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Financial Technology Adoption and its Impact on Rural Development in Jordan: A Performance Evaluation

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Abstract

The present study endeavors to assess the efficacy and ramifications of fintech assimilation on the advancement of rural areas in Jordan. The field of financial technology, commonly referred to as fintech, has the capacity to fundamentally transform the landscape of financial services by offering novel approaches to conventional banking obstacles. Notwithstanding its adoption, the impact of this phenomenon on rural communities, particularly in developing nations such as Jordan, necessitates additional scrutiny. The present study aims to investigate the impact of fintech adoption on rural development in Jordan, with a specific focus on economic growth, financial inclusion, and access to financial services. The results of this study will yield valuable insights into the efficacy of financial technology (fintech) initiatives and furnish pertinent recommendations to policymakers and stakeholders on how to optimize the advantages of fintech in rural regions.

Keywords: *Jordan, Fintech, Rural Development, Adoption, Performance.*

Introduction

The term "fintech," short for "financial technology," describes the use of digital technology and innovation in the delivery of financial services in order to increase their effectiveness, efficiency, and accessibility. Mobile banking, electronic payments, peer-to-peer lending, crowdsourcing, insurtech, and blockchain technology are just a few examples of the many domains that fintech solutions cover. Juan and Marta (2022) By offering creative solutions and enhancing access to financial goods and services, the fast growth of financial technology, or fintech, has the potential to transform conventional financial services. In 2022, Anifa et al. Fintech covers a wide range of technologies, including blockchain, peer-to-peer lending, crowdfunding, mobile banking, and electronic payments. Although fintech has become quite popular in metropolitan regions throughout the world, its uptake and effects on rural development, especially in developing nations like Jordan, call for additional investigation (Christopoulos et al. 2022).

Regarding economic growth, restricted access to financial services, and poor infrastructure, rural communities in Jordan have particular difficulties Al-Amarneh et al (2023). These issues have made it harder for rural communities to advance Fraiha et al. (2023). They have also led to a substantial gap in financial inclusion. By utilizing digital platforms and cutting-edge financial solutions, fintech offers a chance to close this gap and promote inclusive growth. Jordan's rural development has a number of difficulties, including poor infrastructure, low-income levels, and a lack of employment prospects. Kama and Adigun (2013) Due to high expenses and sparse populations, traditional financial institutions frequently encounter challenges when establishing physical branches in isolated rural locations. As a result, access to financial services is frequently limited in rural areas, which impedes their ability to

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expand and develop economically (Kama and Adigun 2013).

Fintech adoption in rural regions gives us a chance to close the financial divide by utilizing cutting-edge methods and technology. E. Okafor (2021). Fintech solutions can assist in removing obstacles in the way of providing financial services to rural communities that are underserved, resulting in better economic circumstances, financial inclusion, and empowerment. Dyna and Yoke (2022) Further research is necessary to determine how much Jordan's rural development has benefited from the use of fintech. A performance review may rate the success of current fintech projects, pinpoint obstacles and success factors, and offer fact-based suggestions for maximizing the advantages of fintech in rural regions (Bani Atta et al. 2023; Atta et al. 2024).

The purpose of this study is to assess the effectiveness and influence of fintech adoption on rural development in Jordan. This study intends to shed light on the extent to which fintech has contributed to rural economic growth, financial inclusion, and access to financial services by evaluating the efficacy of fintech efforts. Additionally, the study will examine how fintech contributes to bettering agricultural practices, strengthening underrepresented groups like women, and advancing rural development as a whole.

It is critical for policymakers, financial institutions, and stakeholders to comprehend the unique ramifications of fintech adoption in rural Jordan in order to make choices and develop strategies that maximize the advantages of fintech. This study intends to offer evidence-based suggestions for improving fintech acceptance and promoting sustainable rural development in Jordan by assessing the effectiveness of fintech projects, identifying success factors, and resolving difficulties (Mohsin et al. 2023).

Significant of Research

Fintech adoption has accelerated globally, but its effects on rural development in developing nations like Jordan have received comparatively little attention. The issue that this study tries to solve is the paucity of a thorough analysis of the effectiveness and effects of fintech adoption on rural development in Jordan. So, the objective of this paper is to assess the current level of fintech adoption in rural areas of Jordan by first examining factors influencing fintech adoption in rural areas. Sconed, evaluating the impact of fintech adoption on rural development, Third, identifying challenges for fintech in rural development.

Literature Review

Overview of Fintech Products and Adoption In Jordan

Jordan has seen substantial growth and change in the use of fintech solutions in recent years. The nation is aware of how fintech can promote financial inclusion and creativity, especially in rural regions. Here is a summary of the main fintech products and how Jordan is adopting them.

Mobile Payments, the use of mobile devices to make payments, send money, and access financial services has become more common in Jordan, according to Daoud, (2023). Businesses like Orange Money, JoMoPay, and Zain Cash have become well-known mobile payment processors, providing accessibility and convenience to both urban and rural people (Flickr and Andrew 2019).

*Digital Wallets***,** in Jordan, the usage of digital wallets is growing because they enable users to conveniently keep money online and conduct transactions. Muhammad, Wendong, and Qing (2022) Digital wallet solutions are provided by companies like PayIt, HyperPay, and eFAWATEER.com, allowing users to pay bills, make purchases online, and send money electronically (A. Aqilah 2021: Shehadeh et al 2024).

Peer-to-Peer Lending, platforms for peer-to-peer (P2P) lending have become more popular in Jordan, offering an alternative source of funding for people and small enterprises. (2015) Miriam S. Platforms

like Liwwa and Funding Souq promote financial inclusion by linking borrowers in rural regions with prospective lenders and facilitating direct lending between borrowers and lenders (Ian G. 2009)

Crowdfunding, according to Sotir and Zlatko (2018), crowdfunding platforms have developed in Jordan, allowing business owners, nonprofit organizations, and artists to collect money from a sizable donor base. Crowdfunding campaigns have been made easier by platforms like Shekra and Eureeca, which also stimulate creativity and assist rural enterprises and projects (Sotir 2018).

Insurtech, utilizing technology to improve the effectiveness and accessibility of insurance services, insurtech businesses have created cutting-edge insurance solutions in Jordan Debolina (2023). Rural populations now have easier access to insurance thanks to providers like Tawfeer and Pineapple, which provide user-friendly interfaces and specialized insurance solutions (Adam 2020).

Digital Identification and KYC Solutions, financial services have been streamlined and access hurdles have been decreased thanks in large part to digital identification technology and know-your-customer (KYC) solutions. Douglas, Dirk, Ross, and Janos (2018) Digital identity verification services are provided by businesses like Dinarak and Jumio, allowing remote client onboarding and minimizing the need for physical paperwork (Yacoub et al. 2023) and Al-Gasaymeh et al. (2023).

Financial Education and Personal Finance Management, Ola and Dina (2023) both place a strong emphasis on enabling people to manage their funds wisely via the use of fintech platforms in Jordan. Companies like MoneyMall and MadfooatCom provide tools and resources for managing personal finances, budgeting, and financial education, according to Peter et al. (2023) and Almahadin et al. (2023).

Fintech product uptake in Jordan has shown potential, as seen by rising public awareness and use. To estimate the overall influence on rural development, it is crucial to assess the unique adoption rates and difficulties encountered in rural regions.

Impacts of Fintech on Rural Development

Fintech may have a substantial influence on rural development, providing rural areas with a range of advantages and prospects. By giving underserved rural communities access to financial services, it plays a significant role in fostering financial inclusion. Fintech solutions provide people in distant locations access to banking, payment systems, savings accounts, loans, and insurance services by using digital technology. By giving rural people the skills and resources to manage their accounts, make investments, and participate in economic activities, this improved financial inclusion empowers them. Vineet C., Raj B., and Shubham G. (2022) Small enterprises and rural entrepreneurs have access to alternate sources of money thanks to fintech platforms like peer-to-peer lending and crowdfunding. Through the use of these platforms, which link borrowers with prospective lenders or investors, rural companies may have access to finance that would otherwise be difficult to get from conventional financial institutions. This improved access to money encourages rural business development, boosts local economies, and generates job possibilities. Nicholas and Sherry (2021)

By giving farmers access to financing, insurance, and market data, fintech technologies may enhance agricultural finance. P. Manta (2017) Digital platforms make efficient and transparent transactions possible, minimizing the need for middlemen and strengthening the negotiating position of farmers. The use of fintech technologies by farmers to monitor their goods, communicate with buyers, and assure fair pricing improves supply chain management. P. Manta (2017) Fintech may also help with easy and safe digital payment options, eliminating the need for cash in rural regions. Allahham (2023) Individuals may send and receive money, pay bills, and complete transactions online thanks to mobile payments and digital wallets. Naomi (2023), Alok, Majid, and Gerardo Through this convenience, financial efficiency is increased, transaction costs are decreased, and the speed and security of money transactions are

improved. Fintech also makes remittances easier, enabling rural populations to get money from relatives who work in cities or abroad. S. Velasco (2021).

According to Duvendack & Mader (2019), the adoption of fintech in rural regions may promote economic empowerment and employment growth. Fintech enables people to actively engage in economic activity and make wise financial choices by enhancing access to financial services, encouraging entrepreneurship, and promoting financial literacy. Additionally, the expansion of fintech-related companies and services generates employment opportunities inside the fintech industry itself, which benefits rural areas by presenting fresh employment options. Mader and Duvendack (2019) Creating digital infrastructure in rural regions, like cell network coverage and internet access, is necessary for the adoption of fintech. 2022 Jenny C. By enhancing general connection and access to information and services in rural areas outside of fintech applications, this emphasis on infrastructure development may have beneficial knock-on consequences (Aker, Boumnijel, McClelland, and Tierney). (2016).

It is vital to remember that issues like restricted internet connectivity, poor digital literacy, and regulatory frameworks may make it difficult for fintech to have a positive influence on rural development. However, by increasing financial inclusion, encouraging entrepreneurship, and improving economic possibilities for rural areas, fintech has the potential to greatly contribute to rural development with the right policies, capacity-building initiatives, and stakeholder participation.

Fintech Shareholders and Scope of Services in Rural Areas

Fintech companies, like any other business, can have various types of shareholders who invest in the company and hold ownership stakes. Shareholders in fintech companies can include individuals, institutional investors, venture capital firms, private equity firms, and sometimes even other companies. Here's an overview of the different types of shareholders you might find in a fintech company:

Orange Money, mobile financial services, including money transfers and mobile payments, are provided by Orange Money, a division of Orange Jordan. Rural areas now have access to easy and safe digital financial transactions thanks to the expansion of their services.

JoMoPay, the Jordanian Central Bank created the mobile payment platform JoMoPay. It makes it possible for people to access financial services, send money, and make payments using their mobile devices. JoMoPay now offers services in rural locations, enabling inhabitants there to conduct digital transactions.

Tkiyet Um Ali, a non-profit in Jordan called Tkiyet Um Ali deals with food insecurity. It has integrated fintech tools to simplify the distribution of food aid to rural populations, although it is not only a fintech endeavor. To increase efficiency and transparency in the provision of food assistance, they have made use of digital platforms and mobile apps.

Funding Souq, peer-to-peer lending website Funding Souq links lenders and borrowers, including private citizens and small enterprises. Although it offers services across the country, it gives rural entrepreneurs and enterprises a chance to receive finance that can be difficult to get via conventional banking institutions.

Microfund for Women, the leading microfinance organization in Jordan, Microfund for Women, focuses on providing financial services to female entrepreneurs, notably those in rural regions. For the purpose of empowering women in rural regions and fostering their entrepreneurial pursuits, they provide microloans, savings accounts, and financial training programs.

Eureeca, businesses may raise money from a variety of investors via the crowdfunding portal Eureeca. Although it serves many different industries, it gives rural entrepreneurs and initiatives a way to get funds and get in front of prospective investors who are interested in sponsoring rural development projects.

Cooperative societies, fintech solutions have also been implemented by cooperative societies in Jordan's rural areas to improve their operations. These societies, which include a variety of industries, including agriculture and handicrafts, use fintech technologies to manage their finances, make digital payments, and increase their population's access to credit and financial services.

The fintech market is dynamic; therefore, it's crucial to keep in mind that there could be other new businesses and projects that target Jordan's rural regions in particular. More recent and detailed information on important fintech players and efforts in Jordan's rural regions may be found by doing more research or contacting local financial institutions and groups engaged in rural development initiatives.

Evaluation and Assessment of Fintech Adoption Effectiveness in Rural Areas

Financial institutions are providing solutions that are better suited to customers' demands at a cheaper cost thanks to fintech, which is redefining financial services by utilizing technology and cloud-based data (Arner et al., 2020; Boot et al., 2020; Philippon, 2020; Thakor, 2020). As a consequence, examining the impact of fintech efforts on many elements of rural development is necessary to determine how beneficial they are in rural regions.

Financial Inclusion, fintech projects should work to increase financial inclusion by giving rural communities access to inexpensive and practical financial services. Koomson and Ibrahim (2018) The impact of fintech activities on the number of people who have access to financial services, digital payments, credit, and insurance products in rural regions may be evaluated. Shubham, Raj, and Vineet (2022)

Access to Capital, the efficacy of fintech programs may be assessed based on how well they help rural entrepreneurs and small enterprises get access to funding. According to Duvendack and Maclean (2015), the quantity of money obtained via platforms for peer-to-peer lending or crowdfunding, as well as the effect of these funds on company expansion, job creation, and income production in rural regions, may all be the subject of evaluation.

Agricultural Development, Based on their impact on agricultural growth in rural regions, fintech projects aimed at the agricultural sector should be evaluated (Fowowe, 2020). This may include assessing the use of digital technologies for farm management, accessibility to agricultural financing, market data, and the effects on farmers' productivity, income, and risk-resilience. Fowowe (2020).

Efficiency and Cost Savings, fintech efforts should work to make financial transactions more efficient and affordable for rural communities. The time and money saved by using digital payments, remittances, and other financial services may be examined in assessments. To assess the success of the projects, comparisons between conventional banking practices and fintech solutions may be made (Zhan et al. 2024).

Social and Economic Empowerment, fintech programs should increase financial literacy, entrepreneurial skills, and economic possibilities to empower people and communities in rural regions. Assessments may look at how fintech projects affect people's capacity to manage their finances, make wise financial choices, and engage in economic activity. Mancini and Adrian (2021)

User Experience and Satisfaction, by analyzing user happiness, user experience, and feedback from rural inhabitants who have utilized fintech services, assessments should take into account the user's viewpoint. Insights on the usability, accessibility, and relevance of fintech projects in rural areas may be gained via user-centric assessments. In 2023, Gerardo et al.

Sustainability and Scalability, the sustainability and scalability of fintech projects in rural regions should be taken into account during evaluations. The possibility of long-term profitability, the capacity to expand operations to additional rural areas, and the integration of projects into the larger financial ecosystem and regulatory framework are all considered by Ola and Dina (2023) and Samara et al. (2024).

Fintech projects in rural regions need to be evaluated for efficacy using a mix of qualitative and quantitative techniques, such as surveys, interviews, case studies, and data analysis. In order to acquire a variety of viewpoints and guarantee thorough assessments, it is crucial to include stakeholders such as rural people, financial institutions, fintech providers, and politicians in the assessment process. Fintech adoption may have a number of positive effects on rural development in Jordan's rural districts. To be effective, the implementation must overcome a number of obstacles. We will examine the difficulties in implementing fintech in rural regions as well as its potential effects on rural development in Jordan in this performance review.

Challenges of Fintech Adoption in Rural Areas of Jordan:

The absence of suitable infrastructure in rural regions is one of the main problems. For Fintech services, having access to dependable energy and a consistent internet connection is essential. Javier and Irune (2020) The implementation of technical advancements and digital financial services may be hampered by inadequate infrastructure. Compared to metropolitan regions, rural populations often have lower levels of digital literacy. Many rural residents lack familiarity with digital platforms or have restricted access to cellphones and laptops. 2018 Peterson K. The adoption of fintech may be significantly hampered by a lack of digital knowledge and skills.

It's crucial to establish confidence in digital financial services, particularly in rural regions where people can be more wary of emerging technology. Ahmad at el (2020) People may be discouraged from using Fintech solutions due to worries about data security, privacy, and fraud protection. It is essential to put in place reliable security measures and increase knowledge of their efficacy. Fintech services are subject to regulatory frameworks, and their uptake may be hampered by a lack of particular legislation or by confusing regulatory norms. Mancini and Adrian (2021) Due to a lack of information and resources to comply with regulatory obligations, rural communities may experience significant difficulties. Fintech development in rural areas has to be supported by policies that are transparent and helpful.

Empirical Studies

Alalwan, Dwivedi, and Rana (2017) investigated the elements affecting bank customers' inclinations and adoption of mobile banking in Jordan. In this research, the influence of perceived utility, usability, trust, and risk on customers' inclination to utilize mobile banking is investigated. The study used trust and components derived from the extended Unified Theory of Acceptance and Use of Technology (UTAUT2). A comprehensive field survey was carried out, with a total of 343 individuals responding to a structured questionnaire. The results indicate that performance expectation, effort expectancy, hedonic motivation, price value, and trust have a significant and positive influence on behavioral intention. The research aimed to offer Jordanian banks realistic suggestions for the development and implementation of mobile banking.

Ahmad , et al (2024), in their work "Fintech Adoption in the Arab World: Evidence from Jordan," look at the variables affecting how people in Jordan use fintech services. The research also attempts to examine how widely Fintech is used and how that affects financial literacy levels. The research technique uses two different strategies. Young professionals in the various occupational categories that make up the Mauritian professional workforce are the focus of quantitative research employing a survey. To examine the effect of Fintech use and demographic characteristics on financial literacy, a regression model was created. The results showed that several demographic characteristics were responsible for considerable disparities in financial knowledge, attitudes, and actions. Additionally, only conventional Fintech products are used, while more creative Fintech is adopted at a significantly slower pace.

Al-Eqab (2019), who studied "Factors Influencing Jordanian Banks: Adoption of Fintech: An Integrated Technological, Organizational, and Environmental Perspective," focuses on elements

that influence conventional banks in Jordan from a fintech adoption perspective. It examines organizational, technical, and environmental aspects and how they affect banks' readiness to accept fintech solutions. This study proposed a model that integrates organizational and environmental elements from prior research with other, unstudied FinTech adoption-related elements. The evaluation of the FinTech adoption model and the determination of criteria that are favorably or unfavorably associated with FinTech adoption employed data gathered from 89 financial managers, IT managers, and accounting department heads in numerous Jordanian banks. The research indicated that top management support, policies, organizational culture, and competitive pressure were the main variables driving the adoption of FinTech. Additionally, a favorable correlation between FinTech adoption and company value was discovered. The results will support further use of FinTech by bank management in Jordan.

Methodology

This study uses qualitative and quantitative ex post facto survey methodologies. Research objectives were used to review the literature. Past research, academic publications, and textbooks were used to inspect selected fintech enterprises in rural Jordan. 342 fintech users were picked from 14321 using Abusaimeh (2023) technique. Respondents were found through snowball sampling. The study includes replies from selected Jordanian university students who received the questionnaires via WhatsApp group and email using Google Forms. Snowball sampling restricted researchers from visiting institutions to obtain data. The snowball method found participants because they were linked. Only 242 rural residents completed the e-questionnaire. Regression analysis was used to test the null hypothesis.

Data Analysis

Table 1: Percentage Analysis of Assessing the Current Level of Fintech Adoption in Rural Areas of Jordan.

Variables	SA	A	N	SD	D	Total
Fintech services are easily accessible in my rural area.	134 (55.37)	85 (35.12)	10 (4.13)	5 (2.07)	8 (3.31)	242 (100)
I am aware of the different fintech services available in my rural area.	78 (32.23)	92 (38.01)	12 (4.96)	43 (17.77)	17 (7.02)	242 (100)
Fintech services are user-friendly and easy to use in my rural area.	46 (19.01)	53 (21.90)	5 (2.07)	77 (31.82)	61 (25.21)	242 (100)
Fintech services have improved my access to financial products and services.	37 (15.29)	21 (8.68)	9 (3.72)	105 (43.39)	70 (28.93)	242 (100)
I feel confident in conducting financial transactions using fintech services.	63 (26.03)	76 (31.40)	18 (7.44)	40 (16.53)	45 (18.60)	242 (100)
Aggregate	358	327	54	270	201	1210
Proportional Ratio	71.6	65.4	10.8	54	40.2	242

Analysis of Table 1 was significant due to the fact that 358 aggregate respondents, representing a proportional ratio of 71.6, strongly agreed that the assessment of the current level of fintech adoption in rural areas of Jordan is statistically significant. This was followed by an aggregate of 327 respondents indicating a proportional ratio of 65.4 who opted for the agreed option, 270 respondents representing a proportional ratio of 54 strongly disagreed that on the current level of fintech adoption in rural areas of Jordan, 201 respondents representing a proportional ratio of 40.2 disagreed, and an aggregate of 54 respondents representing a proportional ratio of 10.8 stated otherwise.

Table 2: Percentage Analysis of the Factors Influencing Fintech Adoption in Rural Areas.

Variables	SA	A	N	SD	D	Total
Fintech services offer convenience and ease of use for rural users.	107 (44.21)	68 (28.10)	11 (4.55)	25 (10.33)	31 (12.81)	242 (100)
I have sufficient knowledge and understanding of fintech services	94 (38.84)	84 (34.71)	13 (5.37)	18 (7.44)	33 (13.64)	242 (100)
The cost of fintech services is affordable for rural residents.	110 (45.45)	86 (35.54)	4 (1.65)	20 (8.26)	22 (9.09)	242 (100)
Fintech services can be access in my rural area	98 (40.50)	92 (38.02)	12 (4.96)	15 (6.20)	25 (10.33)	242 (100)
There is reliable and stable internet connectivity in my rural area.	104 (42.98)	61 (25.21)	23 (9.50)	25 (10.33)	29 (11.98)	242 (100)
Aggregate	513	391	63	103	140	1210
Proportional Ratio	102.6	78.2	12.6	20.6	28	242

Analysis of Table 2 was significant due to the fact that 513 aggregate respondents, representing a proportional ratio of 102.6, strongly agreed that factors influencing fintech adoption in rural areas of Jordan are statistically significant. This was followed by an aggregate of 391 respondents indicating a proportional ratio of 78.2 who opted for the agreed option, 140 respondents representing a proportional ratio of 28 disagreed on those factors influencing fintech adoption in rural areas of Jordan, 103 respondents representing a proportional ratio of 20.6 strongly disagreed, and an aggregate of 63 respondents representing a proportional ratio of 12.8 stated otherwise.

Table 3: Percentage Analysis of the Impact of Fintech Adoption on Rural Development.

Variables	SA	A	N	SD	D	Total
Fintech adoption has positively contributed to the economic growth of rural areas.	106 (43.80)	86 (35.54)	8 (3.31)	19 (7.85)	23 (9.50)	242 (100)
Fintech adoption has increased financial inclusion in rural communities.	114 (47.11)	65 (26.86)	12 (4.96)	33 (13.64)	18 (7.44)	242 (100)
Fintech adoption has improved access to credit for individuals and businesses in rural areas	79 (32.64)	90 (37.19)	15 (6.20)	38 (15.70)	20 (8.26)	242 (100)
Fintech adoption has facilitated easier and faster digital payments in rural regions.	85 (35.12)	97 (40.08)	10 (4.13)	29 (11.98)	21 (8.68)	242 (100)
Fintech adoption has enhanced the efficiency of financial transactions in rural communities	101 (41.74)	75 (30.99)	9 (3.72)	40 (16.53)	17 (7.02)	242 (100)
Aggregate	485	413	54	159	99	1210
Proportional Ratio	97	82.6	10.8	31.8	19.8	242

Analysis of table 3 was significant due to the fact that 485 aggregate respondents representing a proportional ratio of 97 strongly agreed that the impact of fintech adoption on rural development of Jordan is statistically significant. This was followed by an aggregate of 413 indicating a proportional ratio of 82.6 who opted for agreed option, 159 respondents representing a proportional ratio of 31.8 strongly disagreed that on the impact of fintech adoption on rural development of Jordan, 99 respondents representing a proportional ratio of 19.8 disagreed while aggregate of 54 respondents representing a proportional ratio of 10.8 stated otherwise.

Table 4: Percentage Analysis of The Challenges for Fintech in Rural Development.

Variables	SA	A	N	SD	D	Total
Fintech infrastructure, such as reliable internet connectivity and mobile networks, is inadequate in rural areas	94 (38.84)	82 (33.88)	10 (4.13)	35 (14.46)	21 (8.68)	242 (100)
Rural residents lack access to affordable smartphones and devices necessary for fintech services	102 (42.15)	75 (30.99)	14 (5.79)	24 (9.92)	27 (11.16)	242 (100)
Limited digital literacy and technological skills among rural populations hinder fintech adoption.	83 (34.30)	95 (39.26)	9 (3.72)	20(8.26)	35 (14.46)	242 (100)
Regulatory frameworks and policies do not adequately support fintech development in rural regions.	79 (32.64)	90 (37.19)	7 (2.89)	37 (15.29)	29 (11.98)	242 (100)
Insufficient financial education and awareness about fintech services are barriers to adoption in rural areas.	95 (39.26)	74 (30.58)	3 (1.24)	40 (16.53)	30 (12.40)	242 (100)
Aggregate	453	416	43	156	142	1210
Proportional Ratio	90.6	83.2	8.6	31.2	28.4	242

Analysis of Table 4 was significant due to the fact that 453 aggregate respondents, representing a proportional ratio of 90.6, strongly agreed that the challenges for fintech in the rural development of Jordan are statistically significant. This was followed by an aggregate of 416 respondents indicating a proportional ratio of 83.2 who opted for the agreed option; 156 respondents representing a proportional ratio of 31.2 strongly disagreed that on the challenges for fintech in the rural development of Jordan; 142 respondents representing a proportional ratio of 28.4 disagreed; and an aggregate of 43 respondents representing a proportional ratio of 8.6 stated otherwise.

Hypothesis Testing

Hypothesis One

There is no significant relationship between assessing the current level of fintech adoption in rural areas of Jordan.

Table 5: Model Summary of Assessing the Current Level of Fintech Adoption in Rural Areas of Jordan.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.913[a]	.834	.832	1.218	.834	505.626	1	241	.000	2.260

Source: Researcher's Computation (2023).

The computer-critical F-value (0.000 a), which is below the probability level of 0.000 with 1 and 241 degrees of freedom, is 227.387, as determined by the analysis in Table 12. The outcome, t herefore, means that there is a significant correlation between fulfilling deadlines and organizational success. An analysis of the coefficients was done to determine the independent variables' contribution.

Table 6: Analysis of Variance of the Difference in the Influence Exerted by Each Independent Variable.

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	806.267	1	806.267	870.039	.000[b]
	Residual	93.597	241	.927		
	Total	899.864	242			

Source: Researcher's Computation (2023).

The analysis of Table 6 shows the calculated F-value as (870.039), as the computer-critical F-value (0.000 [a]) is below the probability level of 0.000 with 1 and 242 degrees of freedom. The result therefore means that time management has a significant impact on resource optimization within organizations. To test for the contribution of the independent variables, a coefficient analysis was performed.

Table 7: Coefficient Analysis of the Influence of Each of Independent Variable on the Dependent Variable.

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.451	.965		1.503	.136
	resource optimization within organizations	1.911	.065	.947	29.496	.000

Source: Researcher's Computation (2023).

The analysis of Table 7 shows that the obtained t-value is 29.49. This value was greater than the critical t-value (1.96) and the beta-value of.94 at the 0.000 level of significance. This observation indicates that there is positive significance in assessing the current level of fintech adoption in rural areas of Jordan.

Hypothesis Two

There is no significant relationship between the factors influencing fintech adoption in rural areas.

Table 8: Model Summary of Relationship Between the Factors Influencing Fintech Adoption in Rural Areas.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.782[a]	.611	.607	1.861	.611	158.771	1	241	.000	1.732

Source: Researcher's Computation (2023).

The analysis of table 8 shows that the calculated R-value of.78 was greater than the table R-value of.61 at the 0.000 alpha level with a 1.73 Durbin-Watson Value. The R-square value of.60 predicts 60% of the effect of the factors influencing fintech adoption in rural areas. This rate of percentage is highly positive and therefore implies that the factors influencing fintech adoption in rural areas have a significant effect. It was pertinent to find out if there was a significant difference in the influence exerted by each independent variable.

Table 9: Analysis of Variance of the Difference in the Influence Exerted by Each Independent Variable.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	549.993	1	549.993	158.771	.000[b]
	Residual	349.871	241	3.464		
	Total	899.864	242			

Source: Researcher's Computation (2023).

The computer-critical F-value (0.000 a), which is below the probability level of 0.000 with 1 and 241 degrees of freedom, is 227.387, as determined by the analysis in Table 12. The outcome, t herefore, means that there is a significant correlation between fulfilling deadlines and organizational success. An analysis of the coefficients was done to determine the independent variables' contribution.

Table 10: Coefficient Analysis of the Influence of Each of Independent Variable on the Dependent Variable.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.141	2.043		2.027	.045
	Employee performance	1.651	.131	.782	12.600	.000

Source: Researcher's Computation (2023).

The analysis of Table 10 shows that the obtained t-value is 34.55. This value was greater than the critical t-value (1.98) and the beta-value of 1.98 at the 0.000 level of significance. This observation indicates that there are positive factors influencing fintech adoption in rural areas. Hence, the factors influencing fintech adoption in rural areas have positive significance.

Hypothesis Three

There is no significant relationship between the impact of fintech adoption on rural development

Table 11: Model Summary of Meeting Deadlines on Organizational Success.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.832[a]	.692	.689	1.655	.692	227.387	1	241	.000	2.293

Source: Researcher's Computation (2023).

The computer-critical F-value (0.000 a), which is below the probability level of 0.000 with 1 and 241 degrees of freedom, is 227.387, as determined by the analysis in Table 12. The outcome, t herefore, indicates that there is a significant correlation between fulfilling deadlines and organizational effectiveness. An analysis of the coefficients was done to determine the independent factors' contribution.

Table 12: Analysis of Variance of the Difference in the Influence Exerted by Each Independent Variable.

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	623.098	1	623.098	227.387	.000[b]
	Residual	276.766	241	2.740		
	Total	899.864	242			

Source: Researcher's Computation (2023).

The computer-critical F-value (0.000 a), which is below the probability level of 0.000 with 1 and 241 degrees of freedom, is 227.387, as determined by the analysis in Table 12. The outcome, t herefore, indicates that there is a significant correlation between fulfilling deadlines and organizational effectiveness. An analysis of the coefficients was done to determine the independent factors' contribution.

Table 13: Coefficient Analysis of the Influence of Each of Independent Variable on the Dependent Variable.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.667	1.673		2.789	.006
	meeting deadlines	1.628	.108	.832	15.079	.000

Source: Researcher's Computation (2023).

Table 13 analysis reveals that the calculated t-value is 15.07. This value was significantly higher than the critical t value (1.96), the beta value (0.83), and the significance level (0.000). This observation indicates that there is a positive relationship between the influence of fintech adoption and rural development. Consequently, there is a positive relationship between the influence of fintech adoption and rural development, or T.

Hypothesis Four

There is no significant relationship between the challenges for fintech in rural development

Table 14: Model Summary of Meeting Deadlines on Organizational Success.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.913[a]	.834	.832	1.218	.834	505.626	1	241	.000	2.260

Source: Researcher's Computation (2023).

The calculated F value - critical (0.000 a), which is below the probability level of 0.000 with 1 and 241 degrees of freedom, is 505.626, according to the analysis of Table 15. According to the result, 505.626 and this variable have a significant relationship. A coefficient analysis was carried out to determine the independent variables' contribution.

Table 15: Analysis of Variance of the Difference in the Influence Exerted by Each Independent Variable.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	750.042	1	750.042	505.626	.000[b]
	Residual	149.823	241	1.483		
	Total	899.864	242			

Source: Researcher's Computation (2023).

The calculated F value - critical (0.000 a), which is below the probability level of 0.000 with 1 and 241 degrees of freedom, is 505.626, according to the analysis of Table 15. Based on the result, 505.626 and this variable have a significant relationship. A coefficient analysis was conducted out to identify the independent variables' contribution.

Table 16: Coefficient Analysis of the Influence of Each of Independent Variable on the Dependent Variable.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	5.240	1.098		4.773	.000
	Organizational adaptability	1.574	.070	.913	22.486	.000

Source: Researcher's Computation (2023).

The analysis of Table 16 shows that the obtained t-value is 22.8. This value was greater than the critical t-value (1.96) and Beta-value of.91 at the 0.000 level of significance. This observation indicates that there is a positive relationship between the challenges of fintech and rural development. Hence, there is a positive relationship between the challenges of fintech and rural development.

Discussion

The data analysis and hypothesis testing sections provide the findings and results obtained from the study. It includes several tables that present the percentage analysis of assessing various factors related to fintech adoption in rural areas of Jordan. The tables show the respondents' agreement or disagreement with statements regarding the impact of fintech adoption on economic growth, financial inclusion, access to credit, digital payments, and the efficiency of financial transactions in rural regions.

The analysis of Table 2 indicates that a significant proportion of respondents strongly agreed that factors influencing fintech adoption in rural areas of Jordan have positively contributed to the economic growth of rural areas. This is similar to the previous studies that have shown that fintech adoption in rural areas can contribute to economic growth by providing access to financial services, facilitating digital payments, and enabling entrepreneurship and business development (Christopoulos et al., 2022; Jenny, 2022). In Addition, fintech adoption enables easier and faster digital payments in rural areas, reducing the reliance on cash transactions and improving financial efficiency (Irune & Javier, 2020; Muhammad et al., 2022).

Table 3 shows that a significant number of respondents strongly agreed that the impact of fintech adoption on rural development in Jordan is statistically significant. This is similar to the previous studies that have indicated the fintech adoption has been found to enhance financial inclusion in rural areas by providing underserved populations with access to banking and financial services, including credit, savings, and insurance which lead to rural development (Demirguc-Kunt et al., 2021; Kama & Adigun, 2013).

However, the analysis also highlights some challenges and barriers to fintech adoption in rural areas. Table 4 reveals that respondents strongly agreed that insufficient financial education and awareness about fintech services are barriers to adoption in rural regions. The same Table 5 suggests that regulatory frameworks and policies do not adequately support fintech development in rural areas. This is similar to previous studies which indicated limited internet connectivity, regulatory barriers, lack of digital literacy, and trust issues (Mwangi and Muturi, W. 2020; Adeleke, A. Q., & Akinbode, M. O. 2021).

Theoretical and Practical Implications

Based on the results of the study on fintech adoption in rural areas of Jordan, there are several theoretical and practical implications that can be drawn. Starting with theoretical implications, the study highlights that fintech adoption has increased financial inclusion in rural communities. This finding contributes to the existing literature on the role of fintech in expanding access to financial services for underserved populations. Consecutively, the analysis indicates that factors influencing fintech adoption in rural areas have positively contributed to the economic growth of rural regions. This finding aligns with previous studies that have shown the potential of fintech to stimulate economic development by providing access to financial services, facilitating digital payments, and enabling entrepreneurship. Finally, the study identifies insufficient financial education and awareness about fintech services, as well as inadequate regulatory frameworks and policies, as barriers to fintech adoption in rural areas. These findings highlight the importance of addressing these challenges to promote the effective implementation of fintech solutions in rural communities.

For the practical implications, the study recommends the establishment of digital infrastructure and connectivity in rural areas to ensure dependable and high-speed internet accessibility. This infrastructure is crucial for facilitating the provision of fintech services and expanding outreach to marginalized populations. Accordantly, the dissemination of knowledge regarding fintech, digital banking, and financial management is crucial in empowering individuals to make informed decisions and capitalize on the services available to them. Therefore, the study suggests the implementation of financial education initiatives targeted at rural communities. Finally, the study emphasizes the need for regulatory frameworks that adequately support fintech development in rural areas. Transparent and helpful policies can create an enabling environment for fintech adoption and ensure the protection of consumers while promoting innovation and financial stability.

In conclusion, the theoretical implications of the study contribute to the existing literature on financial inclusion, economic growth, and barriers to fintech adoption in rural areas. The practical implications highlight the importance of infrastructure development, financial education initiatives, and supportive regulations to optimize the potential benefits of fintech adoption for rural development in Jordan.

Conclusion

Fintech technologies can aid in bridging Jordan's financial service gap between urban and rural communities. Fintech enables people and businesses in rural areas to access banking and financial services more easily and affordably by utilizing digital technologies like mobile banking, online payment systems, and digital wallets. Fintech platforms can make microlending and lending to small enterprises and rural entrepreneurs easier. Fintech can simplify the loan application process, give quicker access to capital, and lower the hurdles faced by rural individuals and enterprises in accessing credit by leveraging cutting-edge credit assessment models, digital platforms, and mobile-based lending applications. Agriculture is a major part of Jordan's rural economy, and fintech can be very helpful in boosting this industry. Incorporating digital platforms for farm credit, crop insurance, and risk management tools, fintech solutions can provide agricultural finance services catered to the unique requirements of farmers. However, it's critical to recognize that obstacles such as poor internet connectivity, a lack of digital literacy, and restrictive regulatory frameworks make it difficult to apply fintech solutions in rural areas. To optimize the potential advantages of fintech adoption for rural development in Jordan, efforts to address these issues, such as infrastructure development, financial education initiatives, and supportive regulations, are required.

According to the analysis results, the researcher has put some recommendations. Digital infrastructure and connectivity must be established in rural areas to ensure dependable and high-speed internet accessibility. The establishment of this infrastructure is of paramount importance in facilitating the provision of fintech services

and expanding outreach to marginalized populations. The dissemination of knowledge regarding fintech, digital banking, and financial management has the potential to endow individuals with the ability to make judicious decisions and capitalize on the services at their disposal.

Depending on the study's recommendations, we also provide some avenues for future research. Undertake exhaustive impact evaluations to gauge the tangible ramifications of Fintech assimilation on rural development metrics, including but not limited to financial inclusivity, amelioration of impoverishment, generation of employment opportunities, and stimulation of economic expansion. Longitudinal investigations have the potential to offer valuable insights into the enduring effects that persist over an extended period.

This study aims to investigate the determinants that impact the adoption and usage behavior of Fintech in rural areas. The present study aims to examine the underlying motivations, barriers, and attitudes of rural individuals and businesses towards Fintech solutions. The objective is to devise effective strategies for enhancing the adoption rates of Fintech solutions in rural areas. Examine the regulatory impediments and prospects associated with the implementation of Financial Technology (Fintech) in remote regions. The research ought to concentrate on the formulation of regulatory frameworks that strike a balance between safeguarding the interests of consumers, promoting innovation, and ensuring financial stability. This will facilitate the expansion of Fintech in rural areas.

Examine the efficacy of capacity-building endeavors and digital literacy campaigns targeted at augmenting the adoption of financial technology in rural areas. Assess the efficacy of said programs in facilitating the empowerment of individuals and the acquisition of requisite competencies for optimal utilization of Fintech services. Through the mitigation of these constraints and the prioritization of the proposed directions for forthcoming investigations, a more all-encompassing comprehension of the obstacles and ramifications of Fintech assimilation on rural advancement in Jordan can be attained. The aforementioned knowledge can serve as a guiding framework for policymakers, financial institutions, and Fintech providers to devise effective strategies aimed at fostering inclusive and sustainable rural development through the implementation of Fintech innovations.

JEL Classification: G29, G21, O30, L26, F65, E61

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