

The Role of Financial Technology in Improving Performance in Jordanian Islamic Banks

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Abstract

This study aims to determine how financial technology (FinTech) affects Jordanian Islamic bank's performance. 130 employees of Jordanian Islamic banks made up the study sample. To assess FinTech, which includes automated payment methods, financial inclusion, and automation all of them were considered independent variables, whereas, performance improvement in Jordanian Islamic banks was the dependent variable. The results of the linear regression analysis used to test the hypotheses showed that FinTech has a positive impact and a significant impact on financial performance in Jordanian Islamic banks, with automation having a positive effect of 77%, alternative payment methods having a significant impact of 68%, and financial inclusion having a positive impact of 65%. Future research should, according to the study, take into account more factors to more thoroughly evaluate how FinTech has improved performance in Jordanian Islamic banks. Additionally, future research can broaden the sample size, strengthening the validity of the findings.

Keywords: *Financial technology; improving performance; jordanian islamic banks.*

Introduction

The financial accounting services industry has advanced to its most recent level in several of its related disciplines of FinTech (Jarrah et al., 2023a). It integrates the most recent technological advancements and applies to financial institutions, resulting in the delivery of financial services in a new way that is flexible, quick, and affordable (Lee & Shin, 2018). Financial institutions that offer various banking and financial services based on contemporary technologies have evolved in this industry (Alqudah et al., 2023). As a result, these businesses are now serious rivals to banks in terms of services offered (Tawfiq & Abdullah, 2023). Therefore, the advancement of contemporary FinTech has created an urgent requirement for the banking industry to go more and more toward digital payments (Mehdiabadi et al., 2022). FinTech significantly enhances bank performance on a global scale (Alshehadeh & Al-Khawaja, 2022). Naim (2022) claims that FinTech aids in improving productivity, cutting expenses, and raising customer happiness. Additionally, Jordan has experienced notable growth in the use of FinTech in recent years due to large investments made by banks and other financial institutions in technology to improve services (Kumari & Devi, 2023).

Therefore, banks consider developing transparent and fair mobile banking costs to provide a common platform for all financial institutions. This will improve fair market completion and so prevent financial firms from exploiting their customers (Almatarneh et al., 2023). Furthermore, financial institutions should continue to offer cheap transaction rates inside their Mobile networks and guarantee that diverse clients' deposits are always secured (Ojor et al., 2023). Additionally, by automating several procedures, including account opening, loan processing, and client onboarding, FinTech has helped banks in Jordan increase operational efficiency (Kemboi, 2018). This has led to cost savings for banks as well as quicker and more effective client services (Hailat et al., 2023). FinTech has allegedly increased the security of banking services in Jordan, according to Alkhazaleh & Haddad (2021). To protect client data and transactions, banks are now using cutting-edge security technology including biometric authentication, encryption, and secure communication channels (Aithal, 2016). To improve Jordan's financial inclusion, FinTech has also been essential (Al Zobi & Jarrah, 2023). Digital financial services have made it simpler for remote individuals and organizations to obtain financial services and participate in the economy (Tay et al., 2022). Oladapo et al. (2022) claim that the use of FinTech has sparked innovation in the Jordanian banking industry, leading to

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the development of new goods and services to meet the shifting demands of customers. In the same vein, FinTech has been primarily responsible for enhancing Jordanian banks' operational efficiency (Pakurár et al., 2019; SP et al., 2022; Sylvanus et al., 2023). FinTech has allowed Jordanian banks to offer better services and compete successfully on the international market by enhancing customer experience, operating efficiency, and security, encouraging financial inclusion, and increasing creativity (Al-Azzam, 2015). Financial technology innovations have surpassed traditional financial services. The empirical findings of Bashayreh and Wadi, (2021) demonstrated that Fintech has a beneficial influence on Jordanian bank performance. Profitability was favourably influenced by bank size and gross domestic product, whereas financial leverage had no meaningful impact.

Furthermore, this research will discuss the function of FinTech in enhancing performance in Jordanian Islamic banks. The potential for additional growth and change in the area of digital payments has been assisted by new electronic channels and mobile devices. The research's main issue is the lack of clarity regarding FinTech and its contribution to bettering performance in Jordanian Islamic banks. The research's significance lies in outlining the key aspects of FinTech and how it affects Jordanian Islamic banks' performance, and it is the first of its kind in this area, it will add to the body of knowledge in the field of science. This is because prior studies have been scarce in this area. This research tries to define the nature of FinTech and its function in enhancing Jordanian banks within the same setting.

The research format will consist of logically ordered sections. The theoretical framework will be the following phase, where the pertinent research and theories about the research issue will be presented and addressed. A theoretical framework for comprehending the research topic and the research objective will be provided in this part. The section on literature review and hypothesis generation will be presented after the theoretical framework. In this section go over the research data collection procedures, analysis methods, and research strategy. It will detail the methods used to get the data, evaluate it, and interpret the findings. The outcomes and the hypothesis testing will be discussed following the section on the research technique. The research results will be presented in this section, along with an explanation of how the hypotheses were examined. The data will be objectively analyzed, and the results statistical significance will be discussed. The section on conclusions, discussion, and recommendations will next be delivered. The research's key conclusions and their ramifications will be outlined in this section. Additionally, it will offer suggestions for further research as well as ways to put the research findings into practice.

Literature Review and Hypotheses Development

FinTech refers to financial services and solutions that use technology to raise the bar for conventional financial services (Ozili, 2018; Baporikar, 2021). Also, fintech services include electronic payment services like virtual currencies, financing, financial advisers, and bots. It strives to provide new or current financial goods and services that improve security, reduce expenses, and improve financial inclusion, hence boosting economic growth and financial development (Almashhadani & Almashhadani, 2022). This technology can be used by more individuals because it is quicker, less expensive, and easier (Jarrah et al., 2022). This expression, which alludes to technological breakthroughs used in the financial services sector, was created to highlight the relationship between finance and technology (Cannavacciuolo et al., 2023). It is also possible to characterize it theoretically as a brand-new category of financial service built on financial and information technologies. According to Murinde et al. (2022), FinTech is the term for new approaches that progressively take hold and transform the development of products, services, business models, and application types. A set of businesses that employ contemporary technology to deliver or facilitate financial services is known as FinTech (Łasak, 2022). This definition enables the development of financial goods and services that are more user-friendly and less expensive to deliver. According to Gomber et al. (2018), FinTech is a collection of cutting-edge services that are backed by advancements in information systems and communication technology.

According to Leong & Sung (2018) and Gautam et al. (2022) the term "FinTech" originated from "finance", "accounting" and "technology," and includes cutting-edge businesses that offer financial services that are mostly based on technology. According to Oladapo et al. (2022), FinTech demonstrates the financial services industry's adoption of technology. FinTech is built on cutting-edge technologies including artificial intelligence, mobile wallets, the Internet, and near-field communications claim (Vučinić, 2020; Almaiah et al., 2022). According to Jiakui (2023) and Abad-Segura et al. (2020), these technologies' potential

contribution to the development of FinTech services is now being assessed. According to Omarini (2023), the FinTech sector's expanding influence depends on technological advancement, the fusion of novel practices, individualized creation, and the existence of financial services around the clock, all of which improve the experience for customers. According to Razzaq (2023), FinTech institutions place a greater emphasis on technology than traditional financial institutions. With the aid of information technology (IT), people may now simply, swiftly, and affordably access financial services. According to Yudaruddin's (2023) research, FinTech firms hurt bank performance. This study also discovers that Islamic banks perform poorly in comparison to mainstream banks. When FinTech startups engage with Islamic banks, however, this study reveals that a higher number of FinTech startups have a beneficial influence on the performance of Islamic banks, particularly in the peer-to-peer lending category. Furthermore, this report discovers that FinTech companies boost the performance of Islamic banks in both normal and crises.

The Ediagbonya & Tioluwani (2023) study also shows that both cutting-edge IT institutions and the conventional financial industry are using FinTech. In the former, some businesses use technology to offer new financial services, while in the latter, there are businesses like insurance companies, banks, and brokerage houses. Technology is utilized by both organizations to enhance service delivery (Jarrah & Jarrah, 2022). By bypassing conventional banking processes and systems, FinTech enables connections between borrowers and lenders through Internet platforms. Financial services delivered by computers and other digital technology support this sector's rapid and dynamic expansion. According to Gomber et al. (2018) and Popelo et al. (2021) claim that the financial services sector digitization is the wide element of FinTech, which takes into account potential financial solutions using information technology. The implementation of FinTech brings about several financial benefits, the most significant of which are increased financial inclusion and inclusion, enhanced financial services, and increased financial services economic efficacy (Telukdarie & Mungar, 2023). This innovation entails completely revamping how the financial industry performs its fundamental tasks, including capital allocation, risk sharing, borrowing, and payment settlement (Tawfiq & Abdullah, 2023). The structure of financial institutions and markets may also undergo significant changes as a result of this process (Al Zobi, & Jarrah, 2023). This innovative concept involves a new financial model that offers a variety of financial services, such as settlement, financial management, and financing, through the use of internet tools, cellular payments, and other cutting-edge electronic gadgets. (Baker et al., 2023). As the electronic revolution grew, particularly during the COVID-19 epidemic, computerized networks replaced face-to-face interactions between financial service providers and clients (Mbunge et al., 2022). As a result of this change, online banking, and mobile payments have become more popular (Abdul-Rahim et al., 2022). Therefore, traditional banking faces a big danger when customers change how they manage their accounts (Bello, 2020).

The COVID-19 pandemic, according to Naz et al. (2022), examined the growth of FinTech in the Middle East and North Africa and concluded that the development of digital platforms creates a non-traditional economy by bridging the gaps in human and technological connectivity and communication and encouraging the expansion of the FinTech sector. Considering how contentious it is, FinTech has attracted a lot of interest from governments, politicians, regulators, and experts (Lee & Shin, 2018; Naz et al., 2022). According to Liu & Huang (2022), the growth of FinTech in the nation is attributable to its favourable effects, as it removes loans with high interest rates. They further supported this claim by emphasizing how FinTech guarantees secure personal financial management. Additionally, Aysan et al. (2022) showed how the development and use of FinTech have had a substantial impact on conventional business models in the banking industry. According to Al-Zaqeba et al. (2022), financial accounting technology and company size positively affected supply chain management. Deposits, payments, investments, credit, and capital appreciation are only a few of the financial sectors that have been affected by FinTech (Musabegovic, 2019).

According to Vollmer (2022), central banks have started to take FinTech data, like credit volume, into account when determining how to implement macro prudential policies, monitor financial and economic situations, and formulate financial policy. Several studies, including Dou et al. (2022) and Gao & Jin (2022), encourage the use of FinTech to improve financial services by raising the level of customer satisfaction, encouraging cost-effective transactions, and bolstering organizational structures. According to Li et al. (2022), research also suggested that FinTech might help commercial banks with their diversification plans. According to Chhaidar et al. (2022) found a correlation between the rise in FinTech activity and bank stock returns that was positive. According to De Vries et al. (2021) alternative payment methods have a positive

effect on improving business performance. alternative payment methods refer to payment methods that are not traditional credit or debit card payments. They include options like mobile payments, e-wallets, and cryptocurrency. According to Rahardja et al. (2023) alternative payment methods offer customers more payment options, which can lead to a better overall experience. Furthermore, customers prefer to use their preferred payment method, whether it's a digital wallet or cryptocurrency, and having these options available can increase satisfaction and encourage repeat business (Temizkan et al., 2022). For both types of banks, Almulla and Aljughaiman (2021) discovered a negative association between fintech services and bank performance. Furthermore, demonstrates that the rise of fintech businesses in a nation hurts CBs' financial performance but has no effect on IBs' performance.

In the same context, by automating repetitive or time-consuming tasks, businesses can improve efficiency and reduce the time and resources required to complete certain tasks (Santos et al., 2020). This help business to complete tasks faster, reduce costs and allocate resources more effectively, leading to improved performance (Jarrah & Iskandar, 2019). According to Papadimitriou et al. (2020), automation reduces the likelihood of human error, which can lead to more accurate and reliable results. In addition, automation helps businesses to scale up their operations more easily and quickly (Madakam et al., 2019). Automated systems can handle larger volumes of work than humans can, which means that businesses can expand their operations without having to hire more people. In addition, financial inclusion refers to the availability and accessibility of financial services to all individuals and businesses, regardless of their income level or location (Park & Mercado, 2015). According to the research, financial inclusion and performance enhancement are positively correlated (Khan et al., 2022; Gretta, 2017; Tufail et al., 2022). According to Chen et al. (2021) financial inclusion can build a strong economy by qualifying individuals and businesses to invest in productive activities, expand their businesses, and create jobs. Increased access to financial services also promotes entrepreneurship, innovation, and competitiveness, which can spur economic development (Pradhan et al., 2020). The finding indicates by (Almashhadani & Almashhadani, (2022) that Fintech positively and significantly affects bank performance. Based on the above discussions, the research model and hypotheses were developed as follows:

Research Model

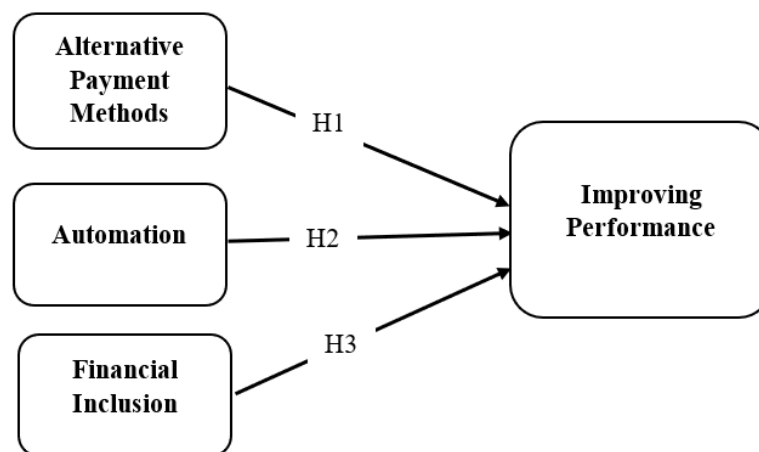


Figure 1.

Hypotheses Development

H1: Alternative Payment Methods have a statistical effect on improving performance in Jordanian Islamic banks.

H2: Automation has a statistical effect on improving performance in Jordanian Islamic banks.

H3: Financial inclusion has a statistical effect on improving performance in Jordanian Islamic banks.

Research Methodology

Research Population and Sampling

The examination will focus on the Jordanian Islamic banks. 130 workers from Jordanian Islamic banks were chosen as the study's sample, and they made up its sample. Participants in the study were significant figures and managers who worked in various departments of the Jordanian Islamic banks. The research population was difficult to pinpoint, thus convenience sampling using a non-probability sample technique was adopted. The study examines a questionnaire to determine how FinTech impacts the performance of Jordanian Islamic banks.

Research Design

Using feedback from bank management, a literature review, and a pre-survey analysis, the questionnaire will be created. It will be broken down into three portions to make it easier for the attendees to grasp. Participants' personal information, including age, gender, years of experience, position, and educational background, was sought in the survey's initial stage. The second part focused on the automation, alternative payment methods, and financial inclusion in commercial banking components of FinTech. The third section's measurement focused on the dependent variable performance improvement. The questionnaire utilized a 5-point Likert scale, with a rating of 1 for least important and 5 for most essential. The chosen sample was composed of significant Jordanian managers and staff members who were aware of the value of FinTech in the banking industry. The participants were recruited for the study processes utilizing a variety of contact methods, such as self-administered surveys and links provided through their social media accounts like WhatsApp. Through the use of a consent form that was presented before performing this study and distributing the questionnaire, the study also received the approval of all participants. The items of measurements were modified to establish an instrument for data collection after researching and screening the prior literature. Participants represented a variety of professions and had varying levels of banking industry expertise.

Measurement of Research Variables

To evaluate the hypotheses and provide usable results, the current research covered a variety of factors that required meticulous assessment. FinTech, which was the key independent variable, was assessed using financial inclusion, alternative payment methods, and automation. The dependent variable was the Jordanian Islamic banks' increasing performance.

Independent Variables (FinTech):

The surveys, which will be sent in 2023, are designed to evaluate several facets of FinTech, including automation, alternative payment methods, and financial inclusion. Each of the three questionnaire items was filled out separately by participants. To preserve consistency between the independent and dependent variables, the researchers divided the questionnaires for each bank and then estimated the overall response rate for each bank to produce one questionnaire.

Alternative Payment Methods:

Alternative payment methods are available for cashless transactions. They include credit or debit card purchases, loyalty programmer points, purchases made with digital currency, bank transfers, direct debits, and e-wallets (Baker et al., 2023). They also include mobile platforms, regional card programmers, prepaid and postpaid methods, e-invoices, and loyalty programmer points.

Automation:

Automation is the automatic operation or control of a labor process, technique, or piece of equipment. Automation includes a fundamental redesign of the work process, redefining both human and machine functions, rather than merely transferring human functions to machines (Hundal & Zinakova, 2020). Regardless of location, cost reduction and operational improvement can be driven via robotic process automation and cognitive automation solutions.

Financial inclusion:

Financial inclusion is defined as having access to reasonably priced financial goods and services that meet needs (such as payments, transactions, savings, credit, and insurance) and are offered in an ethically and environmentally responsible manner (Sapre, 2022).

Key performance indicators and an online questionnaire with predetermined questions were used to measure the three independent variables. The data were analyzed to get the arithmetic mean and standard deviation.

By showing it to certain experts and professionals in the research field to analyses the statements and collect their opinions to confirm the suitability of these items, the study validated the research measurements. To ensure widespread involvement in this study and obtain a wide range of perceptions from the sample, the study instrument of a questionnaire was edited in both Arabic and English. The descriptive analysis, which was employed in the study's statistical analysis procedure, focused mostly on the frequency and proportion of study elements. The Statistical Package for the Social Sciences (SPSS) was used for all analyses. after verifying the correctness of the study instrument and securing sample consent. 180 questionnaires were distributed in all, and 130 valid responses—or a 72.2% response rate—were returned. The responses that did not seriously fulfil the statements or had missing data were not included in the analysis.

Results

By utilizing the SPSS application to do descriptive statistics, the research findings are presented. Table 1 presents the sample's demographic information, including its members' characteristics. According to the findings, men made up 51.5% of the study sample overall, while women made up 48.5% of the group. However, the study's findings regarding participants' ages revealed that 46.9% were between the ages of 45 and 50, 31.5% were between the ages of 40 and 45, 16.9% were between the ages of 35 and 40, and 4.6% were over the age of 50. The findings regarding the sample's level of experience revealed that the majority of participants had more than 11 to 15 years of experience, followed by those with 5 to 10 years of experience and then those with more than 15 years. Regarding the job title 45.4% of participants were accountants, 22.3% were financial analysts, 16.9% of them were managers, 8.5% of participants were loan officers and 6.9% of them were auditors.

Table 1. Demographic Profiles.

Demographics	Frequency	Percentage%
Gender		
Male	67	51.5%
Female	63	48.5%
Age		
From 35–40	22	16.9%
From 40–45	41	31.5%
From 45–50	61	46.9%
More than 50	6	4.6%
Years of experience		
5-10 years	47	36.2%
11-15 years	49	37.7%
More than 15 years	34	26.2%
Job title		
Financial analyst	29	22.3%
Manager	22	16.9%
Accountant	59	45.4%
Auditor	9	6.9%
Loan officer	11	8.5%

The study further aims to examine the role of FinTech in improving performance in Jordanian Islamic banks, to do this analysis, descriptive statistics for the key variables utilizing the mean and SD are looked at. The data's normal distribution was demonstrated by the results, which revealed that the dataset's skewness and kurtosis values ranged between 1.00 and 2.00, respectively.

Table 2 showed the study reliability results which mostly found great threshold and meet the cut-off of 0.70 and above.

Table 2. Reliability Results.

Dimensions	Items numbers	Reliability	Status
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Financial Inclusion	8	0.879	Reliable
Alternative Payment Methods	8	0.920	Reliable
Automation	7	0.896	Reliable
Improving performance	5	0.922	Reliable
All survey	28	0.965	Reliable

Each paragraph's score and the overall score of the field to which it belongs were correlated using correlation coefficients. Additionally, correlation coefficients between the total questionnaire score and the scores for each of the questionnaire's domains were determined.

Table 3. Pearson Correlation Coefficients.

Dimensions	Financial Inclusion	Alternative Payment Methods	Automation	Improving performance
Financial Inclusion	1	0.845**	0.707**	0.654**
Alternative Payment Methods		1	0.848**	0.686**
Automation			1	0.778**
Improving performance				1

Table (3) illustrates that the correlation coefficients between the study tool's fields and the tool as a whole ranged from (0.70-0.96). The tool's domains and overall score are higher than (0.50), which is appropriate for attaining the study's goals.

The study sample's estimates on the topics of FinTech and their implementation in Jordanian banks were determined by arithmetic means and standard deviations. Table (4) displays the findings.

Table 4. Arithmetic Means and Standard Deviations FinTech Dimensions.

No.	Dimensions	Mean	SD	Degree of impact
1	Financial Inclusion	4.08	0.745	High
2	Alternative Payment Methods.	4.10	0.696	High
3	Automation	3.89	0.762	High
4	Improving performance	3.98	0.716	High

It is clear from Table (4) that the level of activation of FinTech in Jordanian Islamic banks from the point of view of the sample came with high arithmetic averages, where the (alternative payment methods) technique got an arithmetic mean of 4.10, followed by the financial inclusion with an arithmetic mean of 4.08, and then the Automation with an arithmetic mean 3.82, and this indicates that the level of using financial accounting technologies in the Jordanian Islamic banks was high.

Hypotheses Testing

H1: Alternative Payment Methods have a statistical effect on improving performance in Jordanian Islamic banks.

Simple regression was used to measure whether there was a significant effect between the areas of the first axis, FinTech, on improving performance in banks, each area separately, as shown in the following tables.

Table 5. Simple Linear Regression for the Impact of Alternative Payment Methods Improving Performance.

R	Model Summary			Regression Coefficient				Sig
	R ²	F	Sig.	Independent Variable	B	Standard Error	T	
0.686	0.471	113.819	0.000	Alternative Payment Methods	0.658	0.062	10.669	0.000

It is clear from Table (5) that the simple regression model represents the relationship between the Alternative Payment Methods in Jordanian Islamic banks and the improvement of the performances, as the value of F calculated is equal to (113.819) that the alternative payment methods Effects 68% in the degree of improving performance among banks, and that increasing one unit of alternative payment methods among banks will increase the degree of improving performance by (0.471), and represents the effect of

the independent variable (alternative payment methods) on the dependent variable (improving performance), which is significant because the value of the calculated T (10.669) was significant when compared to the level of statistical significance ($\text{sig} = 0.000 < \alpha = 0.05$). As a result, the (alternative payment methods) have a substantial impact on how much Jordanian Islamic banks' performance is improving.

H2: Automation has a statistical effect on improving performance in Jordanian Islamic banks.

Table 6. Simple linear Regression for the Impact of Automation Improving Performance.

R	Model Summary			Regression Coefficient				Sig
	R ²	F	Sig.	Independent Variable	B	Standard Error	T	
0.778	0.606	196.917	0.000	Automation	0.682	0.049	14.033	0.000

Table 6 shows the simple regression model represents the relationship between Automation in Jordanian Islamic banks and the improvement of the performances, as the value of F calculated is equal to (196.917) that the Automation effects 77% in The degree of improving performance among banks, and that increasing one unit of automation among banks will increase the degree of improving performance by (0.606), and represents the effect of the independent variable (Automation) on the dependent variable (improving performance), which is significant because the value of The calculated T (14.033) was significant when compared to the level of statistical significance ($\text{sig} = 0.000 < \alpha = 0.05$) Therefore, there is a significant effect of the (Automation) on the degree of improving the performance in Jordanian banks

H3: Financial inclusion has a statistical effect on improving performance in Jordanian Islamic banks.

Table 7. Simple linear Regression for the Impact of Financial Inclusion Improving Performance.

R	Model Summary			Regression Coefficient				Sig
	R ²	F	Sig.	Independent Variable	B	Standard Error	T	
0.654	0.428	95.870	0.000	Financial inclusion	0.586	0.060	9.791	0.000

Table 7 shows the simple regression model represents the relationship between financial inclusion in Jordanian Islamic banks and the improvement of the performances, as the value of F calculated is equal to (95.870) that the financial inclusion effects 65% in the degree of improving performance among banks, and that increasing one unit of financial inclusion among banks will increase the degree of improving performance by (0.428), and represents the effect of the independent variable (FI) on the dependent variable (improving performance), which is significant because the value of the calculated T (9.791) was significant when compared to the level of statistical significance ($\text{sig} = 0.000 < \alpha = 0.05$) Therefore, there is a significant effect of the (Financial inclusion) on the degree of improving the performance in Jordanian Islamic banks.

To clarify the role of FinTech in improving performance in Jordanian Islamic banks, correlation coefficients were calculated between the independent variables and the dependent variables, and the quality of the relationship model was tested using F table (8) show the results.

Table 8. Simple Linear Regression Analysis.

R	Model Summary			Regression Coefficient				Sig
	R ²	F	Sig.	Independent Variable	B	Standard Error	T	
0.753	0.567	167.466	0.000	FinTech	0.732	0.057	12.941	0.000

The findings clearly show a high and favorable association between FinTech and rising performance, with the correlation coefficient measuring ($R=0.753$). As demonstrated by the table, the model's significance was determined by the calculated F value of (167.466) and the significance level of ($\text{Sig F} = 0.000$), which is less than 0.05, and shows that there is a statistically significant relationship between improving performance and FinTech at the level of significance (0.05).

Discussion

Examining the role of FinTech in enhancing performance in Jordanian Islamic banks is the primary objective of this study. The findings demonstrate that Jordanian Islamic banks used FinTech at a high level from the perspective of the study sample. This outcome is consistent with the findings of the studies Tawfiq and Abdullah (2023) and Alshehadeh et al. (2022). The results found FinTech has a statistical effect on performance in Jordanian Islamic banks. Total deposits are significantly impacted by financial inclusion because it makes it easier for customers to access the financial services provided by Jordanian Islamic banks, which makes a variety of financial services more accessible. Customers can access all deposit services by using electronic wallets and other means, these results consistent with Hamadeh (2022) study which found a significant relationship between FinTech and the efficiency of performance.

The performance of banks is also impacted by automation. It enables tasks to be executed automatically and eliminates the need for human contact (Jarrah et al., 2023b). According to this study, financial accounting technologies have a statistical effect on bank performance, with an adjusted R² value of 0.606. FinTech affects net profit because it fosters inventiveness in the delivery of sophisticated financial services to clients. Through increased efficacy and efficiency, technology boosts bank profitability. These findings are consistent with Ibrahim (2018) study, which found that FinTech has a positive and significant impact on performance, as well as with Dwivedi et al. (2021) study, Bashayreh and Abu Wadi (2021). FinTech is essential to the banking sector, claim Abad-Segura et al. (2021). This is consistent with findings from research by Lee et al. (2021) and Wang et al. (2021), which looked at the relationship between financial innovation and technology and bank efficiency and discovered that it was positively correlated. Future research may be conducted to assess the effect of FinTech on bank improvement based on the study's objectives, circumstances, and the addition of new variables like total deposits. Future studies may also increase the sample size, improving the reliability of the results.

Limitation

Since the study only covers Jordan, extrapolating its findings to other Middle Eastern nations may be challenging. Therefore, a nationwide assessment of this nature should be conducted. By conducting additional research to generalize the findings. A longitudinal methodology could be required to determine the effects of FinTech services on banks' performance over time because the study was cross-sectional in nature. This study's tiny sample size and restriction to the Jordanian Islamic banking industry make it constrained. Finally, the respondents' subjective responses to the survey questions are wholly responsible for the results.

Conclusion

All studies agreed that FinTech could affect the banking industry's competitiveness and performance. The results of the linear regression analysis used to test the hypotheses showed that FinTech has a positive impact and a significant impact on performance in Jordanian Islamic banks, with automation having a positive effect of 77%, alternative payment methods having a significant impact of 68%, and financial inclusion having a positive impact of 65%. The research concludes that the development of unique products and services that can increase the competitiveness and efficiency of the banking industry is made possible by FinTech. Jordan embraces new technologies swiftly and believes in innovation and progress. The banking sector benefits from being the first to implement FinTech as a result. This study will assist the banking sector in coordinating new developments and technological shifts to raise the performance and competitiveness of the banks. Overall, as technological and innovative methods gradually and better entrench themselves, Jordanian Islamic banking sector has the ability to develop and become more competitive.

References

- Abad-Segura, E., González-Zamar, M. D., López-Meneses, E., & Vázquez-Cano, E. (2020). Financial technology: review of trends, approaches and management. *Mathematics*, 8(6), 951.
- Abdul-Rahim, R., Bohari, S. A., Aman, A., & Awang, Z. (2022). Benefit–Risk Perceptions of FinTech Adoption for Sustainability from Bank Consumers' Perspective: The Moderating Role of Fear of COVID-19. *Sustainability*, 14(14), 8357.
- Almatarneh, Z., Zaqeeba, N., Jebri, I., & Jarrah, B. A. F. (2023). The role of financial accounting technology in improving customer relationship management in Jordanian banks. *Asian Economic and Financial Review*, 13(12), 1008-1019.

- Aithal, P. S. (2016). A review on advanced security solutions in online banking models. *International Journal of Scientific Research and Modern Education (IJSRME)*, 1, 421-429.
- Al Zobi, M. T. K., & Jarah, B. A. F. (2023). The Role of Internal Auditing in Improving the Accounting Information System in Jordanian Banks by Using Organizational Commitment as a Mediator. *Risks*, 11(9), 153. <https://doi.org/10.3390/risks11090153>.
- Al Zobi, M. T. K., & Jarah, B. A. F. (2023). The Role of Internal Auditing in Improving the Accounting Information System in Jordanian Banks by Using Organizational Commitment as a Mediator. *Risks*, 11(9), 153. <https://doi.org/10.3390/risks11090153>.
- Al-Azzam, A. F. M. (2015). The impact of service quality dimensions on customer satisfaction: A field study of Arab bank in Irbid city, Jordan. *European Journal of Business and Management*, 7(15), 45-53.
- Alkhazaleh, A. M. K., & Haddad, H. (2021). How does the Fintech services delivery affect customer satisfaction: A scenario of Jordanian banking sector. *Strategic Change*, 30(4), 405-413.
- Almaiah, M. A., Al-Rahmi, A., Alturise, F., Hassan, L., Lutfi, A., Alrawad, M., ... & Aldhyani, T. H. (2022). Investigating the Effect of Perceived Security, Perceived Trust, and Information Quality on Mobile Payment Usage through Near-Field Communication (NFC) in Saudi Arabia. *Electronics*, 11(23), 3926.
- Almashhadani, H. A., & Almashhadani, M. (2022). The Impact of Financial Technology on Banking Performance: A study on Foreign Banks in UAE. *International Journal of Scientific and Management Research*, 6(01), 1-21.
- Almulla, D., & Aljughaiman, A. A. (2021). Does financial technology matter? Evidence from an alternative banking system. *Cogent Economics & Finance*, 9(1), 1934978.
- Alqudah, O., Jarah, B., Alshehadeh, A., Almatarneh, Z., Soda, M., & Al-Khawaja, H. (2023). Data processing related to the impact of performance expectation, effort expectation, and perceived usefulness on the use of electronic banking services for customers of Jordanian banks. *International Journal of Data and Network Science*, 7(2), 657-666.
- Alshehadeh, A. R., & Al-Khawaja, H. A. (2022). Financial Technology as a Basis for Financial Inclusion and its Impact on Profitability: Evidence from Commercial Banks. *Int. J. Advance Soft Compu. Appl*, 14(2).
- Al-Zaqeba, M., Ineizeh, N., Jarah, B., Hamour, H. M. J. A., & Zeyad, Z. (2022). Intelligent matching: Supply chain management and financial accounting technology. *Uncertain Supply Chain Management*, 10(4), 1405-1412.
- Aysan, A. F., Belatik, A., Unal, I. M., & Eттаai, R. (2022). Fintech strategies of islamic banks: a global empirical analysis. *FinTech*, 1(2), 206-215.
- Baker, H., Kaddumi, T. A., Nassar, M. D., & Muqattash, R. S. (2023). Impact of Financial Technology on Improvement of Banks' Financial Performance. *Journal of Risk and Financial Management*, 16(4), 230.
- Baporikar, N. (2021). Fintech challenges and outlook in India. In *Innovative strategies for implementing FinTech in banking* (pp. 136-153). IGI Global.
- Bashayreh, A., Wadi, R.M.A. (2021). The Effect of Fintech on Banks' Performance: Jordan Case. In: Alareeni, B., Hamdan, A., Elgedawy, I. (eds) *The Importance of New Technologies and Entrepreneurship in Business Development: In The Context of Economic Diversity in Developing Countries*
- Bello, R. A. (2020). *Risk management practices in the commercial banking industry in Nigeria* (Doctoral dissertation, Manchester Metropolitan University).
- Cannavacciuolo, L., Ferraro, G., Ponsiglione, C., Primario, S., & Quinto, I. (2023). Technological innovation-enabling industry 4.0 paradigm: A systematic literature review. *Technovation*, 124, 102733.
- Chen, Y., Kumara, E. K., & Sivakumar, V. (2021). Investigation of finance industry on risk awareness model and digital economic growth. *Annals of Operations Research*, 1-22.
- Chhaidar, A., Abdelhedi, M., & Abdelkafi, I. (2022). The effect of financial technology investment level on european banks' profitability. *Journal of the Knowledge Economy*, 1-23.
- De Vries, E. F., Scheefhals, Z. T., de Bruin-Kooistra, M., Baan, C. A., & Struijs, J. N. (2021). A scoping review of alternative payment models in maternity care: Insights in key design elements and effects on health and spending. *International Journal of Integrated Care*, 21(2).
- Dou, Y., Zheng, M., Wu, Y., & Bai, S. (2022). Research on the application of smart supply chain finance in the financing of private scientific and technological enterprises in China.
- Dwivedi P, Alabdooli JI, Dwivedi R. Role of FinTech Adoption for Competitiveness and Performance of the Bank: A Study of Banking Industry in UAE. *JGBC*. 2021;16(2):130–8. doi: 10.1007/s42943-021-00033-9. Epub 2021 Aug 6. PMID: PMC8344396
- Ediagbonya, V., & Tioluwani, C. (2023). The role of fintech in driving financial inclusion in developing and emerging markets: issues, challenges and prospects. *Technological Sustainability*, 2(1), 100-119.
- Gao, Y., & Jin, S. (2022). Corporate nature, financial technology, and corporate innovation in China. *Sustainability*, 14(12), 7162.
- Gautam, R. S., Rastogi, S., Rawal, A., Bhimavarapu, V. M., Kanoujiya, J., & Rastogi, S. (2022). Financial Technology and Its Impact on Digital Literacy in India: Using Poverty as a Moderating Variable. *Journal of Risk and Financial Management*, 15(7), 311.
- Gomber, P., Kauffman, R. J., Parker, C., & Weber, B. W. (2018). On the fintech revolution: Interpreting the forces of innovation, disruption, and transformation in financial services. *Journal of management information systems*, 35(1), 220-265.
- Gretta, S. A. A. B. (2017). Financial inclusion and growth. *The Business & Management Review*, 8(4), 434.
- Hailat, K., Jarah, B., Al-Jarrah, M., & Almatarneh, Z. (2023). The impact of electronic banking services on the use of technology by customers of conventional and Islamic banks in Jordan. *International Journal of Data and Network Science*, 7(2), 737-744.
- Hamadeh, Q. I. (2022). THE ROLE OF FINANCIAL TECHNOLOGY IN ENHANCING THE EFFICIENCY OF FINANCIAL PERFORMANCE: AN APPLIED STUDY ON A SAMPLE OF SMALL AND MEDIUM ENTERPRISES. *World Economics and Finance Bulletin*, 9, 40-50.

- Hundal, S., & Zinakova, T. (2020). Financial technology in the Finnish banking sector and changing stakeholder dynamics in the Covid-19 era. In Proceedings of the International Online Conference: Corporate Governance: An Interdisciplinary Outlook in the Wake of Pandemic. November 19-20, 2020. Virtus interpress.
- Ibrahim, A. (2018). The Effect of Financial Technology on the Financial Performance of Commercial Banks in Kenya.
- Jarah, B. A. F., & Iskandar, T. B. M. (2019). The mediating effect of acceptance of using AIS on the relationship between the accounting information systems and financial performance in Jordanian companies. *International Journal of Research and Innovation in Social Science (IJRISS)*, 3, 256-63.
- Jarah, B. A. F., & Jarrah, M. A. A. (2022). The role of accounting information systems (AIS) in increasing performance efficiency (IPE) in Jordanian companies. *Academy of Strategic Management Journal*, 21, 111.
- Jarah, B. A. F., AL Jarrah, M. A., Al-Zaqeba, M. A. A., & Al-Jarrah, M. F. M. (2022). The role of internal audit to reduce the effects of creative accounting on the reliability of financial statements in the Jordanian Islamic banks. *International Journal of Financial Studies*, 10(3), 60. <https://doi.org/10.3390/ijfs10030060>.
- Jarah, B. A. F., Zaqeaba, N., Al-Jarrah, M. F. M., Al Badarin, A. M., & Almatarneh, Z. (2023a). The Mediating Effect of the Internal Control System on the Relationship between the Accounting Information System and Employee Performance in Jordan Islamic Banks. *Economies*, 11(3), 77.
- Jarah, B., Jarrah, M., Almomani, S., AlJarrah, E., & Al-Rashdan, M. (2023b). The effect of reliable data transfer and efficient computer network features in Jordanian banks accounting information systems performance based on hardware and software, database and number of hosts. *International Journal of Data and Network Science*, 7(1), 357-362.
- Jiakui, C., Abbas, J., Najam, H., Liu, J., & Abbas, J. (2023). Green technological innovation, green finance, and financial development and their role in green total factor productivity: Empirical insights from China. *Journal of Cleaner Production*, 382, 135131.
- Kemboi, B. J. (2018). *Effect of financial technology on the financial performance of commercial banks in Kenya* (Doctoral dissertation, university of Nairobi).
- Khan, S., Murshed, M., Ozturk, I., & Khudoykulov, K. (2022). The roles of energy efficiency improvement, renewable electricity production, and financial inclusion in stimulating environmental sustainability in the Next Eleven countries. *Renewable Energy*, 193, 1164-1176.
- Kumari, A., & Devi, N. C. (2023). Blockchain technology acceptance by investment professionals: a decomposed TPB model. *Journal of Financial Reporting and Accounting*, 21(1), 45-59.
- Lasak, P. (2022). The role of financial technology and entrepreneurial finance practices in funding small and medium-sized enterprises. *Journal of Entrepreneurship, Management and Innovation*, 18(1), 7-34.
- Lee, C. C., Li, X., Yu, C. H., & Zhao, J. (2021). Does fintech innovation improve bank efficiency? Evidence from China's banking industry. *International Review of Economics and Finance*, 74(June 2020), 468-483. <https://doi.org/10.1016/j.iref.2021.03.009>
- Lee, I., & Shin, Y. J. (2018). Fintech: Ecosystem, business models, investment decisions, and challenges. *Business horizons*, 61(1), 35-46.
- Leong, K., & Sung, A. (2018). FinTech (Financial Technology): what is it and how to use technologies to create business value in fintech way?. *International Journal of Innovation, Management and Technology*, 9(2), 74-78.
- Li, G., Elahi, E., & Zhao, L. (2022). FinTech, bank risk-taking, and risk-warning for commercial banks in the era of digital technology. *Frontiers in Psychology*, 13.
- Liu, H., & Huang, W. (2022). Sustainable Financing and Financial Risk Management of Financial Institutions—Case Study on Chinese Banks. *Sustainability*, 14(15), 9786.
- Madakam, S., Holmukhe, R. M., & Jaiswal, D. K. (2019). The future digital work force: robotic process automation (RPA). *JISTEM- Journal of Information Systems and Technology Management*, 16.
- Mbunge, E., Batani, J., Gaobotse, G., & Muchemwa, B. (2022). Virtual healthcare services and digital health technologies deployed during coronavirus disease 2019 (COVID-19) pandemic in South Africa: a systematic review. *Global Health Journal*.
- Mehdiabadi, A., Shahabi, V., Shamsinejad, S., Amiri, M., Spulbar, C., & Birau, R. (2022). Investigating Industry 5.0 and Its Impact on the Banking Industry: Requirements, Approaches and Communications. *Applied Sciences*, 12(10), 5126.
- Murinde, V., Rizopoulos, E., & Zachariadis, M. (2022). The impact of the FinTech revolution on the future of banking: Opportunities and risks. *International Review of Financial Analysis*, 81, 102103.
- Musabegovic, I., Özer, M., Djukovic, S., & Jovanovic, S. (2019). Influence of financial technology (FinTech) on financial industry. *Економика пољопривреде*, 66(4), 1003-1021.
- Naim, A. (2022). Mapping Of Social Customer Relationship Management With Electronic Customer Relationship Management. *European Journal of Interdisciplinary Research and Development*, 2, 14-25.
- Naz, F., Karim, S., Houcine, A., & Naeem, M. A. (2022). Fintech growth during COVID-19 in MENA region: current challenges and future prospects. *Electronic Commerce Research*, 1-22.
- Ojor, S. O., Nwoha, C. E., & Okwo, I. M. (2023). EFFECT OF FINANCIAL TECHNOLOGY (FINTECH) ON CORPORATE PERFORMANCE OF BANKS IN NIGERIA, 2009 TO 2021. *British International Journal of Applied Economics, Finance and Accounting*, 7(4), 14-33.
- Oladapo, I. A., Hamoudah, M. M., Alam, M. M., Olaopa, O. R., & Muda, R. (2022). Customers' perceptions of FinTech adaptability in the Islamic banking sector: comparative study on Malaysia and Saudi Arabia. *Journal of Modelling in Management*, 17(4), 1241-1261.
- Omarini, A. (2023). Shifting Paradigms in Banking: How New Service Concepts and Formats Enhance the Value of Financial Services. In *The Fintech Disruption: How Financial Innovation Is Transforming the Banking Industry* (pp. 75-113). Cham: Springer International Publishing.
- Ozili, P. K. (2018). Impact of digital finance on financial inclusion and stability. *Borsa Istanbul Review*, 18(4), 329-340.
- Pakurár, M., Haddad, H., Nagy, J., Popp, J., & Oláh, J. (2019). The impact of supply chain integration and internal control on financial performance in the Jordanian banking sector. *Sustainability*, 11(5), 1248.

- Papadimitriou, E., Schneider, C., Tello, J. A., Damen, W., Vrouwenraets, M. L., & Ten Broeke, A. (2020). Transport safety and human factors in the era of automation: What can transport modes learn from each other?. *Accident analysis & prevention*, 144, 105656.
- Park, C. Y., & Mercado, R. (2015). Financial inclusion, poverty, and income inequality in developing Asia. *Asian Development Bank Economics Working Paper Series*, (426).
- Popelo, O., Dubyna, M., & Kholiavko, N. (2021). World experience in the introduction of modern innovation and information technologies in the functioning of financial institutions. *Baltic Journal of Economic Studies*, 7(2), 188-199.
- Pradhan, R. P., Arvin, M. B., Nair, M., & Bennett, S. E. (2020). The dynamics among entrepreneurship, innovation, and economic growth in the Eurozone countries. *Journal of Policy Modeling*, 42(5), 1106-1122.
- Rahardja, U., Sigalingging, C. T., Putra, P. O. H., Nizar Hidayanto, A., & Phusavat, K. (2023). The Impact of Mobile Payment Application Design and Performance Attributes on Consumer Emotions and Continuance Intention. *SAGE Open*, 13(1), 21582440231151919.
- Razzaq, A., Sharif, A., Ozturk, I., & Skare, M. (2023). Asymmetric influence of digital finance, and renewable energy technology innovation on green growth in China. *Renewable Energy*, 202, 310-319.
- Santos, F., Pereira, R., & Vasconcelos, J. B. (2020). Toward robotic process automation implementation: an end-to-end perspective. *Business process management journal*, 26(2), 405-420.
- Sapre, N. (2022). Financial inclusion: philosophical and methodological underpinnings. *Qualitative Research in Financial Markets*, (ahead-of-print).
- SP, M. E., Riady, D. K., Majid, M. S. A., Marliyah, M., & Handayani, R. (2022). Study Of Literature Financial Technology, Blockchain And Islamic Finance. *International Journal of Educational Review, Law And Social Sciences (IJERLAS)*, 2(1), 21-32.
- Sylvanus, U. F. ., Edet, I. V. ., & Lynda, I. D. . (2023). Foreign exchange fluctuations on the performance of agricultural export in Nigeria. *Economy*, 10(1), 10–18. <https://doi.org/10.20448/economy.v10i1.4703>
- Tawfiq, M. K., & Abdullah, H. A. S. (2023). THE ROLE OF FINANCIAL TECHNOLOGY IN IMPROVING THE PERFORMANCE OF GOVERNMENT SERVICES IN JORDAN. *Galaxy International Interdisciplinary Research Journal*, 11(2), 239-248.
- Tay, L. Y., Tai, H. T., & Tan, G. S. (2022). Digital financial inclusion: A gateway to sustainable development. *Heliyon*, e09766.
- Telukdarie, A., & Mungar, A. (2023). The Impact of Digital Financial Technology on Accelerating Financial Inclusion in Developing Economies. *Procedia Computer Science*, 217, 670-678.
- Temizkan, V., Yetgin, M. A., & Yilmaz, K. (2022). Motivations of Retailers Accepting Cryptocurrency Payments and Their Implications on Retail Customer Experience. *Cumhuriyet Üniversitesi İktisadi ve İdari Bilimler Dergisi*, 23(1), 25-48.
- Tufail, M., Song, L., Umut, A., Ismailova, N., & Kuldasheva, Z. (2022). Does financial inclusion promote a green economic system? Evaluating the role of energy efficiency. *Economic research-Ekonomska istraživanja*, 35(1), 6780-6800.
- Vollmer, U. (2022). Monetary policy or macroprudential policies: What can tame the cycles?. *Journal of Economic Surveys*, 36(5), 1510-1538.
- Vučinić, M. (2020). Fintech and financial stability potential influence of FinTech on financial stability, risks and benefits. *Journal of Central Banking Theory and Practice*, 9(2), 43-66.
- Wang, X., Sadiq, R., Khan, T. M., & Wang, R. (2021). Industry 4.0 and intellectual capital in the age of FinTech. *Technological Forecasting and Social Change*, 166(January), 120598. <https://doi.org/10.1016/j.techfore.2021.120598>.
- Yudaruddin, R. (2023). Financial technology and performance in Islamic and conventional banks. *Journal of Islamic Accounting and Business Research*, 14(1), 100-116.