discovered that the expenditures connected with technology advancements in banking have increased transaction prices (Transaction fees), putting customers at a disadvantage. The cost of investment made by banks, the degree of technology adoption, and customer education in technological developments could all be factors in this growth. This means that banks must concentrate on innovation and automation

in order to increase profitability while still satisfying clients (Sandhu, S., & Arora, 2022). And customers are urged to use online banking due to the rapid advancement of the Internet, e-commerce, and financial and banking industries.

#### 2.4 Challenges to achieving technology acceptance within customers

Since E-banking services have become one of the most essential means of service in the financial industries, nonetheless, some bank customers still wary about using this type of service (Alkhaldeh et al., 2022; Hammouri et al., 2021). Banks recently are undergoing a major transformation due to the evolving market and the evolving demands of customers. So, it is not that easy to transform to digital banking while maintaining compliance. The lack of clear and effective laws and regulations is one of the primary channelings to expanding E-banking services. Jordan proposed an electronic transactions law in 2002 to boost e-commerce and e-banking. However, a thorough set of supporting rules is still required, which must be accomplished through collaborative efforts by the Ministry of Information and Communications Technology (MOICT), Ministry of Industry and Trade (MIT), and Jordan's Central Bank (Abu-Shanab, E., & Matalqa, 2015).

Moreover, banks will or might deal with other challenges when adopting e-banking systems and tools in order to achieve technology acceptance and the main challenges are as follow:

##### 2.4.1 Increasing Competition

Because the Jordanian financial sector is highly competitive, banking departments should provide banking services that are innovative and diverse. Customers' wants should be met, if not exceeded, by these services. Especially in today's world of fierce competition, giving high-quality service those results in delighted customers is the key to long-term competitive advantage. Banks face increased competition comparing to other increasingly digital intermediaries (Vives, 2019). In order to maintain a competitive advantage, each bank should always come up with innovative solutions to all problems that customers might deal with when experiencing e-banking. To make sure that customers are provided a

streamlined and user-friendly customer experience.

#### 2.4.2 Customer Retention

In today's ever-competitive commercial arena, customer retention is becoming an increasingly pressing issue (Mahmoud, 2019). Customer retention is the first and most effective technique for a bank's growth. Client Relationship Management solutions have been developed and used to promote customer acquisition and retention as well as to support critical analytical tasks such as forecasting, modeling, and classification (Nili & Keramati, 2012). In Jordanian banks, the percentage of clients that use e-banking services is still quite low, with only 8% of customers using e-banking services to conduct their banking transactions. As a result, Jordanian banks are having difficulty deploying their e-banking services because the majority of their customers choose traditional banking (Gharaibeh & Arshad, 2016). However, banks seek and aim to keep those 8% or more of customers if not increasing and approaching more customers. Therefore, by understanding the customers' needs in terms of new technology, being up to date for e-banking tools and systems and engaging with them to achieve technology acceptance, this will increase customer satisfaction which in its role will maintain customer retention.

#### 2.4.3 System and Security

Privacy and security are important factors in the growth of trust in Internet banking because when clients process financial information and know that their information will be much protected, they feel more at rest and progressively raise their trust in the bank (Alwan & Al-Zubi, 2016; Hammouri & Abu-Shanab, 2017a; Hammouri et al., 2016). On the operational side of the banks business, many banks and financial institutions are dragged down by old technology (Almajali & Hammouri, 2021). Back-end systems that are no longer fit for purpose and are unlikely to work well with newer systems should be replaced. In some circumstances, this 'technical debt' may result in vulnerabilities, necessitating frequent and costly security audits.

Hence, management attention is drawn to enhancing the quality of information systems as the company's reliance on them increases

(Hammouri et al., 2021b). According to a recent poll, one of the main problems facing banks is "improving IT quality." Because IT quality is a multifaceted metric, it's important to figure out which parts of IT are most relevant to banks in order to develop effective IT quality improvement initiatives. Banks should model the relationship between the quality of their information systems (IS) and the impact they have on their banks. We believe that in instances when system quality, information quality, and service quality are all good, there will be a higher organizational influence. Customers also believe there is a link between the quality of the system and the quality of the information (Alkailani & Nusairat, 2022; Shankar & Jebarajakirthy, 2019).

The findings demonstrate that the most impactful variable in this model is Information system service quality followed by system quality and information quality emphasizing the significance of IS service quality for organizational performance. Furthermore, Consumers evaluate banking relationships based on their level of trust and their perception of risk, assuming that the bank is acting in their best interests (Kim & Jindabot, 2022). So, banks must improve the security elements of their systems in order to reassure their clients that their e-banking services are secure. Positive safety elements that are highlighted may help to change negative customer opinions. As a result, banks should effectively communicate to users that present security is more than acceptable, allowing customers to feel comfortable when using e-banking services. Banks could also improve their usage of shared value by gathering data on client preferences and comments. This could be accomplished through the use of online surveys and/or a discussion forum. Such steps may increase the likelihood of using e-banking services (Shafei, R., & Sijanivandi, 2022).

#### 2.4.4 Rising Expectations

Customers today are sharper, savvy, and well-informed than ever before, and they expect a large level of personalization and accommodation from their banking experience. The alteration of customer demographics is a big factor in these higher expectations: each new production of banking customers brings with them a deeper awareness of technology

and, as a result, a higher expectation of digitized experiences. In Jordan, youth are more likely to use e-banking comparing to elderly people as they are aware of the latest technology models and tools in the banking industry. Also, youth more likely to travel and study abroad, during this period they get introduced to banks outside the country and they start comparing them with banks here once they get back.

As a result, and due to the rapid pace at which technology evolves, banks must reinforce and adapt with these challenges and enhance their risk management framework to the advanced technological operating environment, updating it regularly and dynamically while adhering to information security principles, such as maintaining customer information confidentiality and privacy protection, data integrity, and the availability of E-Banking services.

### 3. Methodology

A significant quantity of research on E-banking services has emerged during the last decade. Since this study is based on a qualitative data approach, the researcher collected data from several resources and previous studies and researches. When searching the database for the title and keywords and specifically from 2006 to 2021, an almost 17,000 results can be found. The titles and abstracts of 44 articles were manually and systematically screened – see figure 1. From these, 28 articles were excluded as they did not explore the impact of technology adoption on customer satisfaction and how it influenced to use E-banking. In addition, the researcher excluded some data from studies that collected data through a quantitative approach, like surveys and questionnaires.

E-banking promotes the growth of the financial system and is viewed as a strategic weapon by banks. However, Jordan has a low engagement of customer adoption of electronic banking services, despite the fact that it offers many benefits to both banks and customers. Electronic banking services, on the other hand, will not provide the predicted benefits if they are not utilized by banking consumers. As a result, the primary goal of this analysis is to

investigate the impact of technology adoption on customer satisfaction and the factors that influence the adoption or intention to adopt e-banking technologies, as well as the challenges that banks face to achieve technology acceptance.

The several previous researches presented a range of theories to explain the factors influencing customers' adoption of internet banking. According to a recent comprehensive literature review, interest in the topic of online banking usage increased dramatically between 1999 and 2012, and it continues to be a popular area of research. Despite for many years of research, the existing online banking adoption material is quite scattered and not all results and studies are relevant. But the researcher has viewed and analyzed all different point of views from different authors concerning technology adoption in banking sector in Jordan.

### 4. Conclusion

In a nutshell, the study aims to examine the impact of technology adoption on the customer satisfaction in banking sector in Jordan. Jordan's internet banking industry is booming, and banks are scrambling to figure out their clients' views and opinions of the technology. This study also argues that the features and other services offered by E-banking can aid in the adoption of online banking among Jordanian bank clients. It has been determined that customer satisfaction with E-service quality is one of the most important determinants of E-banking success. E-banks must be constantly adaptable to rapid technological changes in order to provide a good service for customers in terms of quality, availability, accessibility, and interactivity, to meet customer needs, and to focus on increasing customer satisfaction.

While electronic banking has a lot of advantages for users and new business opportunities for banks, it also increases the risks associated with traditional banking. Even though some nations have made significant progress in adjusting banking and supervision legislation, ongoing attention and changes will be required as the spread of e-banking increases. Banks require a robust analytical

framework to understand the impact of e-banking on consumer satisfaction. Banks must have knowledge about their customers, competitors, business partners, competitive environment, and internal operations, which enable them to make effective, significant, and frequently strategic business decisions and competitive edge.

As for customers, customers in Jordan must trust and use internet services. While some Jordanian banks offer or claim to offer online services to their customers, it appears that either they are not promoting such services enough, that their customers do not trust such services, or that they do not have enough information about the risks and problems associated with using such services. To safeguard internet users from any risks and issues, the government should enact laws and regulations governing online transactions. Customer's trust in E-banking may improve as a result and encourage them to use it.

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