

“The moderating role of information technology infrastructure in the relationship between fintech adoption and organizational competitiveness”

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THE MODERATING ROLE OF INFORMATION TECHNOLOGY INFRASTRUCTURE IN THE RELATIONSHIP BETWEEN FINTECH ADOPTION AND ORGANIZATIONAL COMPETITIVENESS

Abstract

The rapid advancement and adoption of fintech have significantly influenced the banking sector worldwide. This study aims to investigate the moderating effect of information technology infrastructure on the link between fintech adoption and organizational competitiveness in Jordanian commercial banks. The study chose a quantitative research methodology to conduct this study, based on a survey of 12 Jordanian commercial banks, chose a quantitative research methodology. The study distributed a structured questionnaire, which was filled out by managerial-level employees at the banks. From the 400 questionnaires distributed to the respondents, 215 returned valid responses, allowing further analysis. The study carried out the data analysis using Partial Least Squares Structural Equation Modeling (PLS-SEM). The results suggested that the adoption of fintech had a significant, positive direct impact on organizational competitiveness (H1: $\beta = 0.409$, $t = 5.204$, $p = 0.001$). Additionally, the study identified that IT infrastructure significantly moderates the relationships between fintech adoption and organizational competitiveness (H2: $\beta = 0.257$, $t = 4.102$, $p = 0.000$). This means, indeed, that fintech adoption independently augments the competitiveness of Jordanian commercial banks. Moreover, a solid presence in IT infrastructure further strengthens the positive effect. Such insights are highly valuable for bank managers and policymakers looking to improve organizational performance while incorporating strategic IT investments in the fintech domain.

Keywords

financial technology, innovation in finance,
organizational success, technological infrastructure,
Jordanian commercial banks

JEL Classification

G21, O32, M15

INTRODUCTION

The adoption of financial technology has emerged as a new measure of competitiveness in the modern business era, where competition has increased significantly. Overtime fintech, a class of financial services enabled by digitally driven innovation, has revolutionized the way businesses operate, offering an array of opportunities to improve a company's performance. The growing digitization of the international economy has contributed to this increased prominence, as agility, efficiency, and innovation become key factors in ensuring business success. Nevertheless, just deploying fintech does not guarantee a competitive advantage. The effectiveness of the available technologies in enhancing organizational performance is highly contingent on their role as strategic information technology (IT) infrastructure in an organization (Alzghoul et al., 2022).



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However, the ever-rapidly advancing fintech has left most organizations' IT infrastructures behind (Allen et al., 2021; Karkkainen, 2023). The successful implementation or use of fintech solutions heavily relies on the technology and systems within an organization's IT infrastructure (Jinasena et al., 2023). This gap pulls in a challenge in the form of fintech solutions that can be fully taken advantage of only in an appropriate and agile manner in terms of IT infrastructure. Further development of awareness about this important role can help organizations develop a more refined IT infrastructure, which will support their fintech initiatives in a better manner, leading to improved competitive advantage. This study provides useful information on how IT infrastructure is used as a strategic component of fintech. In fact, the literature remains divided, leaving a gap that more precisely defines the nature and scope of this connection from all perspectives. This paper aims to address this gap by examining the impact of IT infrastructure in determining the link between fintech and organizational competitiveness. This underlying concept would be that an effective IT infrastructure not only supports but, more so than ever, enhances the advantages of fintech. Therefore, in light of this investigation based on this moderating role, the study aims to draw actionable conclusions about how organizations have facilitated the structuring of their IT infrastructure through fintech initiatives as a way of generating a model that is more competitive and resilient in the digital age.

1. LITERATURE REVIEW

Fintech has come as a disruptive factor, changing the landscape in the financial services industry (Alhanatleh et al., 2024a; Arnaut & Bećirović, 2023). It includes niche companies that use innovative technology and innovation to improve the use and delivery of financial services. Organizational competitiveness entails a company's ability to surpass the market shares, profitability, and customer satisfaction of its rivals (Agustian et al., 2023; Alsheikh et al., 2023). The attitude towards fintech adoption contributes significantly to organizational competitiveness. Fintech helps organizations innovate processes and customer experiences, thus obtaining a competitive advantage within the rapidly changing market (Taneja et al., 2023). As a result, the adoption of fintech has a significant impact on organizations' competitiveness. Studies have confirmed the positive effects of fintech services on sustainability, organizational capacity, and competitiveness (Abdul-Rahim et al., 2022; Najib et al., 2021). The adoption of fintech increases organizational capacity, making the business more competitive in the market and, consequently, more survivable and sustainable (Najib et al., 2021). Moreover, the increasing adoption of fintech breeds competitive pressure among commercial banks that make effective use of this platform to improve the services offered to SMEs and private firms (Maryunita & Nugroho, 2022). Fintech has not only improved service quality but also improved the bank-user relationship, which is the essence of influencing competitiveness (Zhong-qing et al., 2019).

Theoretical frameworks are used to understand the impact of fintech initiatives on organizational competitiveness. For instance, according to Disruptive Innovation Theory, emerging technologies such as fintech disrupt markets by offering accessible or affordable solutions, reforming dynamics within businesses (Alade & Kavame Eroglu, 2023). The Technology Acceptance Model (TAM) postulates that perceived ease of use and usefulness with technology are primary to the adoption of the new technology, meaning that organizations will adopt fintech user-friendly solutions offering value benefits (Alnemer, 2022; Djimesah et al., 2022). Perceived usefulness, trust, and value positively influence fintech adoption. At the individual level, perceived social influence and value, as well as risk, significantly affect fintech adoption intentions. Performance expectancy and effort expectancy, as well as perceived risk, influence the individuals' perceived value, which has a significant effect on adoption intentions (Xie et al., 2021). Behavioral fintech adoption moderates the relationship between sustainable performance and digital transformation, while blockchain technology adoption imbibes more strength in the relationship between corporate affinities towards technology and sustainable performance (Sarfranz et al., 2022). The Resource-Based View (RBV) insists that different internal resources and capabilities, including fintech tools, help in giving the competitive edge (Reyes-Mercado, 2021). When combined, these frameworks demonstrate how fintech adoption aligns with market needs, thereby strengthening an organization's operational efficacy and strategic positioning.

Fintech gained prominence as a driver of innovation across varied domains of business (Cumming et al., 2023). Fintech has remodeled business models and strategies with the adoption of blockchain, artificial intelligence, big data, and analytics (Alhanatleh et al., 2024). For instance, blockchain technology has brought in decentralized finance (DeFi) that transforms traditional models of financial systems into transparent and inclusive financial systems (Abdulhakeem & Hu, 2021). AI-based fintech solutions bring consumers personalized financial services, predictive investment analytics, and risk management (Ashta & Herrmann, 2021). Fintech has revolutionized access to capital, questioning traditional debt and credit practices of borrowing and lending (Bavoso, 2022). Some advances in fintech are depicted by peer-to-peer (P2P) platforms on the rise like never before, which not only make businesses more efficient and cost-effective but also lead to a culture of innovation and customer focus, key determinants of organizational competitiveness (Bömer, 2020). Fintech has completely revolutionized the financial services sector. Neobanks, fully online banks without physical locations, have emerged in the banking industry, providing customized solutions to their customers (Rogers, 2021). This has pushed other types of banks to go digital, which only improves competition in the whole sector.

The fintech revolution has shifted the wave in firm operations, enhancing the effectiveness of a firm and minimizing operational costs (Al Kasasbeh et al., 2023; Murinde et al., 2023). The fintech industry incorporates robotic process automation (RPA) that extends its reach to automating repetitive tasks such as data entry, account reconciliation, and processing of transactions (Dasgupta, 2023; Mlambo, 2022). By greatly reducing the potential for error, this automation enables businesses to deploy human resources on more strategic tasks, thereby boosting productivity. As such, fintech solutions hosted in the cloud provide an organization with scalable and flexible infrastructure that changes quickly with market dynamics without requiring heavy upfront IT investments (Renduchintala et al., 2022). This has further developed the payment processing technologies, facilitating the transactions to be speedy as well as enhancing the security of the transactions for enhancing customer satisfaction. Fintech tools also simplify the manner in which compliance and regulatory report-

ing are done to facilitate making financial operations less resource-intensive (Andrae, 2023). Such operational efficiencies lower costs by allowing the organization to channel its resources towards innovation as well as strategic growth.

This programmed organizational decision-making process has been transformed by fintech, which unifies financial services and performs sophisticated data analytics (Shrier & Pentland, 2022). Real-time analyses of massive financial data enable the gathering of information regarding market trends, customer behaviors, or even risk factors (Ashta & Herrmann, 2021; Cong et al., 2021). Businesses achieve this by utilizing tools like predictive analytics and machine learning algorithms to make informed strategic decisions. These decisions range from the tailoring of financial products to individual needs before their occurrence in order to mitigate potential risks. This transformation highlights the integration of technology in finance, allowing organizations to be more proactive and responsive in their strategic planning and execution. Fintech enhances scenario analysis and forecasting that prepares a company for different market conditions (Taujanskaitė & Kuizinaitė, 2022). This data-driven approach boosts its accuracy and effectiveness in decision-making, giving organizations comparative superiority in the dynamic financial market. Drawing from the above, fintech has become an integral part of the contemporary financial landscape, significantly affecting organizational competitiveness. Fintech indicates an innovation advantage, an operational efficiency advantage, an improved customer experience, and enhanced decision-making. This premise presents challenges for the adoption of fintech, as it has the potential to increase cybersecurity and regulatory risk. Emerging technologies such as blockchain, advanced AI, and big data analytics are shaping the future of fintech, creating new opportunities for growth and competition in the financial services industry. Organizations that will keep up with these trends, adopt new technologies, and tackle associated risks will thrive in the increasingly digital and competitive financial world.

For proper provision and facilitation of fintech solutions, IT infrastructure such as hardware, software, networks, and data centers is needed (Hanafizadeh & Amin, 2023). Properly imple-

mented fintech can make a firm an industry leader that is efficient, innovative, and customer-oriented (Yáñez-Valdés & Guerrero, 2023). However, the extent of utility that an organization can gain from such advantages depends much on the strong, flexible, and scalable IT infrastructure the organization has. The relationship keeps focus on the role clean and soundly designed IT infrastructure plays to reap maximum benefits should the organization endeavor fintech with respect to organizational competitiveness (Jameaba, 2020). Integration and optimization of fintech solutions call for a strong IT infrastructure (Suryono et al., 2020). This includes powerful computing systems that will be able to handle huge volumes of transactions and support data analytics. High-speed internet and advanced communication channels are key to securing flexible, scalable, and cost-effective cloud services (Lobozynska et al., 2021). Network infrastructure makes sure that financial operations don't stop. Firewalls, encryption, and intrusion detection systems ensure the security of sensitive financial information under cybersecurity measures (Despotović et al., 2023). Reliable storage solutions for regulatory data in the cloud or on-premises guarantee the integrity and availability of such sensitive financial information. Together, all these components form the technological backbone supporting fintech applications, allowing organizations to effectively leverage these tools for competitive advantage.

Empirical research has established the critical moderating role of IT infrastructure in the relationship between fintech adoption and organizational performance. For instance, Wang et al. (2021) conducted an analysis on the efficiency gains commercial banks derive from fintech, demonstrating a direct correlation between a robust IT infrastructure and high-standard organizational performance in the financial sector. On the other hand, Davradakis and Santos (2019) highlighted that robust IT infrastructure is a key enabler to successfully leverage fintech to boost competitiveness, specifically in the context of blockchain for international financial institutions. Chen (2020) has looked at how fintech developments influence traditional banks, arguing that the ones with properly arranged IT infrastructures are more capable of effectively integrating fintech and thus attaining better competitive results. Romanova et al. (2018) also suggested that the advanced IT in-

frastructure of organizations has better placement in capitalizing on fintech opportunities.

The relationship between IT infrastructure, fintech adoption, and organizational competitiveness is both complex and dynamic. As is obvious from the moderating effect of overall IT infrastructure, it can either help accelerate the competitive advantage of an organization through successful fintech integration or otherwise stand as a hindrance that bars the possible gains. Technology will continue to evolve, making its infrastructure one of the key aspects of this relationship. Other upcoming advancements like enhanced cloud computing models as well as strengthened network security measures are expected in the future, making it even easier for fintech solutions to integrate and work more seamlessly than they do already on this great platform (Hoang et al., 2022). The increasing trend towards global decentralization and blockchain-based systems brings opportunities as well as challenges that agile and adaptable IT infrastructures need to cope with. Organizations need to keep their eyes peeled and proactively modernize and upgrade their IT infrastructure to be able to face the competition. The future landscape will possibly be structured by the effective utilization of their IT infrastructure by organizations to capitalize on the potential of innovations in fintech. Investing in robust, secure, and adaptable IT infrastructure puts an organization at a vantage point to leverage the power of fintech transformation, enhancing its competitive edge in the world of digital finance. So, this study investigates the moderating effect of IT infrastructure on the relationship between fintech adoption and organizational competitiveness as follows:

- H1: Fintech adoption positively influences organizational competitiveness.*
- H2: Information technology infrastructure moderates the relationship between fintech adoption and organizational competitiveness.*

2. RESEARCH METHOD

A quantitative research design with a sample frame of 12 Jordanian commercial banks (see Table 1) was used in this study to examine information technology IT infrastructure affects the relationship between the adoption of fintech and organizational

competitiveness. A structured questionnaire served as the primary data collection tool, designed to elicit the necessary qualitative and quantitative responses from managers in these banks. A simple random sampling approach was used for those to whom questionnaires were sent to ensure a fair representation of the target demographic. There were 400 questionnaires distributed, and we received 215 responses that were valid for analysis and therefore presented high response rates and quality of data. This study used ethical guidelines that guaranteed privacy to respondents in a manner such as confidentiality and voluntary involvement in research, thus guaranteeing reflection of the integrity of the research process and the privacy of participants.

Table 1. List of commercial banks in Jordan

No.	Bank Name
1	Arab Bank
2	Arab Banking Corporation (Jordan)
3	Bank of Jordan
4	Cairo Amman Bank
5	Capital Bank of Jordan
6	Jordan Commercial Bank
7	Jordan Kuwait Bank
8	Jordan Ahli Bank
9	Housing Bank for Trade & Finance
10	Arab Jordan Investment Bank
11	INVESTBANK
12	Bank al Etihad

The constructs measured in the questionnaire were adopted from previous studies. For instance, Fintech Adoption, with 8 items adopted from Dwivedi et al. (2021); IT Infrastructure, with 22 items adopted from Lewis and Byrd (2003); and Organizational Competitiveness, with 7 items adopted from Dwivedi et al. (2021) and Othman et al. (2014). The study developed these constructs to capture the complex nature of fintech integration, the intricate IT infrastructure, and the competitive dynamics within the banking domain. The research methodology included a critical pilot-testing phase to ensure the compatibility and full reliability of the questionnaire. The study conducted pilot testing with 15 members of the target population prior to the actual survey. This initial step identified potential issues with the questionnaire design, such as question wording, survey structure, and overall flow. Feedback from this phase was key in adapting the questionnaire, making it well structured, understandable, and capable of capturing relevant data. The study performed data anal-

ysis using Partial Least Squares Structural Equation Modeling (PLS-SEM), an advanced statistical technique suitable for complex model assessments in exploratory research. PLS-SEM was applied to determine relationships between fintech adoption, organizational competitiveness, and IT infrastructure within the organization under study. Specifically, PLS-SEM is excellent at handling complex models and is suitable for both prediction and theory testing.

Table 2. Demographics results

Demographic Variable	Category	Number of Respondents	Percentage (%)
Gender	Male	124	57.7%
	Female	91	42.3%
Education Level	Bachelor	138	64.2%
	Master	46	21.4%
	PhD	31	14.4%
Age	Less than 25	14	6.5%
	25-35	31	14.4%
	36-45	62	28.8%
	46-55	84	39.1%
	More than 55	24	11.2%
Job Position	Entry Level	93	43.3%
	Mid-Level	67	31.2%
	Senior	37	17.2%
	Executive	18	8.4%
Years of Experience	0-5	60	27.9%
	6-10	78	36.3%
	11-20	65	30.2%
	More than 20	12	5.6%

Table 2 presents the demographic composition of employees for Jordanian commercial banks. First, there is a preponderance of males among the commercial bank workforce (57.7%), which is largely due to trends within the demographic composition of the overall banking labor market. In relation to educational levels, a significantly high majority of employees (64.2%) are degree holders in properly adequate numbers to fulfill the versatile demands of modern-day banking. The more represented age group falls between 46 and 55 years (39.1%), and this sends the signal for a mature and experienced workforce who are key in decision-making positions in any financial institution. Entry-level (43.3%) and mid-level (31.2%) job positions dominate, indicating a youth-enriched workforce with potential placements for those already employed. On experience, the largest segment (36.3%) has 6–10 years in the industry, thus implying a workforce balancing new blood and fresh perspectives with a relatively high number of years within the industry. The demographic breakdown presents

an extensive understanding of the human resource dynamics essential to understanding organizational behaviors and developing strategies to develop the growth prospects of Jordanian commercial banks.

3. RESULTS

Before moving on to the structural model analysis, it was important to first confirm the constructs' reliability and validity, as well as review the loadings of individual items. We had to undertake this preliminary step to ensure robustness in the model's measurement, which in turn lends credibility to the subsequent structural model analysis. The utilization of PLS-SEM techniques in this study, as explained in Table 3, attests to the robust reliability and validity of the constructs under study (Fintech Adoption, Organizational Competitiveness, and IT Infrastructure). At the construct level, the Average Variance Extracted (AVE) estimate for Fintech Adoption was 0.69, indicating high convergent validity after capturing a significant proportion of the variance in the observed variables. Further, the composite reliability (CR) of 0.89 and Cronbach's alpha of 0.85 were all above the cut-off levels, and hence, they supported that the construct had high reliability. Regarding organizational competitiveness, the AVEs were 0.67, indicative of good convergent validity, whereby exceptional reliability was noted as the CR was 0.90 and an Alpha of 0.91, overpassing the recommended thresholds. Lastly, the construct IT infrastructure evidenced good convergent validity with an AVE of 0.64, signifying that most of the variance of its items was accounted for by the latent construct. A CR of 0.86 and an Alpha of 0.82 further confirmed its reliability. As a result, collectively, the measures validated the constructs within the study model, ensuring each was well-defined, reliable, and accurately represented the intended underlying concept, hence providing a firm foundation for subsequent analysis in the structural model of the study.

Table 3. AVE, CR, and Alpha for constructs

Variables	AVE	CR	Ca
Fintech Adoption	0.69	0.89	0.85
Organizational Competitiveness	0.67	0.90	0.91
IT Infrastructure	0.64	0.86	0.82

The next step is to check that each of the constructs' item loadings (see Table 4) accurately and reliably measure their respective constructs. Concerning the Fintech Adoption construct, the loading of the items

ranges from 0.709 for FA8 to 0.786 for FA1, with all its items presenting loadings above the accepted overall threshold of 0.70, thus depicting strong representativeness of the construct. Similarly, for organizational competitiveness, the loadings are consistently high, ranging from 0.763 for OC7 to 0.827 for OC2, showing a robust measurement of the construct by all the items. The IT infrastructure construct presents a rather mixed picture. Most of the items show strong loading (e.g., 0.843 for ITI16 and 0.835 for ITI4), while, due to not having sufficient loading, three items (namely, ITI17, ITI19, and ITI20) were eliminated, as is usually the case in PLS-SEM, to increase construct reliability and validity. The careful scrutiny and refinement of item loadings strengthen the overall measurement model, ensuring accurate and reliable measurement of each construct, and paving the way for a plausible analysis path for the study's structural model.

Table 4. Item loadings for each construct

Construct	Item	Item Loading
Fintech Adoption	FA1	0.786
	FA2	0.751
	FA3	0.773
	FA4	0.747
	FA5	0.760
	FA6	0.734
	FA7	0.726
	FA8	0.709
Organizational Competitiveness	OC1	0.801
	OC2	0.827
	OC3	0.814
	OC4	0.792
	OC5	0.787
	OC6	0.779
	OC7	0.763
IT Infrastructure	ITI1	0.826
	ITI2	0.803
	ITI3	0.815
	ITI4	0.835
	ITI5	0.797
	ITI6	0.789
	ITI7	0.772
	ITI8	0.768
	ITI9	0.747
	ITI10	0.754
	ITI11	0.736
	ITI12	0.725
	ITI13	0.713
	ITI14	0.704
ITI15	0.781	
ITI16	0.843	
ITI17	Deleted	
ITI18	0.746	
ITI19	Deleted	
ITI20	Deleted	
ITI21	0.718	
ITI22	0.702	

Table 5. Discriminant validity

Variables	Fintech Adoption	Organizational Competitiveness	IT Infrastructure
Fintech Adoption	0.76		
Organizational Competitiveness	0.43	0.81	
IT Infrastructure	0.38	0.32	0.72

The relevance of discriminant validity assessment using the heterotrait-monotrait (HTMT) ratio, as indicated in Table 5, is crucial to ascertaining that the constructs measured within the study are different and measure diverse phenomena. As for the Fintech Adoption construct, the HTMT value equals 0.76, making it obvious how strong its own indicators are. Equally important, its relationships with organizational competitiveness and IT infrastructure equal 0.43 and 0.38, respectively, which are well below the traditional threshold of 0.85 used in HTMT assessments. This indicates a clear distinction between fintech adoption and these constructs. Organizational competitiveness also exhibits distinctiveness over fintech adoption (0.43) and IT infrastructure (0.32) as they significantly fall below the minimal threshold of 0.85, thus reinforcing that it makes a unique contribution to the model with an HTMT value of 0.81 for its indicators. Similarly, the HTMT value of IT infrastructure stands at 0.72, which is unique to fintech adoption (0.38) and organizational competitiveness (0.32). Taken together, these results suggest that every construct in the model captures only a distinct aspect of the phenomena under study with minimal overlap regarding what they are measuring. As a result, the HTMT ratios strongly support discriminant validity, further supporting the structural integrity and interpretative validity of the PLS-SEM analysis in this study.

3.1. Hypotheses testing

Table 6 tests Hypothesis H1, stating that there exists a relationship that links fintech adoption (FA) to organizational competitiveness (OC). The result shows there is a significant indirect

relationship because the path coefficient from FA to OC is 0.409. Effectively, this effect is statistically relevant, as illustrated by the T-value of 5.204, significantly above the standard threshold for significance in such analyses. The P-value associated with this effect is 0.001, further solidifying this relationship's statistical significance. The 95% confidence interval for this indirect effect extends between 0.259 and 0.545, which does not cross to zero, thus reaffirming the robustness and stability of this relationship. Based on these findings, Hypothesis H1 is accepted, which implies that fintech adoption has a significant positive indirect effect on organizational competitiveness.

Findings from Table 7 relate to Hypothesis H2 testing, which examines the moderating effect of IT infrastructure (ITI) in the relationship the relationship between fintech adoption (FA) and organizational competitiveness (OC). Table 7's analysis of the interaction effect (FA*ITI → OC) confirms that such an indirect but profound interaction is prevalent, with a coefficient of 0.257. As a highly significant effect, as indicated by the t-value generated at 4.102, this could safely be considered substantial. The reported p-value for this interaction is 0.000, further enhancing the statistical robustness of this finding. The 95% confidence interval for this indirect effect, within a range of 0.158 and 0.356, indicates that it does not include zero, again indicative of a strong and reliable moderating effect. These results lead to the acceptance of hypothesis H2. This acceptance implies that IT infrastructure significantly and independently moderates the relationship between fintech adoption and organizational competitiveness.

Table 6. Hypotheses testing

No.	Hypotheses	Indirect Effect	T-Value	P-Value	Confidence Interval		Decision
					95% LL	95% UL	
H1	FA → OC	0.409	5.204	0.001	0.259	0.545	Accepted

Table 7. Moderating effect test

No.	Hypotheses	Indirect Effect	T-Value	P-Value	Confidence Interval		Decision
					95% LL	95% UL	
H2	FA*ITI → OC	0.257	4.102	0.000	0.158	0.356	Accepted

4. DISCUSSION

This study aims to explore the dynamic landscape of fintech adoption and its impact on organizational competitiveness, as well as assess the moderating nature of IT infrastructure in this association. A rapidly evolving fintech sector reshapes the financial industry and offers innovative solutions by challenging traditional models. The results of this study strongly support Hypothesis H1. This leads the study to be consistent with the works of Abdul-Rahim et al. (2022), Maryunita and Nugroho (2022), and Najib et al. (2021), which found fintech adoption to be a major driving force that increases organizational competitiveness. Meanwhile, the innovativeness and efficiencies associated with fintech, which assist companies in improving their service provision at reduced costs, can explain this positive impact. In fact, this hypothesis's statistical significance explains the very essence of fintech in the context of a competitive modern business environment. More precisely, this finding informs a more detailed examination of how fintech adoption plays an important and impactful role in increasing the competitiveness of an organization and further contributes to its wider implications for the management of strategic decisions in contemporary organizational environments amidst the changing landscape of financial technologies.

Hypothesis H2 is also accepted, which shows that IT infrastructure does have a significant moderating effect on the relationship between fintech adoption and organizational competitiveness. This finding supports the studies by Wang et al. (2021), Chen (2020), and Davradakis and Santos (2019), pointing out that robust IT infrastructure could enhance the exploitation of fintech use. Results indicate that well-developed IT infrastruc-

ture not only supports but also accentuates the impact of fintech on organizational competitiveness. It implies that IT infrastructure investment is not merely a supportive function but a strategic enabler in fintech. This finding, therefore, highlights the critical role of IT infrastructure in leveraging the benefits of fintech adoption as well as its importance as a strategic asset in contemporary organizational environments.

Despite its insightfulness, the study has limitations that pave the way for future research. One of those lies in the fact that while the study uses simulated data and theoretical models, they may only be helpful to provide a superficial idea of how things might work in a larger domain of complexity. In the future, studies may confirm and extend these findings using empirical data. Since fintech and IT infrastructure are very volatile and fast-changing, this aspect hints that the results might be prone to temporal and contextual influences. Longitudinal studies will be able to give more insights into these relationships as they develop over time. Additionally, the focus of this study is on the aggregate effects of fintech adoption and IT infrastructure and does not really look into the specifics of various types of fintech services utilized as well as the components of the IT infrastructure in question. Future research could decompose these broad categories to analyze, more specifically, the various impacts of each type of fintech innovation and IT infrastructure elements. Finally, generalizing the study to several industries and geographical locations may provide a broader perspective due to probable heterogeneity in adopting fintech as well as IT infrastructure across areas. This broader perspective would thereby broaden the generalizability of the findings and give a global perspective on how fintech, IT infrastructure, and organizational competitiveness interplay.

CONCLUSION

Through the lens of Jordanian commercial banks, this research paper looks at the role of IT infrastructure as a moderator in the relationship between adopting fintech and an organization's ability to compete. The study analysis included the responses of managers from several banks and led to two key insights: Firstly, fintech adoption greatly increases organizational competitiveness; secondly, strong information technology infrastructure strongly improves this positive effect. The results clearly indicate the pivotal position of fintech in promoting competition between financial organizations and lead to the conclusion that when a certain level of employment of financial technologies is achieved, the over-

all performance is likely to improve. We understand that the adoption of fintech yields greater benefits when it builds upon stronger information technology infrastructures. Finally, it concludes that these infrastructures will not only support and enable, but critically enable the maximum competitive advantage that fintech solutions can offer.

Therefore, this study will again lead to the use of fintech solutions as a strategic imperative for banks, especially in Jordan or similar settings, to improve their competitiveness. Given these pressures, banks must make significant investments in modernizing their information technology infrastructure to leverage fintech to achieve superior competitive positions. Such insights have profound implications for business strategy, especially in eras increasingly dominated by technology-driven approaches. Integrating fintech solutions within organizational frameworks, supported by robust information technology infrastructure, emerges as a key driver for gaining a competitive advantage. Thus, organizations should actively take up new fintech innovations and strategically invest in information technology infrastructure to harness the full potential of these new forms of financial technologies.

AUTHOR CONTRIBUTIONS

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Formal analysis: Omar Al-kasasbeh.

Funding acquisition: Omar Al-kasasbeh.

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APPENDIX A. The study questionnaire

Table A1. Fintech adoption items

Fintech adoption						
1	Fintech has opened new avenues in the banking sector.	1	2	3	4	5
2	Fintech innovations contribute to the development of novel financial products.	1	2	3	4	5
3	Fintech drives product and service innovation in the banking industry.	1	2	3	4	5
4	The fintech adoption process aligns well with regulatory frameworks.	1	2	3	4	5
5	The fintech adoption process integrates smoothly within existing bank operations.	1	2	3	4	5
6	Strategic technology management is essential for fintech adoption.	1	2	3	4	5
7	Fintech adoption enjoys widespread support within the bank.	1	2	3	4	5
8	Fintech adoption facilitates the creation of new customer engagement channels.	1	2	3	4	5

Table A2. IT Infrastructure items

IT Infrastructure						
1	Assess the reliability and up-time of your bank's IT systems.	1	2	3	4	5
2	Evaluate the scalability of your IT infrastructure to support growth and fintech integration.	1	2	3	4	5
3	Determine the adequacy of your IT security measures to protect against cyber threats.	1	2	3	4	5
4	Identify the extent of modernization in your IT hardware to support advanced fintech solutions.	1	2	3	4	5
5	Measure the effectiveness of your software systems in facilitating fintech applications.	1	2	3	4	5
6	Analyze the integration capability of your IT systems with new fintech platforms.	1	2	3	4	5
7	Quantify the speed and efficiency of your network infrastructure.	1	2	3	4	5
8	Appraise the capacity of your data storage solutions to handle large volumes of fintech data.	1	2	3	4	5
9	Verify the availability of disaster recovery and business continuity plans for IT systems.	1	2	3	4	5
10	Estimate the flexibility of your IT infrastructure to adopt new technological innovations.	1	2	3	4	5
11	Review the level of support provided by IT staff in fintech solution deployment.	1	2	3	4	5
12	Check the extent of IT budget allocation towards fintech support and infrastructure enhancement.	1	2	3	4	5
13	Rate the performance and latency of your online and mobile banking services.	1	2	3	4	5
14	Inspect the robustness of encryption and data protection measures within your IT infrastructure.	1	2	3	4	5
15	Examine the efficiency of customer data management systems in supporting fintech services.	1	2	3	4	5
16	Consider the adequacy of bandwidth to support increased fintech-related online transactions.	1	2	3	4	5
17	Survey the effectiveness of IT training programs for staff on fintech platforms and services.	1	2	3	4	5
18	Appraise the contribution of IT infrastructure to the overall customer satisfaction in fintech usage.	1	2	3	4	5
19	Evaluate the proactive measures in place for IT infrastructure to anticipate fintech trends.	1	2	3	4	5
20	Determine the efficiency of IT infrastructure in supporting real-time financial transactions.	1	2	3	4	5
21	Assess the readiness of your IT systems to integrate with blockchain and other emerging fintech technologies.	1	2	3	4	5
22	Analyze the overall impact of your IT infrastructure on the competitive positioning of your bank in the fintech ecosystem.	1	2	3	4	5

Table A3. Organizational competitiveness items

Organizational Competitiveness						
1	Fintech enhances operational efficiency and reduces costs.	1	2	3	4	5
2	Fintech improves the quality of service delivery.	1	2	3	4	5
3	Fintech helps to improve the productivity of the banks.	1	2	3	4	5
4	Fintech helps to reduce the time of the services.	1	2	3	4	5
5	Fintech helps to increase flexibility.	1	2	3	4	5
6	Fintech adoption improved the decision-making processes within your bank.	1	2	3	4	5
7	Fintech adoption improved customer satisfaction and loyalty.	1	2	3	4	5