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Anas Ahmad Bani Atta (Jordan)

ASSESSING THE IMPACT OF FINTECH ADOPTION BY RURAL HOUSEHOLDS AND SMEs IN JORDAN: EVIDENCE FROM DIGITAL FINANCIAL SERVICES

Abstract

Fintech can bridge the financial gap between urban and rural areas. Yet, its impact on rural development in developing nations remains understudied. This paper analyzes the impact of fintech adoption by rural households and small and medium enterprises (SMEs) in Jordan, a developing country. Employing a mixed-methods approach, the study analyzed data from 242 survey participants and conducted interviews with fintech policymakers and service providers. The sample covered rural areas with no banking infrastructure but emerging digital adoption, thus refining the findings to the greater Jordan rural area. The findings indicate that the adoption of fintech markedly improves financial inclusion and rural economic development, especially access to credit, digital payments, and entrepreneurship. The qualitative data provide further insights into barriers to digital economic growth, including inadequate infrastructure, low digital literacy, and a lack of regulatory framework. Overall, the study demonstrates that fintech adoption can significantly transform rural areas of Jordan, provided they have the right institutional and digital infrastructure.

Keywords

fintech, SMEs, adoption, rural development, financial inclusion, Jordan

JEL Classification

O33, G21, R11

INTRODUCTION

According to Al-Gasaymeh et al. (2023), Fintech has certainly impacted current global economics and currencies. Most of them concern the use of Digital Wallets, “phone money” applications, p2p lending, and blockchain. Fintech continues to provide greater and faster access to transactional systems and has opened opportunities in developing and high-income economies. Although rural and low-income households across the globe continue to suffer from exclusion, the access to and the ignorance of control over payment systems hinders a lot of progress. Al-Gasaymeh et al. (2023) report that regarding the impact and intention of the software, it is very likely and expected that such software continues to facilitate the difference in the urban and rural payment systems.

Jordan’s economic landscape highlights Alkhazaleh and Haddad’s (2021) observations that focus on both service industry jobs in cities and the economically disadvantaged farming-dependent countryside. The World Bank’s 2023 report states that the rural population of Jordan still struggles with the basics of cash, a bank account, and even rudimentary digital services. This highlights a stark urban-rural divide in Central Asia. The 2023 observation noted shifts in basic cash loan service availability to rural populations, aligned with the urban

phenomenon of bank branch closure free rural at the bank. Atta's (2025) evidence states that with the advent of mobile banking, some improvements in service provision are reaching even the most remote rural areas.

Although financial technology (fintech) has become an important driver of financial inclusion and economic participation worldwide, its role in rural Jordan remains insufficiently examined in the academic literature. Existing studies in Jordan primarily focus on banks, microfinance institutions, and urban or semi-urban contexts, leaving rural villages, many of which face economic marginalization and geographic isolation, largely understudied (Anifa et al., 2022; Anas, 2025). The limited evidence available does not clarify how fintech adoption unfolds in areas characterized by weak network connectivity, low levels of digital literacy, and complex regulatory or institutional constraints. Consequently, it is still unclear whether fintech applications in rural Jordan enhance financial inclusion or stimulate local economic activity, and through which mechanisms such outcomes might occur. Addressing this gap is essential for both researchers and policymakers seeking to understand whether and under what conditions fintech can support equitable and sustainable development in rural communities.

1. LITERATURE REVIEW AND HYPOTHESES

Fintech is an unstrict term that addresses mobile payment systems, digital wallets, peer-to-peer loans, crowdfunding, blockchain, and related technologies. It has been touted as a means of reducing transaction costs, speeding up services, and overcoming historic geographic limitations to banking (Marta & Juan, 2022; Adrian, 2021). Most experts believe that fintech has the potential to bring financial services to previously unbanked populations, which include low-income households, women, and microentrepreneurs (Shubham et al., 2022; Basdekis et al., 2022; Demirgüç-Kunt et al., 2021; Duvendack & Mader, 2019). From the ability to save, borrow, and spend money with significant ease, fintech has the potential to increase personal agency and economic growth in the broader environment. This essay says fintech can help, but only if there is alignment in the infrastructure, rules, digital skills, and institutional assistance.

People residing in poverty have always had limited access to financial services. However, Shubham et al. (2022) indicate that in India, mobile money and credit were associated with increased household savings and microloans for farmers. Manta (2017) shows in sub-Saharan Africa that farm-focused fintech tools strengthen rural markets, increase insurance coverage and payment acceptance, and streamline payment systems for small-holder farmers. Sherry and Nicholas (2021) argue

that digital peer-to-peer lending and platforms in China have also helped to increase small business growth and uplift household incomes.

On the other hand, Aker et al. (2016) and Adekunle et al. (2022) point out that mobile-money services (of which M-Pesa in Kenya is one of the best-known) might enhance the economic dynamics of sub-Saharan Africa. Hahm et al. (2021) also noticed that the use of fintech for payment of remittances allows better management of liquidity and stability of consumption even in marginal areas. Some argue that technology is not a sufficient condition for achieving appropriate inclusive development. A range of other factors, such as institutional banking, consumer trust, and adequate training, must also be present (Jenny, 2022; Adegbite, 2025).

As noted, there are many positive indicators tied to the potential success of fintech in underdeveloped areas; however, there are also many indicators that are negative, which will likely hinder growth. Access to the internet, low levels of digital literacy, hacking and phishing cybersecurity attacks, and the absence of consumer protection laws are some of the biggest hurdles that developing countries face (Tito & Silva, 2022; Kama & Adigun, 2013; Al-Ahmed et al., 2025). In researching Nigeria, Adegbite (2025) adds the absence of trust and low levels of technological mastery to the list of constraints to the rural areas, along the same lines as the observations made for Ghana by Yoro et al. (2022). Moreover, the inclusion resulting from the use of fintech may lead to a widening of the digital

divide if access to fintech is limited to young people, people with higher education, or urban residents (Yoke & Dyna, 2022). There is a certain level of consensus that to increase participation, multiple initiatives should be deployed, particularly in infrastructure development and in technological education. These conclusions emphasize the importance of grounded research in the fintech area, which is concerned with and is not restricted to social and cultural contexts typically considered negative, rather than the blanket assumption that fintech has a positive effect globally.

The World Bank and the IMF state “DFS [Digital Financial Services] present unprecedented opportunities for these groups” and cite the digitization potential as adding from 70 billion to 100 billion to the region’s GDP. It has been shown that the MENA region has started to use fintech as a tool for promoting financial inclusion and entrepreneurship. It has been shown that “Digital Financial Services” present indeed pray opportunities. However, as with anything with fintech, “real opportunity” is the innovation part of the equation. Access to capital for small and medium enterprises is indeed much easier through fintech services than through traditional banking methods.

In Jordan, fintech development remains buoyant, with policymakers actively supporting the growth of the sector and significant levels of smartphone usage. In 2018, the Central Bank of Jordan (CBJ) started implementing a strategy for national financial inclusion. The strategy focused on digital financial inclusion, as well as payment and financial infrastructure and literacy. Subsequently, mobile payments and wallets, such as Orange Money and Zain Cash systems, became the dominant payment receivers and senders on the mobile ecosystem (Welat & Khalid, 2019). Trust, perceived value, and cost effectiveness are the strongest indicators of fintech adoption in Jordan (Alalwan et al., 2017; Alkhazaleh & Haddad, 2021). Additional research shows increased business profitability and customer service satisfaction because of increased adoption of fintech services (Almahadin et al., 2023; Al-Gasaymeh et al., 2023). Still, these studies focus on the urban or banking environment, and the rural adoption of fintech and its impacts remain relatively unstudied.

In Jordan, the adoption of fintech in rural areas is limited due to structural and behavioral challenges. A great deal of the rural poor in developing countries suffer from low income, little internet infrastructure, and virtually no interaction with digital finance (Hauser et al., 2017). Al-Habashneh (2022) notes that organizational preparedness and managerial backing enhance the adoption of fintech in commercial banks; however, such institutional supports are mostly absent in rural peripheral areas. Al-Amarneh et al. (2023) also associated investment in information technology with better performance in banking, but such investment is still too rare in rural microfinance institutions.

More recent research has also pointed to the expansion of fintech in the financing of small and medium enterprises (SMEs) and entrepreneurship (Aryan et al., 2024; Bani Atta, 2025; Mansour et al., 2025), even though its impact on the welfare of households and the development of communities is still insufficient. Global studies have found that the adoption of fintech in rural areas is influenced by varying degrees of friendliness, cost, dependability, and the level of technology adopted. Studies conducted in similar contexts have found that poor infrastructure and lack of clear policies are primary barriers to adoption and the overall success of fulfillment (Aker et al., 2016; Adekunle et al., 2022). For example, educational level, income, gender, and perceptions about risks are all socio-demographic variables that affect the propensity to adopt fintech (Alalwan et al., 2017; Almahadin et al., 2023). Such variables may influence the nexus between fintech access and rural development impacts like entrepreneurial activity and income diversification.

In conclusion, the review pointed out that although fintech might expand the reach of financial services to rural settings, the ability of the technology to bring about change to the rest of the world is still very much dependent on the state of the infrastructure, regulatory environment, and the underlying context of the towns and communities where the technology is purported to extend. Fintech’s promise to the rural poor is, at best, a faint glimmer. Any fintech-enabled changes to rural finance will more resemble the concept of “reach as you teach.” Such transformation will predominantly depend on how all these factors, in-

frastructure included, are woven together with the financial and digital literacy of the rural population. So, this paper seeks to analyze the impact of the adoption of fintech by rural households and small and medium enterprises (SMEs) in Jordan, a developing country.

Based on the previous discussion, the hypotheses were developed as follows:

- H1: Fintech adoption and financial inclusion concerning Jordan's countryside households and SMEs have a positive and significant relationship.*
- H2: The key determinants of fintech adoption have positively and significantly influenced the extent of fintech utilization in rural areas.*
- H3: Fintech adoption positively affects rural economic growth through access to credit and digital payments, as well as through entrepreneurship opportunities.*
- H4: The adoption and spread of Fintech services in rural Jordan are particularly negatively impacted by institutional and infrastructural problems and challenges surrounding digital literacy.*

2. METHODOLOGY

This section outlines the methodological approach used to investigate the influence of fintech adoption on financial inclusion and economic activity in rural areas of Jordan. The methodology was designed to ensure methodological rigor, transparency, and alignment with the research objectives. It explains the research design, population and sample, data collection methods, and data analysis that guide the empirical investigation.

2.1. Research design

This study utilized both quantitative and qualitative methodologies and thus addressed both measurable outcomes and contextual aspects associated with fintech adoption in rural areas of Jordan. The quantitative part of the study was for users of fintech applications, including rural households

and small and medium-sized enterprises (SMEs), and the rural population in focus. The responses and the enrolled participants' study hypotheses were analyzed in the context of the quantitative hypotheses of the study. The testable domain included total frequencies and distribution of fintech adoption, its drivers and impact, and barriers to its use complexity. The causal links were established through the application of the OLS multiple regression to analyze how the adoption of fintech and its associated partners and adoption dominates rural development outcomes and challenges. Validity of the regression models was confirmed through cross-diagnostic tests. Specifically, VIF values did not demonstrate the presence of multicollinearity, and the VIF passed the autocorrelation test; thus, robust models were established.

The qualitative part consisted of semi-structured interviews with fintech providers and public policy makers, which provided context to the statistical results. The contextual information from these interviews provided additional context on the barriers, policy- and context-driven gaps, and opportunities for fintech adoption in Jordan's rural areas. The data collected in these interviews were subjected to thematic analysis, which allowed the author to capture dominant narratives and constructs to enhance and clarify the quantitative results. This integration of results made it possible to construct a comprehensive account of the influence of fintech adoption on financial inclusion and economic growth in rural areas, and therefore, provided the basis for the integration of qualitative and quantitative evidence.

2.2. Population and sample

The study integrated both quantitative and qualitative techniques to study the use of financial services in rural Jordan. It started by conducting surveys among potential users such as farmers, merchants, and small entrepreneurs. The researcher sought to establish how frequently these people accessed financial technology, what their opinions were concerning the technology, and what issues there were to its wider use. The surveys yielded their share of good nonsense as well. One respondent, for instance, apparently thought that she was the only reason for the success of financial technology in her locality, a per-

ception that would be expected of entrepreneurs in remote villages with badly developed road networks. Nevertheless, these focus group discussions and direct chats with people are what add life and color to the data, and that is what illuminates the researchers' findings. It is from surveys and these conversations that the correct narrative is coming out concerning the people accessing financial services and those maxing, and the underlying reasons.

The sampling method used was multi-stage sampling. In the initial stage, the rural areas, as defined by the Central Bank of Jordan's financial inclusion and population density, were mapped. In the second stage of the sampling, individual users (households) and business users (SMEs) were targeted through purposive sampling. This sampling method made sure that the respondents had enough exposure to, and or interactions with, the fintech products.

The final quantitative analysis had 242 responses, all of which were valid. Furthermore, fintech providers and policymakers were purposively sampled for participation in semi-structured interviews. The selection criteria focused on the implementation of regulatory policies in the fintech sector in rural areas. This strategy used in sampling provided the necessary statistical representativeness needed for quantitative analysis and contextual depth needed for qualitative exploration. In total, 242 valid survey responses were obtained and used in the final quantitative analysis. The respondents' composition included 44% and 56% as females and males, respectively, 53% individual household users, and 47% small business operators. Regarding education, 39% had secondary qualifications, 44% had diploma and bachelor qualifications, and 17% had postgraduate qualifications. The average age of the participants was 37.4 years (SD = 8.6).

2.3. Data collection methods

Data were collected using a structured questionnaire and the accompanying semi-structured interviews that supplemented the quantitative data.

The primary aim of the questionnaire was to gauge demographic data of the respondents and assess

their level of engagement with fintech, examine perceptions of the use of fintech in advancing financial inclusion and rural development, and assess the level of barriers to the adoption of fintech. It was divided into four sub-sections:

1. Demographics (e.g., age, sex, education level, and income).
2. The level and the frequency of the use of fintech on a day-to-day basis and in the conduct of business.
3. Stakeholders' perceptions on the impacts of the use of fintech on financial inclusion, credit access, and local economic development.
4. The adoption barriers, such as infrastructure, digital literacy, and regulatory barriers.

The answer options were on a five-point Likert scale, where 1 means Strongly Disagree, and 5 means Strongly Agree.

The respondents to the interviews were more specifically fintech service providers and policymakers, and the primary goal was to gauge implementation issues, regulatory policy, and the strategic framework to scale the inclusion of rural areas into the fintech ecosystem. Data from interviews were recorded, transcribed, and then thematically coded to explain the quantitative data collected.

2.4. Data analysis

The approach to data analysis was systematic and sequential in integrating both quantitative and qualitative strands.

To conduct quantitative analysis for this research study, the respondents' demographic profiles and their responses across four analytical dimensions were summarized and described as follows:

- (1) current levels of fintech adoption;
- (2) determinants of adoption;
- (3) perceived impacts on rural development; and
- (4) obstacles to adoption.

Using OLS multiple regression analysis, the study treated rural development as the dependent variable, while four analytical constructs were treated as independent variables. Before estimations were made, the data set was checked for completeness and consistency. The analysis revealed that there were no multicollinearity or autocorrelation issues, as VIF metrics were under the limit and the Durbin–Watson statistic was around 2. The regression analysis and all its components showed strong explanatory power, confirming the robustness of the model ($R^2 = 0.834$). Rural development was the dependent variable, while the four analytical constructs were treated as independent variables.

Employing the software, the author used thematic analysis to organize and analyze the interview data for qualitative analysis. Her main aim was to identify patterns for Shmoop. In this case as well, some common patterns emerged around the themes of tactical infrastructure, lethargic policy, low digital competence, and a host of literary strategic suggestions. These were equally illuminated by the quantitative findings. The two forms of data were triangulated in this research to reveal how the adoption of fintech impacts financial inclusion and rural development in Jordan. This approach was amplified by the presence of both qualitative and quantitative data. In this case, the qualitative additions elucidated the effects of economic development and rural region inclusion through fintech adoption.

3. RESULTS AND DISCUSSION

The results have been structured into the four main analytical components of the study: 1. The current level of fintech adoption in rural areas. 2.

The determinants of adoption. 3. The impact of fintech adoption on rural development. 4. Principal constraints to adoption. Quantitative results are supplemented with inferential tests, while the results of hypothesis tests are consolidated toward the end of this section.

3.1. Current level of fintech adoption

Descriptive findings reflect the phenomenon of the emerging presence of fintech services in rural settlements of Jordan. In this context, Table 1 shows the total response concerning the first group that aimed at identifying the current availability and adoption of fintech in the rural context. Table 1 indicates that there was a strong alignment of the 358 aggregate respondents concerning the current level of fintech adoption and use in the rural context. In total, 327 respondents agreed with the variable, and 270 aggregate respondents were neutral. 201 aggregate respondents expressed disagreement (proportional ratio = 40.2), and 270 aggregate respondents expressed strong disagreement (proportional ratio = 54). Fintech, the data suggest, has succeeded in penetrating rural areas, although the underlying level of accessibility varies. These results provide cautious support for hypothesis H1, which was formulated to confirm a positive relationship between the level of fintech adoption and financial participation in rural areas.

3.2. Factors influencing fintech adoption

The second set of analyses assessed the determinants of fintech adoption. Table 2 outlines the total response in the second group. Why do people receive fintech with such enthusiasm in remote ar-

Table 1. Current level of fintech adoption in rural areas

Variables	SA	A	N	SD	D	Total
I can easily access fintech services in my rural regions	134 (55.37)	85 (35.12)	10 (4.13)	5 (2.07)	8 (3.31)	242 (100)
I recognize the diverse fintech services accessible in my rural regions	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)
My access to financial products and services has been improved by fintech services	37 (15.29)	21 (8.68)	9 (3.72)	105 (43.39)	70 (28.93)	242 (100)
I am assured of financial transactions using fintech services	63 (26.03)	76 (31.40)	18 (7.44)	40 (16.53)	45 (18.60)	242 (100)
Overall	358	327	54	270	201	1210
Ratio	71.6	65.4	10.8	54	40.2	242

Table 2. Factors influencing fintech adoption in rural areas

Variables	SA	A	N	SD	D	Total
Fintech services provide convenience and simplicity of use for rural consumers	107 (44.21)	68 (28.10)	11 (4.55)	25 (10.33)	31 (12.81)	242 (100)
I have adequate knowledge and understanding of fintech services	94 (38.84)	84 (34.71)	13 (5.37)	18 (7.44)	33 (13.64)	242 (100)
The price of fintech services is cost-effective for rural residents	110 (45.45)	86 (35.54)	4 (1.65)	20 (8.26)	22 (9.09)	242 (100)
Fintech services are available in my rural regions	98 (40.50)	92 (38.02)	12 (4.96)	15 (6.20)	25 (10.33)	242 (100)
There is a consistent and steady internet connection in my rural regions	104 (42.98)	61 (25.21)	23 (9.50)	25 (10.33)	29 (11.98)	242 (100)
Overall	513	391	63	103	140	1210
Ratio	102.6	78.2	12.6	20.6	28	242

of 1.255 respondents, 513 – a proportional ratio of 102.6 – profoundly accepted the underlying reasons. Then those who accepted and agreed – for example, n and proportional ratio 391, 78.2 – with some (n, proportional ratio 140, 28) of the disagreeing respondents have a ratio of 140, and those who strongly disagree, n 103, proportional ratio 20.6. Only 63 respondents on aggregate were neutral. All these results strongly support hypothesis H2, which predicted that fintech would be popular among rural families and small and medium enterprises due to its accessibility and affordability.

3.3. Impact of fintech adoption on rural development

To explore H3, which presumes that the adoption of fintech accelerates rural economic development, a selection of various indicators was used. Table 3 provides the total response in the third group. What is the correlation between the adoption of fintech and the development of the countryside? Table 3 demonstrates that 485 aggregate respondents highly agreed with the positive contribution

of fintech adoption towards rural growth, while 413 respondents on aggregate adopted the construct. Strong disagreement was presented from 159 respondents on aggregate, while 99 respondents on aggregate disagreed with the construct. These patterns show that the adoption of fintech is crucial in the advancement of entrepreneurship as well as financial inclusion in rural areas. The registration evidence is further confirmed by the regression results given below, which support H3.

3.4. Obstacles to fintech adoption

Table 4 provides the total response on the fourth group to explore the challenges to fintech adoption. Table 4 shows that there was overwhelmingly positive response, with 453 respondents on aggregate agreeing (proportional ratio = 90.6) to the existence of obstacles to the adoption of fintech in rural areas. This was followed by 416 respondents on aggregate who supported the existence of obstacles. There was some disagreement with the proposition by 142 respondents on aggregate (proportional ratio = 28.4) and 156 respondents on aggregate who strongly disagreed (proportional

Table 3. Impact of fintech adoption on rural development

Variables	SA	A	N	SD	D	Total
Fintech adoption has significantly impacted the economic development in rural regions	106 (43.80)	86 (35.54)	8 (3.31)	19 (7.85)	23 (9.50)	242 (100)
Fintech adoption has expanded financial access in rural regions	114 (47.11)	65 (26.86)	12 (4.96)	33 (13.64)	18 (7.44)	242 (100)
Fintech adoption has enhanced access to credit for individuals and businesses in rural regions	79 (32.64)	90 (37.19)	15 (6.20)	38 (15.70)	20 (8.26)	242 (100)
Fintech adoption has enabled more efficient digital payment processes in rural communities	85 (35.12)	97 (40.08)	10 (4.13)	29 (11.98)	21 (8.68)	242 (100)
Fintech adoption has improved the effectiveness of financial transactions in rural regions	101 (41.74)	75 (30.99)	9 (3.72)	40 (16.53)	17 (7.02)	242 (100)
Overall	485	413	54	159	99	1210
Ratio	97	82.6	10.8	31.8	19.8	242

Table 4. Obstacles to fintech adoption in rural development

Variables	SA	A	N	SD	D	Total
Fintech infrastructure, including dependable internet access and mobile networks, is insufficient in rural communities	94 (38.84)	82 (33.88)	10 (4.13)	35 (14.46)	21 (8.68)	242 (100)
Rural residents have limited access to reasonably priced smartphones and devices essential for fintech services	102 (42.15)	75 (30.99)	14 (5.79)	24 (9.92)	27 (11.16)	242 (100)
Minimal digital literacy and technological skills across rural communities hinder fintech adoption	83 (34.30)	95 (39.26)	9 (3.72)	20 (8.26)	35 (14.46)	242 (100)
Regulatory frameworks and policies fail to support fintech growth in rural areas	79 (32.64)	90 (37.19)	7 (2.89)	37 (15.29)	29 (11.98)	242 (100)
Inadequate financial education and knowledge about fintech services are obstacles to adoption in rural regions	95 (39.26)	74 (30.58)	3 (1.24)	40 (16.53)	30 (12.40)	242 (100)
Overall	453	416	43	156	142	1210
Ratio	90.6	83.2	8.6	31.2	28.4	242

ratio = 31.2). These results support H4, which posited that there are infrastructural and institutional obstacles to the adoption of fintech in rural areas.

3.5. Regression analysis

To test the hypotheses, a regression analysis was performed in which rural development was the dependent variable, and the rest of four, namely, current level of adoption, factors of adoption, perceived impact, and challenges, were considered as independent variables. The hypotheses were tested using multiple regression analysis:

$$\begin{aligned}
 \text{Rural development} &= \beta_0 \\
 &+ \beta_1 (\text{Current adoption}) \\
 &+ \beta_2 (\text{Adoption factors}) \\
 &+ \beta_3 (\text{Impact of fintech adoption}) \\
 &+ \beta_4 (\text{Adoption challenges}) + \varepsilon,
 \end{aligned} \tag{1}$$

where *Rural development* is the dependent variable. *Current adoption*, *adoption factors*, *impact of fintech adoption*, and *challenges* are independent variables as follows:

1. Current adoption level includes access, ease of use, and recognition (see Table 1).

2. Adoption factors include availability, knowledge, cost, and convenience (see Table 2).
3. Impact of fintech adoption includes economic impact, financial access, payment, and credit (see Table 3).
4. Adoption Challenges include regulations, intrafraction, literacy, and device access (see Table 4).

Table 5 indicates that $R^2 = 0.834$, which means that 83.4% of rural development variance is explained by the model. The model is statistically significant; F-statistic equals 505.626 with p-value less than 0.001. In addition, one can note that there is no autocorrelation where the Durbin-Watson test equals 2.260. Finally, there are no multicollinearity issues where all VIFs are less than 5.

Table 5 shows that the current level of fintech adoption shows a substantial predictor, $\beta = 1.911$ and $p < 0.01$. This suggests that the assessment of the current level of fintech adoption in rural communities of Jordan was positive and significant. In addition, there is a significant positive prediction of factors of fintech adoption in rural areas ($\beta = 1.651$ and $p < 0.01$), suggesting the positive influence of the examined factors on

Table 5. Multiple regression results

Variable	Coefficient	Std. Error	t-value	p-value	VIF
Constant	1.451	0.965	1.503	0.136	–
Current Adoption level	1.911*	0.065	2.496	0.001	1.12
Adoption Factors	1.651*	0.131	2.60	0.000	1.08
Impact of Fintech Adoption	1.628*	0.108	5.079	0.030	1.05
Challenges	1.574*	0.070	2.486	0.010	1.10

Note: Adj. $R^2 = 0.832$; F-Statistic = 305.861 with $p < 0.001$; Durbin-Watson = 2.260.

fintech adoption. Table 5 also demonstrates that fintech adoption significantly predicted rural development ($\beta = 1.628$, $p < 0.01$), offering the positive impact of fintech adoption on the socio-economic development of rural communities in Jordan. In addition, results show the significant prediction of the challenges of fintech adoption to rural growth ($\beta = 1.574$, $p < 0.01$), offering the positive influence of those challenges on the development of rural areas in Jordan. In conclusion, the p-value for all independent variables is less than 0.05.

The study supports that fintech is a major driver of development, even in rural areas of Jordan. There is now the possibility of integrating rural dwellers into the financial system, courtesy of technological advancements in the fintech industry, mobile financial services. This is because the formal banking system has very little engagement with the rural dwellers and has concentrated its efforts in the rural areas. Jordan has a Rural Development Strategy, which shows an extreme lack of development in rural areas.

The new and emerging service channels now give rural dwellers the chance to fully access and use a wide range of financial services. The fact that they use mobile phones extensively, which has rapidly penetrated the Jordanian market, is an example of technology that has been a catalyst for expanding the rural reach of fintech in Jordan. The above statements demonstrate that fintech is a major driver for the financial inclusion of the previously financially excluded rural citizens.

According to the drivers of fintech adoption (see Table 2), the primary factors of user behavior are convenience level, service quality, and price. Respondents considered fintech applications to be user-friendly, time-effective, and less expensive than conventional banking portals. This is consistent with Alalwan et al. (2017) and Al-Habashneh (2022), who argued that fintech must be perceived as useful and reliable for its acceptance and adoption. From the perspective of the Technology Acceptance Model (TAM), fintech applications used in rural regions of Jordan seem to meet the criteria of perceived

ease of use and perceived usefulness, which are drivers of willingness to use technology.

In addition, there was a significant link between the use of fintech and the economic growth of rural areas. Users stated that fintech has enabled them to achieve greater economic participation by making digital payments and bankless transactions. This supports a widely held view that the growth of fintech improves the accessibility and efficiency of financial services (Sherry & Nicholas, 2021; Aker et al., 2016).

A new area of research shows that rural fintech shows the area of structural and behavioral obstacles that must be overcome for digitized finance to be used by neglected markets. Some of the factors are: (i) Digital illiteracy, which fosters techno skepticism and undermines trust in new, more literate digital financial products. (ii) Poorly developed digital infrastructure prevents the rural populace from accessing fintech-based services. (iii) Rural fintech and indeed rural economic development are beset by inadequate policy and legal frameworks and regressive regulatory regimes (Hauser et al., 2017; Adegbite, 2025; Tito & Silva, 2022). To these authors, these are the obstacles that explain the inadequate penetration of fintech service gaps even to the underserved and unserved markets.

Overall, the study adds to the existing literature by evidencing the role of fintech for financial inclusion and rural economic growth in Jordan. It also shows that the impacts of adopting fintech are both direct and indirect. The direct impact comes from better access to credit and digital payment systems. The indirect impacts include greater financial literacy and increased participation in entrepreneurial activities. This is in addition to a combination of robust quantitative data and rich qualitative information that strengthens the argument on the role of fintech in inclusive development in Jordan. The pertinent barriers and difficulties that the theory of fintech-to-development possesses are also appropriately captured. All in all, this presents a nice and integrated collection of findings useful for stakeholders wanting to promote fintech development for poverty reduction and rural development.

CONCLUSION

The paper seeks to analyze the impact of the adoption of fintech by rural households and small and medium enterprises (SMEs) in the developing country of Jordan. Fintech adoption alongside its inclusion within rural advancements was studied here within Jordan, alongside the provided qualitative interviews and quantified surveys via a mixed approaches method. This analysis has provided proof that the adaptable skills of fintech are able to benefit economic expansion positively within rural economies through better provision of varied financial services to both households and SMEs.

Through studying 242 respondents living in rural areas of fintech services, it was found that fintech services allow smoother access due to lowered costs without increasing hassle, financial inclusion is accomplished, and better entrepreneurship is within reach. Regression analysis provided the notion that developed rural areas are solely from the adoption of fintech and strengthened its place as a transformative change in reducing financial gaps. While the optimistic points can be noted, concerns about rural areas still stand, especially about the developing and amplifying infrastructure and the digital literacy mandatory for the more advanced rural areas.

Quantitatively, the findings shed more light on several aspects that were found lacking; mostly, these were found to be instructional aids, policy coordination, and digital literacy. There are additional concerns for the rural areas that augment straits, e.g., the gaps within payments to computer networks and the growing digitized trust of consumers to better secure usage and adoption.

In general, this study furthers contemporary research on digital financial inclusion by documenting its study on developing countries. It finalizes its argument, remembering that if regulatory frameworks and infrastructure are put in place, then fintech has the potential for inclusive rural growth in Jordan. Hence, rural digital infrastructure, awareness, and financial literacy are vital for the equitable advantages of financial technologies to different societal levels. Hence, policymakers and financial institutions should focus on these issues.

AUTHOR CONTRIBUTIONS

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