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FUTURE TRENDS IN FINTECH AND SUSTAINABILITY: EMPIRICAL STUDY

Abstract

This study delves into the potential direct impact of Fintech adoption, regulatory environment, technological infrastructure, and customer trust on the competitiveness of Fintech solutions. The study employs a questionnaire to gather data from 228 respondents in Jordan aged 18 or older, who were aware of Fintech and were selected through social media and other relevant channels. The outcomes from the Smart PLS path analysis reveal that Fintech adoption significantly impacts the competitiveness of Fintech solutions, supported by regulatory influence and technological infrastructure. Customer trust is crucial, fostering competitiveness through security, transparency, and reliability in Fintech services. Notably, the study contributes theoretical insights by underscoring the pivotal role of cultural acceptance in the dynamics of Fintech adoption and trust. From a practical standpoint, the findings suggest the formulation of tailored strategies for diverse markets, with an emphasis on trust, and an adaptation of product development to align with cultural nuances. However, the study acknowledges limitations and underscores the importance of longitudinal and comparative research to comprehensively grasp the cultural influences on Fintech.

Keywords

Fintech adoption, regulatory environment, technological infrastructure, customer trust, competitiveness of Fintech solutions

JEL Classification

G10, G21

INTRODUCTION

A critical transformation in the financial services industry is taking place through a combination of new technologies and classic services, based on a new form of financial technology, often referred to as 'Fintech'. The fusion of technologies and financial services has led to the development of new solutions for financial transactions, known for their disruptive characteristics. Fintech has revolutionized financial systems across the globe, providing innovative ways for traditional financial firms to compete and operate. Due to the fast-growing digitalization of the world, Fintech has already become ubiquitous, which impacts the chances and opportunities of incumbent financial institutions to adopt Fintech strategies. Understanding the adoption of Fintech strategies becomes crucial to understanding the dynamic landscape of the global financial industry. Fintech strategies are changing the traditional ways that financial entities conduct their business due to the recently developed technologies, including distributed ledger technology, also known as blockchain, artificial intelligence, smart contracts, cryptocurrencies, and digital payments such as digital wallets, among others. Blockchain, for example, has been considered a basic technology to many Fintech companies and innovative financial institutions. Understanding the adoption of Fintech strategies is highly important to comprehend the pathway of

the financial industry moving to innovations and technological adeptness. Importantly, competitive dynamics have been observed in the Fintech industry both among startups and traditional established financial institutions.

The competitive Fintech market necessitates a deep understanding of factors contributing to the success of solutions offered. This understanding is crucial for devising informed strategies to ensure sustained relevance and success amidst rapid evolution. Additionally, sustainability has emerged as a central theme in shaping the future of finance. Despite the global acknowledgment of Fintech's impact on competitiveness, there remains a notable gap in understanding its implications within the Jordanian financial landscape.

1. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

At the intersection of finance and technology, the primary theories guiding Future Front Finance are drawn from finance, technology adoption, and strategic management. By applying innovation diffusion theory to examine Fintech strategy adoption, this study provides insights into how these novel strategies are spread and adopted across the financial sector (Ho, 2022; Yuen et al., 2021). Rogers' diffusion of innovations theory serves as a basis for understanding how new ideas, specifically Fintech solutions, are adopted over time (Jamshidi & Kazemi, 2020). Strategic management theories, specifically those related to competitive advantage and organizational adaptation, serve as our foundation in assessing the competitiveness profile of the Fintech sector (Ng et al., 2023). This includes the resource-based view, which contends that the unique resources and capabilities of firms lead to competitive advantage. Within the Fintech context, examining how firms leverage technological resources and capabilities sheds light on the competitive forces driving growth and evolution in this sector (Boratyńska, 2019; Alsmadi, 2020; Alghusin, 2020).

Additionally, the theoretical framework utilizes the theory of sustainability to explore the role that Fintech solutions can play in achieving economic, social, and environmental goals at the same time (Atayah et al., 2023). More specifically, profit, people, and the planet are interlinked in the triple bottom line theory and serve as a guiding framework. This is especially important since Fintech developments not only shape changes to

transactions in the financial sector but also have implications for broader social and environmental issues (Pandiangan et al., 2022). Drawing on the Jordanian context, the theoretical framework is extended to include Hofstede's theory of cultural dimensions. This cultural context serves as a framework through which the values, attitudes, and beliefs in a certain society can be explored to understand how these can influence the readiness to adopt Fintech, build customer trust, and thus ultimately lead to competitiveness.

1.1. Fintech adoption and competitiveness of Fintech solutions

Fintech adoption is how people, businesses, and financial institutions embrace, implement, and subsequently use financial technologies (Fintech) in their everyday financial activities. It refers to the extent to which financial innovations have been adopted by players in the financial services space. Broader definitions describe it as openness to new and disruptive financial technologies and users' willingness to use new and innovative technological solutions that aim to improve, simplify, or revolutionize traditional ways of financial services delivery (Singh et al., 2020). Various studies point to the fact that the adoption of Fintech innovations helps to give shape to the competition landscape of the finance sector (Jarvis & Han, 2021). Adapting to Fintech innovations can impact the competitive landscape in the finance sector, as per Rogers' diffusion of innovations theory (Mochama, 2021). One study notes: "The pace of adoption of these alternate finance technologies not only shapes the competitive landscape of the finance sector, but also alters the very nature of finance of people" (Dwivedi et al., 2021). Fintech innovation for the

finance sector has been described as essentially aimed at “enhancing operational efficiency and, more importantly, introducing customer-centric innovative solutions” (Niemelä, 2019). Niemelä (2019) raises the question of how quickly Fintech solutions can be adopted by traditional financial institutions and existing market players as opposed to by flexible startups. The answer lies in the fact that the adoption of Fintech solutions by both banks and market players on a large scale has ushered in a new age of competition characterized by “relentless innovation, improved user experience, and unique services (SalemOudat, 2019).

1.2. Regulatory environment and competitiveness of Fintech solutions

Demirel and Kesidou (2019) define the regulatory environment as the comprehensive set of laws, rules, regulations, and governmental policies that delineate and direct the conduct and operations of individuals, organizations, and industries within a specific jurisdiction. This would provide the legal guidelines and standards which dictate the bounds of what firms are permitted to do, what they must do when conducting operations, and how they must navigate the interactions with other stakeholders in their pursuit of achieving their mission within the boundaries established by that specific sector of the economy. For the case of Fintech firms, regulatory frameworks are often referred to in the literature as critical to determining the parameters and limitations in terms of how Fintech firms can enter the market, how they can conduct their operations, and how they can position their competitive advantage. Ringe et al. (2020) draw attention to how firms operating in emerging economies navigate regulatory concerns and how these play a paramount role in establishing entry to the market, the approach to the conducting of operations, and the way in which they carve out their competitive position in the market.

Scholars argue that a favorable regulatory environment is one that plays a crucial role in shaping the nature of innovations by providing legal and institutional support for Fintech firms to flourish, as argued by Goo and Heo (2020). On the other hand, if firms are subject to regulatory uncertainty or constraints, then this may play a critical

role in limiting the scale and scope of growth for those firms as well as how they shape their competitiveness and capacity to navigate within a climate of uncertainty. As an illustration, Fenwick and Vermeulen’s (2020) study examines the role of regulation and concludes that firms can foster high levels of market confidence with the potential to increase the likelihood that consumers and investors feel comfortable adopting Fintech solutions. This would, in turn, lend support to Fintech firms by offering a regulatory environment that is growth-friendly for the sustainability and overall competitiveness of the sector. Conversely, the regulatory environment may be so stringent as to bind firms by anachronistic rules that fail to capture the dynamism of markets, thus having the potential to constrain their capacity to respond to market shifts and, as such, limiting their competitive edge vis à vis traditional financial firms, as Nicholls (2019) argued. Similarly, Al-Omouh (2020) and Oudat (2020) provide critiques of regulatory constraints that can limit firm competitiveness.

1.3. Technological infrastructure and competitiveness of Fintech solutions

On the other hand, technological infrastructure refers to the general framework of hardware, software, networks, and digital systems that enables the efficient and effective use of IT resources by an organization, an industry, and a society (Bernards & Campbell-Verduyn, 2019). It is critical in enabling the delivery of technological services, including communication, data processing, and the execution of a myriad of digital functions (Thacker et al., 2019). In the context of Fintech and other technological ecosystems, technological infrastructure can refer to the integrated mix of physical and virtual components required in the design, development, and deployment of digital solutions (Jayalath & Premaratne, 2021). In the context that this study will mostly discuss the case of Fintech ecosystems, technological infrastructure, which includes hardware, software, connectivity, and digital frameworks, acts as a critical driver of Fintech providers’ instrumental capabilities and competitiveness (Haddad & Hornuf, 2019; Alsmadi, 2019). Mang’ana (2022) notes that strong technology infrastructure is the first step to enable the local development of Fintech solutions, pre-

serving the competitiveness of Fintech. General research stresses the need for reliable and modern capabilities of data processing, secure communication paths, and scalable platforms that improve the efficiency and reliability of Fintech services while also enabling Fintech firms to develop and deploy sophisticated solutions that, in turn, enable them to become more competitive. Rovira and Buritte (2021) look beyond the traditional discussion of Fintech in a peripheral country like Malta and situate it in the context of European innovation policies and the Digital Single Market. General research stresses the need for reliable and modern capabilities of data processing, secure communication paths, and scalable platforms that improve the efficiency and reliability of Fintech services, while also enabling Fintech firms to develop and deploy sophisticated solutions that, in turn, enable them to become more competitive. Still, in a wider view of Fintech, Reyes-Mercado (2021) seeks to provide a global picture of how the heterogeneity in technological infrastructure influences the competitiveness of Fintech solutions across markets, arguing that the variability in technological infrastructure impacts firm performance as it influences both the speed of adoption of Fintech and the success of users' experiences and innovative efforts. The author finds that areas in which the technological infrastructure is developed and responsive are more likely to foster a vibrant and innovative Fintech ecosystem.

1.4. Customer trust and competitiveness of Fintech solutions

Customer trust is the resource that customers rely on to develop and maintain a business relationship (Firman et al., 2021). Underpinning the customers' expectations of faith, reliance, or confidence in a brand, product, or service provider, customer trust is an ephemeral and evolving phenomenon, that exists through the customers' ongoing interactions and experiences with the brand or the provider and is fulfilled by the expectation of the business keeping its promises, upholding the integrity and doing whatever is right by the customers (Bozic & Kuppelwieser, 2019). Considering that in the digital world, people are bombarded with the speed of information, which means they also have an overwhelming number of informed choices on products

and services available for them to consume (Zhang et al., 2019), the significance of customer trust is paramount, especially for the finance industry. In Fintech (Financial Technology), for instance, relationships between customer trust and the competitiveness of Fintech solutions are usually the key topics in contemporary literature (Broby, 2021). Unlike the physical financial transactions of the traditional form of banking, where the aspect of trust between two banking parties has always been firmly rooted in the financial journeys we carry out (Albayati et al., 2020), in Fintech, people's interactions with financial services are redefined by digital solutions. Customer trust has always been a foundational part of financial transactions, but as Fintech solutions bring to the market new and innovative ways to engage in digital financial transactions, the establishment and maintenance of trust can help determine the competitiveness of Fintech innovations (Dawood et al., 2021). As Fintech solutions evolve, customer trust often emerges as the key variable that determines the competitiveness of these solutions. Customer trust, for example, goes beyond the security of transactions but also concerns the transparency of the transaction (or lack thereof), the perceived ethical behavior of Fintech providers, and providers' reputation (that is, the extent to which Fintech providers are perceived as reliable). Alkhwaldi et al. (2022) stated that: 'As Fintech solutions become more secure and transparent, customer trust can itself become competitive, as customer loyalty and positive word-of-mouth can give them an edge over competitors.'

The objective of this study is to analyze Fintech Adoption, Regulatory Environment, Technological Infrastructure, and Customer Trust as they relate to the Competitiveness of Fintech Solutions under the unique economic backdrop of Jordan. The objectives of this study are to review different dimensions of Fintech in Jordan and to provide insights to inform strategic decision-making for private and public sector local stakeholders in financial services. Due to a lack of localized knowledge in academic and professional discourse, this paper seeks to fill the gap by providing insights into different dimensions of Fintech in Jordan. Therefore, it can posit the following hypotheses:

H1: Fintech Adoption significantly impacts Competitiveness of Fintech Solutions.

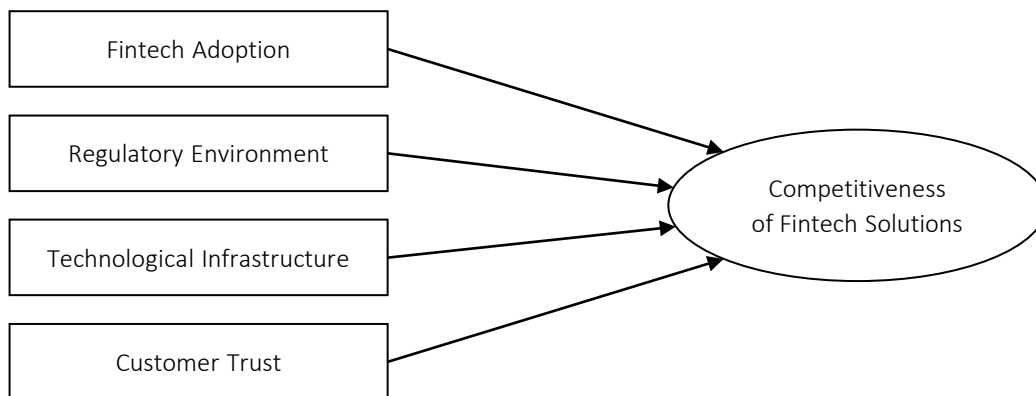


Figure 1. Research model

H2: Regulatory Environment significantly impacts Competitiveness of Fintech Solutions.

H3: Technological Infrastructure significantly impacts Competitiveness of Fintech Solutions.

H4: Customer Trust significantly impacts Competitiveness of Fintech Solutions.

Figure 1 shows the research model for this study as well as all the relationships between the study variables.

2. RESEARCH METHODOLOGY

2.1. Measurement and development of the instrument

The research constructs were assessed using items derived from relevant literature sources (see Table 1), encompassing Fintech adoption, competitiveness of Fintech solutions, regulatory environment, technological infrastructure, and customer trust.

Table 2 shows the construct and measures for the study variables.

Table 1. Measures sources

Construct	Items	References
Competitiveness of Fintech Solutions	3	Dwivedi, P., Alabdooli, J. I., & Dwivedi, R. (2021); Romanova, I., Grima, S., Spiteri, J., & Kudinska, M. (2018).
Customer Trust	3	Danesh, S. N., Nasab, S. A., & Ling, K. C. (2012); Setyadi, R., Rahman, A. B. A., & Subiyakto, A. (2019).
Fintech Adoption	3	Tun-Pin, C., Keng-Soon, W. C., Yen-San, Y., Pui-Yee, C., Hong-Leong, J. T., & Shwu-Shing, N. (2019); Setiawan, B., Nugraha, D. P., Irawan, A., Nathan, R. J., & Zoltan, Z. (2021).
Regulatory Environment	3	Pandian, G. S., Jawahar, N., & Nachiappan, S. P. (2013); Gavora, P., Jakešová, J., & Kalenda, J. (2015).
Technological Infrastructure	3	Chanopas, A., Krairit, D., & Ba Khang, D. (2006); Freitas, A. L. P., Monteiro, G. A. P., & Costa, H. G. (2018).

Table 2. Construct and measures

Construct	Code	Items
Competitiveness of Fintech Solutions	CF1	To what extent do you believe that Fintech solutions offer innovative features compared to traditional financial services?
	CF2	How competitive do you find the pricing of Fintech solutions in comparison to traditional financial products?
	CF3	In your opinion, how well do Fintech solutions keep up with or surpass industry standards and trends?
Customer Trust	CT1	How confident are you in the security measures implemented by Fintech solutions to protect your financial information?
	CT2	How trustworthy do you find the customer support and service provided by Fintech companies?
	CT3	To what extent do you believe Fintech companies are transparent about their terms, conditions, and privacy policies?

Table 2 (cont.). Construct and measures

Construct	Code	Items
Fintech Adoption	FA1	How likely are you to recommend Fintech solutions to your peers or colleagues?
	FA2	To what extent do you believe Fintech solutions have simplified and improved your financial management?
	FA3	How familiar are you with the range of Fintech products and services available in the market?
Regulatory Environment	RE1	How confident are you in the regulatory framework governing Fintech solutions in your region?
	RE2	To what extent do you believe regulatory policies support or hinder the growth and innovation of Fintech companies?
	RE3	How well do you think Fintech companies adhere to regulatory standards and compliance requirements?
Technological Infrastructure	TI1	How satisfied are you with the speed and efficiency of technological processes within Fintech solutions?
	TI2	To what extent do you believe Fintech companies leverage cutting-edge technologies to enhance their services?
	TI3	How user-friendly do you find the technological interfaces and platforms provided by Fintech solutions?

2.2. PLS measurement model findings

Through AVE (Average Variance Extracted) and Cronbach's Alpha scores, one can evaluate the internal coherence and external robustness of the latent variables. Elevated AVE and Cronbach's Alpha values suggest the latent variables possess sound validity and reliability, suitable for effectively examining the research propositions. The AVE values represent the proportion of variance captured by a latent variable, with values surpassing 0.5 signifying robust external validity. Meanwhile, Cronbach's Alpha values reflect the internal consistency of the latent variables, with values over 0.7 denoting reliability. This suggests that the study's latent variables are internally consistent and externally valid, thus apt for reliably probing the re-

search propositions. Table 3 represents the validity and reliability estimates.

2.3. PLS structural model findings

The links between the present research variables are demonstrated by the study's inner SEM-PLS model, which explores the interrelationships among the latent variables. Table 4 illustrates the amplitude and relevance of these linkages by exhibiting the Beta values, T-Statistics, and P-Values of the route coefficients, as reported by Hair et al. (2017). At a significance level of 0.05, the inner SEM-PLS model findings justify all research hypotheses in this study. These findings point to the interdependence of the factors. This evidence not only supports the study's findings but also pro-

Table 3. Validity and reliability estimates

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
Competitiveness of Fintech Solutions	0.716	0.718	0.841	0.639
Customer Trust	0.701	0.711	0.799	0.571
Fintech Adoption	0.731	0.740	0.847	0.649
Regulatory Environment	0.810	0.806	0.889	0.730
Technological Infrastructure	0.881	0.811	0.874	0.798

Table 4. Path coefficients – mean, STDEV, T-values, P-values

	Original sample (O)	T-statistics (O/STDEV)	P-values	Hypothesis Result
Fintech Adoption → Competitiveness of Fintech Solutions	0.120	3.823	0.000	Supported
Customer Trust → Competitiveness of Fintech Solutions	0.122	1.573	0.016	Supported
Regulatory Environment → Competitiveness of Fintech Solutions	0.114	1.810	0.040	Supported
Technological Infrastructure → Competitiveness of Fintech Solutions	0.122	1.657	0.024	Supported

vides important insights for those creating legislation and doing research on Fintech uptake. The route coefficients are shown in Table 4.

3. DISCUSSION

The study focused on the impact of Fintech adoption on the competitiveness of Fintech solutions since data analysis showed that financial technology adoption affects the competitive advantage of Fintech solutions as explained by other scholars, while other studies had supported the importance of Fintech adoption on the competitiveness of solution (Dwivedi, 2021; Mochama, 2021). Since this impact of Fintech adoption on the competitive capability of firms in the finance sector has been emphasized by scholars, Fintech adoption has been defined as involving and using financial innovations in the daily activities of financial transactions of individuals and groups of different communities as explained in this study. The role of Fintech adoption in determining the speed of change in the financial market and the impact of using financial innovations on financial transactions has been emphasized by Jarvis and Han (2021). Therefore, this study has applied Roger's theory of diffusion of innovation to this analysis because it explained the use of financial innovations by the general public, resulting in the behavioral changes in the use of fintech solutions of studying the impacts of innovation by Mochama (2021). According to Dwivedi et al. (2021), Fintech adoption does indeed shape the direction and speed of development finance than the conventional one. The role of Fintech adoption in shifting financial services from a traditional way of delivering them toward a more efficient and customer-centric approach cannot be understated. The huge effect of Fintech adoption has been shown by other researchers as evidenced by Niemelä (2019), Hasan (2021), Kasasbeh (2022), Marwan and Alzoubi (2022), Norman et al. (2013), and Rabaai (2022).

However, this study confirms the importance of the regulatory environment in relation to Fintech competitiveness. This aligns with the broad definition of regulatory environment by Demirel and Kesidou (2019) as an 'umbrella term that includes laws, rules and policies governing conduct within a given jurisdiction'. Ringe and Christopher

(2020) examine how heterogeneous regulatory environments affect market entry, 'operating Fintech firms. Goo and Heo (2020) also argue that a regulatory environment supportive of innovation follows from the overarching idea that Fintech can be described in terms of traditional business processes enhanced using tech. Fintech offers a means to achieve cost savings and improved service delivery, making it a competitive option for a regulatory environment that seeks to deliver efficient services. Meanwhile, Fenwick and Vermeulen (2020) argue that for Fintech to thrive, regulators need to find a way to co-create markets that endorse innovation and are acceptant of failures as part of the nature of business. This is presaged by Kim (2023), emphasizing how regulatory ambiguity can hinder Fintech growth. The broader literature points to a healthy 'ecological niche' being facilitative for Fintech's growth and provides supportive signals to stimulate continuous innovation. Shields et al. (2022) add to this narrative by reporting on regulatory tightening and high-cost compliance requirements as barriers to growth for Fintech innovation. As an extension of this discussion, it can be argued that a strict or backward-looking regulatory environment can be less agile than traditional institutions (Nicholls, 2019) and so this can affect competitiveness, which is consistent with the findings of Al-Gasaymeh (2022), Alhawamdeh (2022), Al-Okaily, (2023), Alrawashdeh (2023), Alsmadi (2023), and Alzoubi (2022).

The findings also point to the vital role of technological infrastructure in shaping the competitiveness of Fintech solutions, consistent with previous findings that it is foundational (Bernards & Campbell, 2019; Thacker, 2019; Thacker & Ramia, 2019). The technological infrastructure, as explained, is the foundation of Fintech capabilities: hardware, software, connectivity, and digital infrastructures (Jayalath & Premaratne, 2021). When there is a robust technological infrastructure, innovation is enhanced, and Fintech companies sustain competitive advantages (Mang'ana, 2022). More effective processing of data and more secure communication channels make Fintech services more effective, including being scalable which makes them more competitive (Haddad & Hornuf, 2019; Jarvis & Han, 2021). A study on the Fintech landscapes in EU and Asian countries by Reyes-Mercado (2021) has also found consistent

evidence regarding the role of technological infrastructure being foundational, and the competitive implications. When a region is supported by a robust technological infrastructure, it fosters a vibrant Fintech landscape where Fintech companies are less inhibited, and hence, adoption is faster, user experience is better, and innovative capacity increases. The results have shown that the role that technological infrastructure plays is indeed foundational in determining the competitiveness of Fintech solutions, across different markets.

Customer trust was found to be highly critical in determining the competitiveness of Fintech solutions, which is the contention by Dawood et al. (2021) that customer trust is critical to help drive the adoption and continued use of Fintech innovations. Trust is not only about the security of the transaction but also about the transparency, ethics, and the perception of relationships between fintech providers is interdependent since, as noted by Alkhwalidi et al. (2022), increased security and transparency in fintech solutions would aid the competitiveness of such solutions, which would drive loyalty, providing a competitive advantage in the market. The finding of the study is in line with the well-established premise that customer trust is critical to the competitiveness of fintech solutions in the evolving financial space.

4. IMPLICATIONS AND FUTURE RESEARCH DIRECTIONS

4.1. Implications for practice

To enhance the potential of Fintech solutions, marketing strategies could be customized to match cultural values and norms. This goes to show that customized marketing approaches, user interfaces, and communication strategies are important for Fintech so that they resonate with the cultural values of various audiences around the world. The practical implication is that knowing that cultural elements play a role in how much people trust technological innovations, trust becomes both a cultural and technological goal of Fintech. If users are not confident that Fintech solutions are secure, they won't trust them. Transparency and trust-

worthiness, therefore, will be the most important goal for any Fintech organization.

Furthermore, the relationship that Fintech providers can forge with these insights can be used to inform product development. The greater understanding that emerges of how certain cultural nuances shape Fintech adoption and competitiveness can guide businesses in building solutions that are better integrated and responsive to particular cultural contexts. This demands moving away from a 'one size fits all' approach to product development, which in turn fuels culturally adapted innovation. For policymakers and regulatory bodies, the practical implications point to the advantages of crafting regulatory frameworks that are culturally sensitive: regulations that account for the relevant cultural forces shaping Fintech adoption can help foster an innovation-friendly environment while protecting consumer interests.

4.2. Limitations and future research directions

The limitations of this study are related to the cross-sectional nature of the data, which might not take into account the changing nature of some variables and the effect of Fintech adoption on competitiveness over time. Furthermore, this study considered a particular set of cultural dimensions and future studies may expand the sample of cultural factors and their effects on the relationship between Fintech adoption and competitiveness. In addition, the populations this study examined are in one particular region and might limit the inference to other cultures and populations. All the above concerns and limitations are subject to cautious interpretation, so we cannot generalize the findings to individuals from different cultures. This study examined mostly the perceptions and behaviors of individuals. Future studies can compare organizational and institutional perspectives to provide a fuller picture of the cultural dimensions in the Fintech economy.

Looking forward, there are several relevant avenues for future research. Some examples are: a longitudinal study of the long-term effects of cultural acceptance on the adoption and competitiveness of Fintech, combining measures on cultural attitudes and tracking changes over time; an exam-

ination of the effects of cultural intelligence (i.e., adaptability) in financial institutions and Fintech companies for designing more effective strategies and initiatives to use cultural diversity to their advantage; and an understanding of the interaction between cultural factors on the one hand and other contextual factors on the other, such as regulatory environments, economic conditions and technological infrastructure. Such studies could

give greater insight into the complex dynamics of Fintech adoption. When it comes to defining the role that cultural acceptance plays in facilitating technology adoption, it is useful to consider other dimensions of intersectionality of factors. A cross-sectoral and cross-industry analysis could shed light on whether there are sector-specific nuances to the relationship between cultural acceptance and technological innovation.

CONCLUSION

The rise of Financial Technology (Fintech) affected the global financial industry with a new wave of innovation, technicality, and increased competition. This study focuses on a specific context in Jordan to address a gap in the knowledge of strategic FinTech, future competitive trends, and sustainable solutions in a distinctive socio-economic context of the financial ecosystem in Jordan. The study usefully highlights several factors that affect the competitiveness of Fintech solutions in Jordan, where the adoption of Fintech Solutions is driven by regulatory environment, infrastructural technological strength, and customer trust. The theoretical implications of the awareness of the interaction of these factors help to provide a more nuanced understanding of the process of Fintech adoption in the context of culture and market dynamics.

Beyond adding to existing theoretical bases, the study offers practical implications for the stakeholders in the Jordanian financial sector. Financial institutions and Fintech providers are advised to develop strategies that take into account the cultural norms and values of the diversely segmented population. Regarding the rapid and increasing emergence of Fintech, personalized marketing approaches, user interfaces, and communication strategies have to be developed to enhance the acceptance and uptake of Fintech. Trust-building constitutes a critical aspect in Fintech interactions, as some of the cultural factors studied herein significantly influence peoples' trust in novel technological innovations. This further calls for policy and regulatory frameworks that take cultural factors into account, to create a conducive environment for innovation alongside protecting the interests of consumers.

The study itself is limited, and there are instances where it is difficult to draw conclusions. While the study has produced answers and insights, recommendations are proposed related to the study and ambitions for future research in order to explore the nuances of the relationship between cultural acceptance and Fintech adoption in Jordan and the MENA region more accurately and with a deeper understanding. Going forward, longitudinal studies on how sustained cultural acceptability impacts Fintech adoption, acquiring/understanding cultural intelligence among financial institutions, and cross-sector benchmarking/comparisons are recommended. As the financial industry continues to evolve, recognizing the symbiotic relationship between cultural acceptance and technological innovation will be critical to sustaining competitiveness and innovation in Fintech.

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REFERENCES

1. Abbasi, K., Alam, A., Du, M. A., & Huynh, T. L. D. (2021). FinTech, SME efficiency and national culture: evidence from OECD countries. *Technological Forecasting and Social Change*, 163, 120454. <http://dx.doi.org/10.1016/j.techfore.2020.120454>
2. Albayati, H., Kim, S. K., & Rho, J. J. (2020). Accepting financial transactions using blockchain technology and cryptocurrency: A customer perspective approach. *Technology in Society*, 62, 101320. <https://doi.org/10.1016/j.techsoc.2020.101320>
3. Al-Gasaymeh, A., Alsmadi, A. A., Alrawashdeh, N., Alzoubi, H. M., & Alshurideh, M. (2023). Dynamic Model in Estimating the Impact of Competition on Banking Efficiency: Evidence form MENA Countries. *Calitatea*, 24(193), 385-394. <http://dx.doi.org/10.47750/QAS/24.193.44>
4. Alghusin, N., Abdalmajeed Alsmadi, A., Alkhatib, E., & Mohammad Alqtish, A. (2020). The impact of financial policy on economic growth in Jordan (2000-2017): An ARDL approach. *Ekonomski pregled*, 71(2), 97-108. Retrieved from <https://ideas.repec.org/a/hde/epregl/v71y2020i2p97-108.html>
5. Alhawamdeh, L. N., Alsaaidh, M., Al-Gasawneh, J. A., Alsmadi, A. A., & Alqireem, R. M. (2023). Do E-Service Quality and Digital Content Moderate the Relationship between Website Design and the Intention to visit the Museum? *Quality-Access to Success*, 24(194). Retrieved from <https://www.proquest.com/openview/c63458836abd84f3049f7a0f0f2dbbe9/1?pq-origsite=gscholar&cbl=1046413>
6. Alkhwalidi, A. F., Alharasis, E. E., Shehadeh, M., Abu-AlSondos, I. A., Oudat, M. S., & Bani Atta, A. A. (2022). Towards an understanding of FinTech users' adoption: Intention and e-loyalty post-COVID-19 from a developing country perspective. *Sustainability*, 14(19), 12616. <https://doi.org/10.3390/su141912616>
7. Al-Okaily, M., Alsmadi, A. A., Alrawashdeh, N., Al-Okaily, A., Oroud, Y., & Al-Gasaymeh, A. S. (2023). The role of digital accounting transformation in the banking industry sector: an integrated model. *Journal of Financial Reporting and Accounting*, 22(2), 308-326 <https://doi.org/10.1108/JFRA-04-2023-0214>
8. Al-Omouh, K. S., Al Attar, M. K., Saleh, I. H., & Alsmadi, A. A. (2020). The drivers of E-banking entrepreneurship: an empirical study. *International Journal of Bank Marketing*, 38(2), 485-500. <https://doi.org/10.1108/IJBM-03-2019-0113>
9. Alrawashdeh, N., Alsmadi, A. A., & Anwar, A. L. (2022). FinTech: A Bibliometric Analysis for the Period of 2014–2021. *Qual. Access Success*, 23, 176-188. Retrieved from <https://www.proquest.com/openview/185abbd6aa644c4704eca8277040e09b6/1?pq-origsite=gscholar&cbl=1046413>
10. Alsmadi, A. A., Alrawashdeh, N., Al-Gasaymeh, A., Al_hazimeh, A. M., & Alhawamdeh, L. (2023). Adoption of Islamic Fintech in lending services through prediction of behavioural intention. *Kybernetes, ahead-of-print(ahead-of-print)*. <https://doi.org/10.1108/K-10-2022-1362>
11. Alsmadi, A. A., Alrawashdeh, N., Al-Gasaymeh, A., Alhawamdeh, L. N., & Al_hazimeh, A. M. (2022). Do oil prices and oil production capacity influence decision making and uncertainty in the financial market? Evidence from Saudi Arabia. *Investment Management and Financial Innovations*, 19(3), 335-345. [https://doi.org/10.21511/imfi.19\(3\).2022.28](https://doi.org/10.21511/imfi.19(3).2022.28)
12. Alsmadi, A. A., Alrawashdeh, N., Al-Gasaymeh, A., Al-Malahmeh, H., & Mohid Al_hazimeh, A. (2023). Impact of business enablers on banking performance: a moderating role of fintech. *Banks and Bank Systems*, 18(1), 2023. [http://dx.doi.org/10.21511/bbs.18\(1\).2023.02](http://dx.doi.org/10.21511/bbs.18(1).2023.02)
13. Alsmadi, A. A., & Oudat, M. S. (2019). The effect of foreign direct investment on financial development: Empirical evidence from Bahrain. *Ekonomski Pregled*, 2019, 70(1), 22-40. Retrieved from <https://ideas.repec.org/a/hde/epregl/v70y2019i1p22-40.html>
14. Alsmadi, A. A., Oudat, M. S., & Hasan, H. (2020). Islamic finance value versus conventional finance, dynamic equilibrium relationships analysis with macroeconomic variables in the Jordanian economy: An ARDL approach. *Change Management*, 130(1), 1-14. Retrieved from https://www.researchgate.net/publication/345437622_Islamic_finance_value_vs_conventional_finance_dynamic_equi-

- librium_relationships_analysis_with_macro-economic_variables_in_the_Jordanian_economy_an_ARDL_approach
15. Alsmadi, A. A., Oudat, M. S., Ali, B. J. A., & Al-Ibbini, O. A. (2020). Analyze the Impact of Exchange Rate on Inflation Rate: Kuwait as a Case Study for the Period of 1990 to 2019. *Change Management*, 183(1), 1-8. Retrieved from https://www.researchgate.net/publication/345491730_Analyze_the_Impact_of_Exchange_Rate_on_Inflation_Rate_Kuwait_as_a_Case_Study_for_the_Period_of_1990_to_2019
 16. Alsmadi, A. A., Sha'ban, M., & Al-Ibbini, O. A. (2019). The relationship between E-banking services and bank profit in Jordan for the period of 2010-2015. *Pervasive Health: Pervasive Computing Technologies for Healthcare*, 2019, 70-74. <http://dx.doi.org/10.1145/3317614.3317638>
 17. Alsmadi, A. A., Sha'ban, M., & Al-Ibbini, O. A. (2019, February). The relationship between E-banking services and bank profit in Jordan for the period of 2010-2015. In *Proceedings of the 2019 5th International Conference on E-Business and Applications* (pp. 70-74). <http://dx.doi.org/10.1145/3317614.3317638>
 18. Alsmadi, A. A., Shuhaiber, A., & Al-Omouh, K. S. (2023). Risky? So, why people are getting back to invest in cryptocurrencies? The United Arab Emirates as a case. *Kybernetes, ahead-of-print* (ahead-of-print). <https://doi.org/10.1108/K-04-2023-0572>
 19. Alsmadi, A., Alfityani, A., Alhwamdeh, L., Al_hazimeh, A., & Al-Gasawneh, J. (2022). Intentions to use FinTech in the Jordanian banking industry. *International Journal of Data and Network Science*, 6(4), 1351-1358. <http://dx.doi.org/10.5267/j.ijdns.2022.5.016>
 20. Alzoubi, M., Alkhatib, A., Abdalmajeed Alsmadi, A., & Kasasbeh, H. (2022). Bank size and capital: a trade-off between risk-taking incentives and diversification. *Banks and Bank Systems*, 17(4), 1-11. [http://dx.doi.org/10.21511/bbs.17\(4\).2022.01](http://dx.doi.org/10.21511/bbs.17(4).2022.01)
 21. Arner, D. W., Buckley, R. P., Zetzsche, D. A., & Veidt, R. (2020). Sustainability, FinTech and financial inclusion. *European Business Organization Law Review*, 21, 7-35. Retrieved from <https://link.springer.com/article/10.1007/s40804-020-00183-y>
 22. Atayah, O. F., Najaf, K., Ali, M. H., & Marashdeh, H. (2023). Sustainability, market performance and FinTech firms. *Meditari Accountancy Research*. <https://doi.org/10.1108/ME-DAR-08-2021-1405>
 23. Behl, A. (2022). Antecedents to firm performance and competitiveness using the lens of big data analytics: a cross-cultural study. *Management Decision*, 60(2), 368-398. <https://doi.org/10.1108/MD-01-2020-0121>
 24. Bernards, N., & Campbell-Verduyn, M. (2019). Understanding technological change in global finance through infrastructures. *Review of International Political Economy*, 26(5), 773-789. <https://doi.org/10.1080/09692290.2019.1625420>
 25. Bömer, M. (2020). Competitiveness of Fintech: An Investigation into Different Levels of Competitiveness Using Young Enterprises from the Financial Technology Industry. *Heinrich Heine University Duesseldorf*. Retrieved from <https://d-nb.info/1221365134/34>
 26. Boratyńska, K. (2019). Impact of digital transformation on value creation in Fintech services: an innovative approach. *Journal of Promotion Management*, 25(5), 631-639. <https://doi.org/10.1080/10496491.2019.1585543>
 27. Bozic, B., & Kuppelwieser, V. G. (2019). Customer trust recovery: An alternative explanation. *Journal of Retailing and Consumer Services*, 49, 208-218. <https://doi.org/10.1016/j.jretconser.2019.04.002>
 28. Brantley, R. L. (2022). *Determinants of Black American FINTECH Acceptance: A Technology Acceptance Model (TAM) Qualitative Case Study* (Doctoral dissertation). Northcentral University.
 29. Broby, D. (2021). Financial technology and the future of banking. *Financial Innovation*, 7(1), 1-19. Retrieved from <https://jfin-swufe.springeropen.com/articles/10.1186/s40854-021-00264-y>
 30. D'Acunto, F., Ghosh, P., Jain, R., & Rossi, A. G. (2021). *How costly are cultural biases? Evidence from fintech*. Retrieved from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3736117
 31. Dawood, H. M., Liew, C. Y., & Lau, T. C. (2021). Mobile perceived trust mediation on the intention and adoption of FinTech innovations using mobile technology: A systematic literature review. *F1000Research*, 10.
 32. De Wenden, C. W. (2007). Immigration and cultural rights: Political recognition and cultural acceptance. *Museum International*, 59(1-2), 24-29. <https://doi.org/10.1111/j.1468-0033.2007.00591.x>
 33. Demirel, P., & Kesidou, E. (2019). Sustainability-oriented capabilities for eco-innovation: Meeting the regulatory, technology, and market demands. *Business Strategy and the Environment*, 28(5), 847-857. <https://doi.org/10.1002/bse.2286>
 34. Dwivedi, P., Alabdooli, J. I., & Dwivedi, R. (2021). Role of FinTech adoption for competitiveness and performance of the bank: a study of banking industry in UAE. *International Journal of Global Business and Competitiveness*, 16(2), 130-138. Retrieved from https://ideas.repec.org/a/spr/ijog-bc/v16y2021i2d10.1007_s42943-021-00033-9.html
 35. Fenwick, M., & Vermeulen, E. P. (2020). Banking and regulatory responses to FinTech revisited-building the sustainable financial service ecosystems' of tomorrow. *Singapore Journal of Legal Studies, March*, 165-189. Retrieved from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3446273
 36. Firman, A., Ilyas, G. B., Reza, H. K., Lestari, S. D., & Putra, A.

- H. P. K. (2021). The mediating role of customer trust on the relationships of celebrity endorsement and e-WOM to Instagram Purchase intention. *Jurnal Minds: Manajemen Ide dan Inspirasi*, 8(1), 107-126. <https://doi.org/10.24252/minds.v8i1.20594>
37. Goo, J. J., & Heo, J. Y. (2020). The impact of the regulatory sandbox on the fintech industry, with a discussion on the relation between regulatory sandboxes and open innovation. *Journal of Open Innovation: Technology, Market, and Complexity*, 6(2), 43. <https://doi.org/10.3390/joitmc6020043>
38. Gupta, R., Kukreja, G., Gupta, A., & Tyagi, L. (2021). Artificial Intelligence fostering fintech: Emerging trends and use cases. In *Cybersecurity in Emerging Digital Era: First International Conference, ICCDE 2020, Greater Noida, India, October 9-10, 2020, Revised Selected Papers 1* (pp. 61-73). Springer International Publishing. http://dx.doi.org/10.1007/978-3-030-84842-2_5
39. Haddad, C., & Hornuf, L. (2019). The emergence of the global fintech market: Economic and technological determinants. *Small Business Economics*, 53(1), 81-105. Retrieved from https://econpapers.repec.org/article/kapsbusec/v_3a53_3ay_3a2019_3ai_3a1_3ad_3a101007_5fs11187-018-9991-x.htm
40. Hamdani, N. A., Herlianti, A. O., & Amin, A. S. (2019). December). Society 5.0: Feasibilities and challenges of the implementation of fintech in small and medium industries. *Journal of Physics: Conference Series*, 1402(7), 077053. <http://dx.doi.org/10.1088/1742-6596/1402/7/077053>
41. Ho, J. C. (2022). Disruptive innovation from the perspective of innovation diffusion theory. *Technology Analysis & Strategic Management*, 34(4), 363-376. <https://doi.org/10.1080/09537325.2021.1901873>
42. Hu, B., & Cheng, X. (2022). Fintech, Digital Financial Inclusion, and National Financial Competitiveness. *China Economic Transition = Dangdai Zhongguo Jingji Zhuanxing Yanjiu*, 5(2), 189-209. <https://doi.org/10.3868/s060-014-022-0010-4>
43. Irimia-Diéguez, A., Velicia-Martín, F., & Aguayo-Camacho, M. (2023). Predicting FinTech innovation adoption: the mediator role of social norms and attitudes. *Financial Innovation*, 9(1), 1-23. <https://doi.org/10.1186%2Fs40854-022-00434-6>
44. Jamshidi, D., & Kazemi, F. (2020). Innovation diffusion theory and customers' behavioral intention for Islamic credit card: Implications for awareness and satisfaction. *Journal of Islamic Marketing*, 11(6), 1245-1275. <https://doi.org/10.1108/JIMA-02-2018-0039>
45. Jarvis, R., & Han, H. (2021). Fintech Innovation: Review and Future Research Directions. *International Journal of Banking, Finance and Insurance Technologies*, 1(1), 79-102. Retrieved from <https://researchlakejournals.com/index.php/IJBFIT/article/view/126>
46. Jayalath, J. A. R. C., & Premaratne, S. C. (2021). Analysis of key digital technology infrastructure and cyber security consideration factors for fintech companies. *International Journal of Research Publications*, 84(1), 128-135. Retrieved from <https://ijrp.org/paper-detail/2244>
47. Kasasbeh, H., Alzoubi, M., Alsmadi, A. A., & Al-dweik, A. A. F. (2022). The Impact of COVID-19 on Amman Stock Market (ASE) Performance: An ARDL Approach. In *Digital Economy, Business Analytics, and Big Data Analytics Applications* (pp. 437-455). Cham: Springer International Publishing. http://dx.doi.org/10.1007/978-3-031-05258-3_35
48. Kim, H. S. (2023). Effects of ambiguity on innovation strategies. *Financial Innovation*, 9(1), 1-27. <http://dx.doi.org/10.1186/s40854-023-00468-4>
49. Koroleva, E. (2022). Attitude Towards Using Fintech Services: Digital Immigrants Versus Digital Natives. *International Journal of Innovation and Technology Management*, 19(08), 2250029. <https://doi.org/10.1142/S0219877022500298>
50. Laidroo, L., & Avarmaa, M. (2020). The role of location in FinTech formation. *Entrepreneurship & Regional Development*, 32(7-8), 555-572. <https://doi.org/10.1080/08985626.2019.1675777>
51. Lam, L., Nguyen, P., Le, N., & Tran, K. (2021). The relation among organizational culture, knowledge management, and innovation capability: Its implication for open innovation. *Journal of Open Innovation: Technology, Market, and Complexity*, 7(1), 66. <https://doi.org/10.3390/joitmc7010066>
52. Le, M. T. (2021). Examining factors that boost intention and loyalty to use Fintech post-COVID-19 lockdown as a new normal behavior. *Heliyon*, 7(8). Retrieved from [https://www.cell.com/heliyon/pdf/S2405-8440\(21\)01924-1.pdf](https://www.cell.com/heliyon/pdf/S2405-8440(21)01924-1.pdf)
53. Mang'ana, R. (2022). Strategic adoption of technological innovations on competitive advantage of commercial banks in Kenya. *Journal of Business and Strategic Management*, 7(2), 16-36. <https://doi.org/10.47941/jbsm.885>
54. Meijer, K., Abhishta, A., & Joosten, R. (2022, August). Role of Culture in Customer Acceptance of Neo-banks. In *International Workshop on Enterprise Applications, Markets and Services in the Finance Industry* (pp. 97-116). Cham: Springer International Publishing. Retrieved from https://ris.utwente.nl/ws/portalfiles/portal/323581233/978-3-031-31671-5_7.pdf
55. Merhi, M., Hone, K., & Tarhini, A. (2019). A cross-cultural study of the intention to use mobile banking between Lebanese and British consumers: Extending UTAUT2 with security, privacy and trust. *Technology in Society*, 59, 101151. <https://doi.org/10.1016/j.tech-soc.2019.101151>
56. Mochama, E. K. (2021). *Influence of Innovation Strategies on Competitive Advantage Among Fintech Companies in Kenya* (Doctoral dissertation). University of Nairobi.
57. Ng, E., & Pan, S. L. (2022). Competitive strategies for ensuring Fintech platform performance: Ev-

- idence from multiple case studies. *Information Systems Journal*, 34(3), 616-641. <https://doi.org/10.1111/isj.12406>
58. Ng, E., Tan, B., Sun, Y., & Meng, T. (2023). The strategic options of fintech platforms: An overview and research agenda. *Information Systems Journal*, 33(2), 192-231. <https://doi.org/10.1111/isj.12388>
 59. Nicholls, C. C. (2019). Open banking and the rise of FinTech: Innovative finance and functional regulation. *Banking & Finance Law Review*, 35(1), 121-151. Retrieved from <https://www.proquest.com/openview/56cb37437629389dd7515629cfe3436f/1?pq-origsite=gscholar&cbl=44976>
 60. Niemelä, M. (2019). *Bank and fintech competitive dynamics and the perceived value of partnerships in an open banking market environment* (Master's thesis).
 61. Norman, N., Almsafir, M. K., & Smadi, A. (2013). Comparative study of conventional and Shariah-based unit trust funds performance of public mutual berhad. *Australian Journal of Basic and Applied Sciences*, 7(9), 354-363. Retrieved from <https://ajbas-web.com/old/ajbas/2013/July/354-363.pdf>
 62. Oudat, M., Hasan, H., & Alsmadi, A. (2020). Macroeconomic variables and portfolio investment in Bahrain using an ARDL bound testing approach. *Accounting*, 6(4), 465-472. <http://dx.doi.org/10.5267/j.ac.2020.4.0012>
 63. Pandiangan, S. M. T., Oktafiana, F., Panjaitan, S. R., & Shifa, M. (2022). Analysis of public ownership and management ownership on the implementation of the triple bottom line in the plantation sector listed on the Indonesia Stock Exchange. *Budapest International Research and Critics Institute-Journal (BIRCI-Journal)*, 5(1), 349-3497. Retrieved from <https://eprints.unm.ac.id/29704/1/Artikel%20Riny%20Analysis%20of%20Public.pdf>
 64. Rabaai, A., Al-lozi, E., Hammouri, Q., Muhammad, N., Alsmadi, A., & Al-Gasawneh, J. (2022). Continuance intention to use smartwatches: An empirical study. *International Journal of Data and Network Science*, 6(4), 1643-1658. <http://dx.doi.org/10.5267/j.ijdns.2022.4.012>
 65. Reyes-Mercado, P. (2021). Technology as a Resource for FinTech. *FinTech Strategy: Linking Entrepreneurship, Finance, and Technology*, 17-32. http://dx.doi.org/10.1007/978-3-030-53945-0_2
 66. Ringe, W. G., & Christopher, R. U. O. F. (2020). Regulating Fintech in the EU: the Case for a Guided Sandbox. *European Journal of Risk Regulation*, 11(3), 604-629. Retrieved from <https://www.cambridge.org/core/journals/european-journal-of-risk-regulation/article/regulating-fintech-in-the-eu-the-case-for-a-guided-sandbox/3EE71CEEB3BC22E57A1BF08023073A6F>
 67. Roh, T., Yang, Y. S., Xiao, S., & Park, B. I. (2022). What makes consumers trust and adopt fintech? An empirical investigation in China. *Electronic Commerce Research*, 1-33. Retrieved from https://ideas.repec.org/a/spr/el-core/v24y2024i1d10.1007_s10660-021-09527-3.html
 68. SalemOudat, M., Abdalmajeed Alsmadi, A., & Massad Alrawashdeh, N. (2019). Foreign direct investment and economic growth in Jordan: An empirical research using the bounds test for cointegration. *Revista Finanzas y Política Económica*, 11(1), 55-63. <https://doi.org/10.14718/revfmanzpolitecon.2019.11.1.4>
 69. Shehab, Z. M. B., Al Mubarak, M., & Dhia, A. (2023). Cost-Benefit Analysis of Fintech Framework Adoption. In *Artificial Intelligence and Transforming Digital Marketing* (pp. 509-523). Cham: Springer Nature Switzerland. http://dx.doi.org/10.1007/978-3-031-35828-9_44
 70. Siek, M., & Sutanto, A. (2019, August). Impact analysis of fintech on banking industry. In *2019 International Conference on Information Management and Technology (ICIMTech)* (Vol. 1, pp. 356-361). IEEE. <https://doi.org/10.1109/ICIMTech.2019.8843778>
 71. Singh, S., Sahni, M. M., & Kovid, R. K. (2020). What drives FinTech adoption? A multi-method evaluation using an adapted technology acceptance model. *Management Decision*, 58(8), 1675-1697. <http://dx.doi.org/10.1108/MD-09-2019-1318>
 72. Stewart, H., & Jürjens, J. (2018). Data security and consumer trust in FinTech innovation in Germany. *Information & Computer Security*, 26(1), 109-128. <https://doi.org/10.1108/ICS-06-2017-0039>
 73. Takeda, A., & Ito, Y. (2021). A review of FinTech research. *International Journal of Technology Management*, 86(1), 67-88. Retrieved from <https://www.inderscienceonline.com/doi/pdf/10.1504/IJTM.2021.115761>
 74. Tang, S., Chen, Z., Chen, J., Quan, L., & Guan, K. (2023). Does FinTech promote corporate competitiveness? Evidence from China. *Finance Research Letters*, 58, 104660. <https://doi.org/10.1016/j.frl.2023.104660>
 75. Thacker, S., Adshead, D., Fay, M., Hallegatte, S., Harvey, M., Meller, H., O'Regan, N., Rozenberg, J., Watkins, G., & Hall, J. W. (2019). Infrastructure for sustainable development. *Nature Sustainability*, 2(4), 324-331. Retrieved from <https://www.nature.com/articles/s41893-019-0256-8>
 76. Yuen, K. F., Cai, L., Qi, G., & Wang, X. (2021). Factors influencing autonomous vehicle adoption: An application of the technology acceptance model and innovation diffusion theory. *Technology Analysis & Strategic Management*, 33(5), 505-519. <https://doi.org/10.1080/09537325.2020.1826423>
 77. Zhang, C. B., & Li, Y. N. (2019). How social media usage influences B2B customer loyalty: roles of trust and purchase risk. *Journal of Business & Industrial Marketing*, 34(7), 1420-1433. <https://doi.org/10.1108/JBIM-07-2018-0211>