

DOI: <https://doi.org/10.63332/joph.v5i2.483>

Financial Innovation Cost Awareness of Technology Financial Inclusion

Ali Ibrahim Abu Eid¹, Nour Ali Nussir², Ashraf Jahmani³, Saleh Mohammed Baqader⁴, Mahmud Alataibi⁵, Mohammad Hariri⁶, Sultan Abdullah Alabdullatif⁷, Ayman Hassan Bazhair⁸

Abstract

Investigating financial innovation, driven by digital technologies that are transforming industries, the move by firms in the financial sector is to include financial inclusion and consumer expenditure. Evidence from the literature on financial innovation and the relation between high-cost sensitivity has been examined by consumers and is broadened through an exploratory study of secondary data. This study examines the impact of mobile banking, peer-to-peer lending platforms, and mobile wallet applications from fintech on human consumer finance conduct in financial choices. Products of fintech creation provide, according to this study, customers appreciating financial cost empowerment alongside a responsibility to deliver higher levels of financial literacy to respond to a much more nuanced and broader choice collection. This inquiry additionally explores the obstacles and opportunities of employing technology to improve financial inclusion for the underprivileged and excluded. It categorises access struggles and ruling setbacks. Moreover, this examination acknowledges innovation's power to supply custom-made financial facilities that would close the disparities between established money management practices and the requirements of poverty-stricken areas. The principal inferences indicate that financial inventions have indeed raised client expense liking and enforced changes in financial institutions; then again, they have also showcased integration in financial decision-making. The paper has primed to pull out the significance of widespread financial education and improve electronic access to make sure that the revolution of fintech will be a general ambitious progression of a more just financial ecosystem. The decision and recommendations of this paper qualm targeted policy interventions and mutual effort to nurture an ambience of inclusiveness that will allow the novelty innovation of financial and benefit for digital finance leave of nobody.

Keywords: Finance, Financial innovation, financial inclusion, Fintech

Introduction

¹ Assistant Professor, College of Business, Department of banking and Financial technology, Jadara University, Jordan, Irbid, Email: a.abueid@jadara.edu.jo.

² Assistant Professor, College of Business, Department of Finance and Banking Science, Jarash University, Jordan, Email: nnussir@jpu.edu.jo.

³ Associate Professor, Faculty of Hospitality and Tourism Management, Al-Ahliyya Amman University, Email: ajahmani@ammanu.edu.jo.

⁴ Associate professor, department of accounting, College of Business and Economics, Umm Al-Qura University, Makkah, Saudi Arabia, Email: smbaqader@uqu.edu.sa.

⁵ Associate professor, Department of Financial Technology, Faculty of Economics and Administrative Sciences, Zarqa University, Zarqa, Jordan, Email: malataibi@zu.edu.jo.

⁶ Associate professor, department of accounting, College of Business and Economics, Umm Al-Qura University, Makkah, Saudi Arabia, Email: mmhariri@uqu.edu.sa.

⁷ Associate professor, department of accounting, College of Business and Economics, Umm Al-Qura University, Makkah, Saudi Arabia, Email: saabdullatif@uqu.edu.sa.

⁸ Assistant Professor, Faculty of Business Administration, Department of Economics and Finance, Taif University, Taif, Saudi Arabia, Email: abazhair@tu.edu.sa.



The emergence of financial innovation, advanced by technology's calculative force, has dramatically reshaped the financial services industry, introducing a new era of cost consciousness and financial inclusion. This research is intended to investigate the manifold effects of financial innovation in enhancing consumers' cost awareness and expanding the accessibility of financial services, especially for underprivileged groups. This study examines how technological financial solutions and financial behaviours interact (Ahmed et al., 2021). Using this research, one can pinpoint how to make technology work for everyone. By doing this, the study models an enhanced understanding of how technology will provide money to everyone who needs it so society can thrive (Kuo et al., 2022).

Research Rationale

The objective of this study is to examine the transformative effects of technology-driven financial innovation on the financial services landscape. Specifically this study aims to understand how these innovations can trigger cost-conscious behaviour, increase financial inclusion for the unbanked and the underserved, and eradicate the socio-economic barriers to financial access. By doing so, this investigation will uncover the avenues and the obstructions of financial technology, and therefore propagate the transition from the banked to the unbanked. In turn, these findings will establish a fairer financial ecosystem benefiting all tiers of society.

Research Objective

1. To explore the problem of financial innovation in promoting consumer cost awareness and its influence on financial decision-making.
2. To determine the extent to which technology-driven financial services enhance financial inclusion for the under-served and unbanked.
3. To understand the obstacles and aids to adopting financial technologies among several demographic segments.
4. To examine the potential of fintech innovations for cost reduction and promoting equal access to financial services.

Research Question

- a. In what ways do the financial innovations affect customer cost sensitivity, and what are the resultant customer responses and implications for customers' financial behaviour and decision-making?
- b. What are the main challenges and prospects of incorporating financial services that use technology to reach disadvantaged communities and deliver financial inclusion?

Research Gap

The space to voice developed in the past research focal points towards harbouring further exploring the uninvestigated aspects. The gap in the banked and unbanked base brings the fact to attention that there is a dearth of comprehensive research focusing on the challenges and opportunities faced by marginalised demographics through the use of financial technology. Although literature recognizes the role of fintech in advancing financial inclusion, its talk is rather thin about the multifaceted processes of incorporating these solutions into underprivileged communities. One clear research gap is the imperative of understanding the socio-economic

obstacles that preclude vulnerable groups from embracing fintech with greater thoroughness, as a basis for policymakers and stakeholders designing more just financial access alternatives.

Chapter Summary

The introduction to this chapter has the purpose of outlining the research and the reasons why I have conducted this research. This study will delve into the impact of financial innovation through technology in the financial services industry, with particular emphasis on consumer cost awareness and inclusion, particularly among marginalised segments. It shows the reasons for my research and the main purposes of the study on how technology improvement in finance can connect the banked and the unbanked and make both share a more equal financial ecosystem. The specific objectives sought in understanding consumers' cost awareness, financial inclusion, adoption barriers, cost-effectiveness and capability of fintech in accessing financial services. Research questions are on the adverse consequences of financial innovations on client activities and the obstacles plus the potential of financial inclusion for vulnerable populations. The lack of definitive studies on the socio-economic barriers of fin-tech for marginalised demographics has been noted directing policy recommendations for equalising financial access.



Fig: Financial Inclusion

Source: (Chauhan, 2018)

Literature Review

Impact of Financial Innovations on Customer Cost Sensitivity and Behavioural Implications

According to Senyo & Osabutey, (2020) the emergence of digital banking, mobile payment systems, and blockchain technology, has dramatically altered the way customers perceive the costs of financial behaviour, and consequently, impacted their overall financial behaviour. These technologies provide consumers with unprecedented access to personal financial information and

real-time feedback on spending, potentially enhancing consumer cost awareness. The current body of literature consistently shows that fintech solutions enable individuals to make more informed decisions, and as a result, they become more cost-and-fee-sensitive when it comes to choosing financial products and services.

Moreover, customers profit from the transparency of online information such as product comparisons. It reduces the expenses for the data allocation as well as lowers the resource quantity for the data that is replicated in the web. As per Ozili (2021), this change made the market more competitive and cut down costs as much as possible. Thus, products are more comparable and suppliers are more replaceable by the audience. In turn, the democratisation of financial knowledge gradually transferred the authority balance to consumers. They are capable of measuring the fees of financial products and seeking the fit ones that could meet the goals of their personal finance.

However, the alternation of consumer behaviour is conflicted. Gabor & Brooks (2020), state that the alternation of consumer behaviour does benefit some active consumers who are involved themselves in the trend of personal finance, it is on the other hand, driving the disengaged users to exhaustion because their behaviours are collapsed by information overload, parachute and may lead to sub-optimal financial solutions. From the perspective of behavioural economics, financial innovations have a dual role: On the one hand, they can improve cost sensitivity; on the other hand, they may require a minimum level of financial literacy to effectively employ these tools.

According to Dehnert & Schumann (2022), increased exposure to financial education programs and technology has the capability to empower users to arrive at a more complete understanding of financial products, including by increasing cost sensitivity. At the same time, maximising the benefits of innovations in the financial sector may be dependent on the extent to which they integrate these products with the financial education system.

Challenges and Prospects of Financial Inclusion through Technology for Disadvantaged Communities

According to Broby (2021), one of the issues fintech must address in its efforts to promote financial inclusion in disadvantaged communities is the inadequacy of data on which to build credit assessments. On the positive side, technology-based on-demand financial solutions can help convert the financially excluded into economically included. via efficient last-mile delivery, unserviceable previously by incumbents in traditional models. Festival participants had the opportunity to observe cutting-edge technologies and platforms, interface with innovators and disruptors, and discuss just where it's all going.

As per Pazarbasioglu et al. (2020), mobile banking and digital payment platforms, for example, have emerged as promising mechanisms to meet and serve the banking needs of rural and low-income populations at scale, and without the need for brick-and-mortar bank branches. Not only do these platforms enable basic financial transactions, but they also offer savings, loans, and insurance products accessed via smartphones.

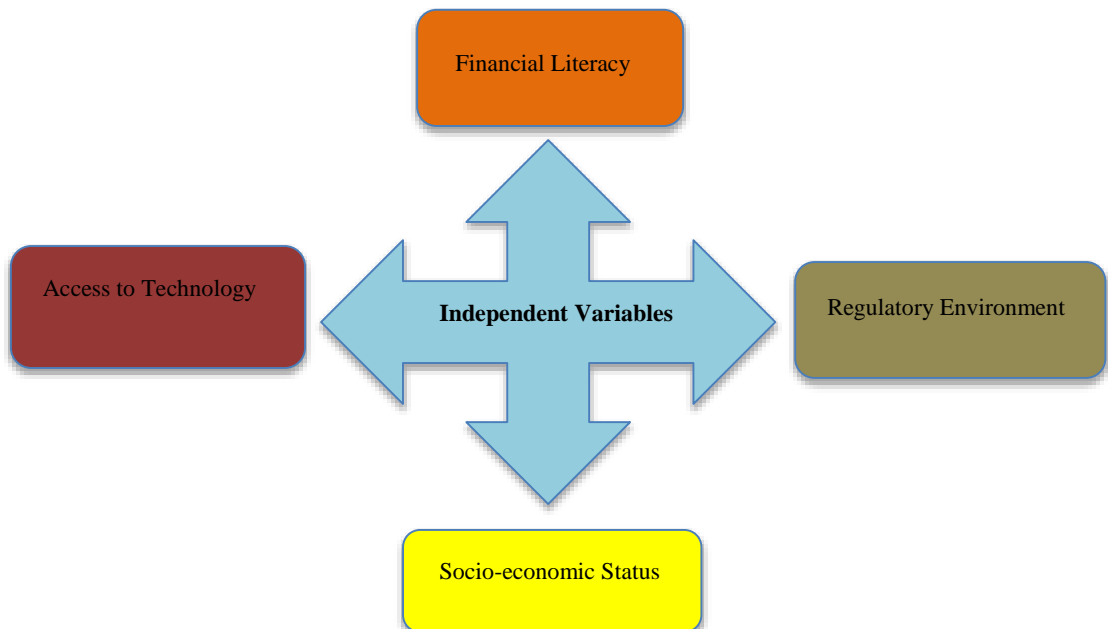
Nevertheless, there are formidable obstacles in the way of using fintech in underserved communities. Anagnostopoulos (2018), states that digital literacy and access to the technological underpinnings necessary for accessing financial services still remain a colossal obstacle. The ability to navigate a digital finance platform or have access to it is the most significant factor keeping people away from using fintech, which is why the technology is still not being utilised by many people living in underserved areas (The World Bank, 2018). Regulatory concerns, data

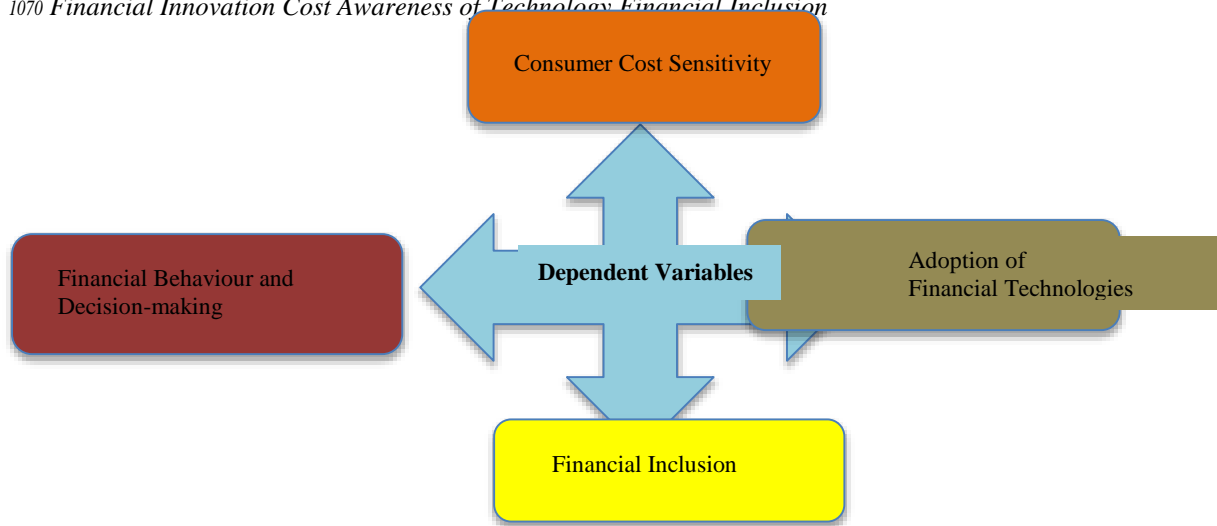
privacy, and security issues that don't seem to be worked out will also hinder fintech companies that want to deploy their solution to market to a wide group of users.

Facilitating this transition would be inclusive policies, investments in digital literacy campaigns, and an enabling regulatory setting. Allowing stakeholders to use fintech to close the gaps between the banked and the unbanked would result in such a change. This in turn might help to achieve financial equality by enabling greater economic empowerment and participation among these populations.

Finally, given that fintech offers significant scope for increased clientship in finance, to fulfil this potential, the hurdles of the digital divide and regulatory constraints must be dealt with. Fintech must be employed as a means of uplift not just for everyone but especially for the more vulnerable populace, necessitating legislators, financial institutions and social organisations to cooperate.

Theoretical Framework





(Created by Learner)

Literature Gap

In spite of the increasing and extensive literature about financial innovation and its effect on consumer behaviour and financial inclusion, a vital lacuna lies in the understanding of the very precise ways that these innovations intersect with socio-economic factors across different communities. Not yet been fully explored how individual variation in digital literacy, trust in financial institutions, and cultural attitudes towards technology shape the adoption and effectiveness of fintech solutions among underprivileged groups. Moreover, there is a dearth of longitudinal research looking into long-term outcomes of financial technologies for economic well-being and financial behaviour in these populations.

Methodology

Research Philosophy

This study espouses an interpretivist philosophy privileging appreciation of the intricate dynamics linking financial innovation and societal ramifications through qualitative analysis. By examining secondary data, it hopes to interpret discernible trends and connotations within the domain construct of financial inclusion and consumer conduct, theoretically yielding a multilayered reconnoitre of substructural dynamics and ramifications (Dougherty et al. 2019).

Research Approach

Adopting a qualitative approach, this paper is positioned within theoretical frameworks generated from literature in order to facilitate a secondary qualitative analysis. This process is deemed significant because it enables the foundation to be provided for the existing theories to be applied to observable phenomena (Opie, 2019), ascertaining that a structured analysis is being carried out on the topic of how FinTech shapes consumer financial behaviours.

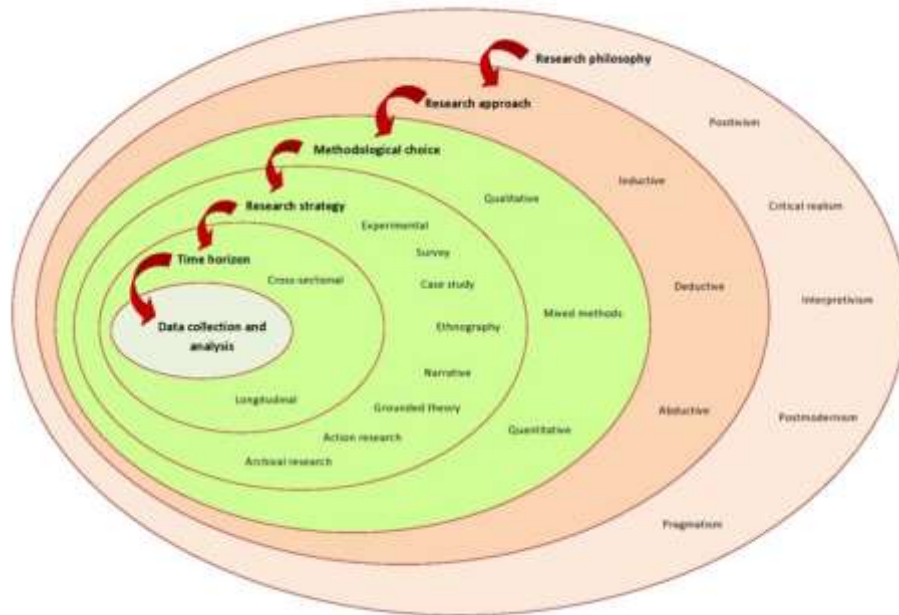


Fig (Research Onion)

Source: (Mardiana, 2020)

Research Strategy

For this paper, a thorough review of the literature will be the primary research methodology, using various accounts of academic articles, industry reports and case studies as sources for data collection and project analysis (Oliva, 2019). The research project in this paper aims to synthesise the available information regarding the link between financial innovation consumer behaviour and financial inclusion. It will seek to identify lacunae and recurring patterns within existing scholarship that warrant further investigation through qualitative analysis of secondary data (Huynh et al. 2018).

Research Choices

In this study, a qualitative research design was used to examine the textual data collected exclusively from secondary sources. The purpose of employing a qualitative analysis is to deeply explore complicated details and intricate patterns which are strongly linked to financial innovation (Busetto et al. 2020). This approach seeks to catch multi-faceted aspects in the interplay between financial institutions and consumers; moreover, it also endeavours to propose the minute-by-minute description of the well-realised real-life events as comprehensively as possible.

Time Horizon

In the study, the structure will be based on a cross-sectional time horizon where data and the phenomenon being mined for data were done and ascertained at one point in time. This structure admittedly will not allow anyone to fully appreciate trends, but it does provide a snapshot of

relations and trends of the moment, being cast in the mould of financial innovation and financial inclusion.

Data Collection

Gathering data for this research paper will involve carefully collecting secondary data from peer-reviewed academic journals, trade journals, professional publications, industry reports, and case studies. This qualitative data will be carefully selected to ensure that it covers content about, and examples of, the impacts of retail e-payment innovations on consumer behaviour and financial inclusion in a range of differing factual contexts (Snyder, 2019).

Data Analysis

Understanding how financial innovations intersect with customer sensitivity to costs and the wider implications for financial behaviour and decision-making is a critical area of exploration in the financial services industry (Demir et al. 2022). Simultaneously, implementing technology-enabled financial services to address the financial exclusion of underbanked communities comes with a number of significant challenges and opportunities. This study focuses on the implications and challenges that arise at both of these critical intersections.

Financial Innovations and Customer Cost Sensitivity

Over the years, customer's price elasticity of demand has changed drastically because many types of financial innovation contributed by technology in the form of digital epic. Fintech solutions like mobile banking, P2P lending platforms and digital wallets are taking the place of traditional financial system. This revolution in technology empowers end-consumers as they have more alternatives when it comes to financial decision making. Moreover, higher level of awareness about the charges and penalties associated with financial services which is seen in end-consumers (Ahamed & Mallick, 2019).

Impact on Consumer Cost Sensitivity

Consumers can now easily compare financial products and services by accessing a wealth of information, which is available in real-time regarding banking fees, interest rates and the costs entailed with other financial products (Mader, 2018). This access to information has made consumers significantly more price-sensitive. Consumers are more informed and therefore more likely to select services which offer them the best value for their money. Thus, as a direct result of this change, financial companies are desperately striving to reduce their fees and increase the value of what they have to offer to their customers in order to stay competitive (Mhlanga, 2020).

Consumer Responses and Implications

The gain in a growing savers price alertness has stayed to vital ramification for money-related bearing and decision-making progress. Shoppers can currently make knowledgeable choices that extra lie to their financial progress appreciation (Frost, 2020). Consequently having universally else organised monetary goods learning, and choosing the choice that is generally cheap for customization. But with this improvement, there are outcomes. A mind-boggling bunch of intricate data coupled with a huge array of decisions, can raise the advantage of the strategy. It portrays the bigger significance of monetary education on consumers' pieces to successfully manage and efficiently provide Benefits the financial overtures.

While the ability to make reasoned financial choices is an evident and positive trend, it simultaneously sets the stage for an important bifurcation. Among them are those endowed with

the financial acumen and digital dexterity to leverage these innovations to improve their personal finances and drive wider economic and social empowerment. However, a considerable portion of the population that does not have access to digital resources or financial literacy is at risk of falling behind as a result of this division (Gomber et al. 2018). Addressing this dilemma poses a significant obstacle: measures must be implemented to enhance financial literacy, expand digital accessibility, and consequently provide financial innovations and competencies to an ever-growing portion of the populace.

On the other, the increase in the speed and acuity of information flows makes consumers increasingly responsible for staying current—thus exacerbating the divide between the digitally literate and those less acquainted with these technologies—concomitant with existing, widely shared responsibilities for financial decision-making. This makes the mandate for inclusive financial education all the more forceful.

To conclude, financial technology undeniably has had a transforming change in the financial services marketplace. It shifted the formation of consumer fee antipathies and financial decisions which are significant. Whilst the benefit to the consumer is drastic and gives them equitable financial resolutions, it also has the drawback of ensuring greater literacy of finance (Lagna & Ravishankar, 2022). Consequently, greater literacy is not the sole need but to ensure that the inclusiveness of the digital financial service does not exclude society as part of its fringe group. For instance are children, the helpless, and also the elderly. So we investigated the relationship between financial well-being and economic inclusion via access to better financial technology.

Challenges and Prospects of Financial Services for Disadvantaged Communities

The introduction of technology-driven financial services to reach out to the disadvantaged and hard-to-reach populations presents an interesting and exceptional set of challenges and opportunities. Arner et al. (2020) stated that the end purpose of financial inclusion is to enable them to be back inside the formal financial system by making available a kind of affordable and suitable financial services and products.

Challenges

A critical barrier is the "digital divide", the pure and simple lack of access to the latest information and communications technology, which applies to lower-income communities as much as underdeveloped countries. For them, obstacles like connectivity, digital literacy and the cost-simulating receivership of technology slow down the uptake of fintech fixes (Chatterjee, 2020). Beyond simply being able to access services, the products often don't fit the users' needs in these communities. If financial services are designed for some targets not well understood, they are not likely to address the users' real financial pain, so low uptake would still happen.

Prospects

Even though these hurdles are in place, the power of technology to transform financial services means it holds enormous promise for achieving financial inclusion. Digital financial services can bring down the cost of delivering financial services to remote or marginal populations, making it economically viable to include them. Already mobile money services have achieved considerable success in providing new financial services to rural areas in a number of developing countries, bringing transactions, savings and even credit and insurance to people who previously had limited access to them (Muneeza et al. 2018).

Emerging technologies like blockchain or digital identity solutions hold promise for breaking down barriers to financial inclusion by providing secure and transparent ways to verify identity and conduct transactions. Such technologies can make it easier for people without traditional forms of identification or a credit history to access financial services.

The perplexities and extraordinary possibilities of financial innovations on customer cost appreciation and the push for financial inclusion for marginalised communities through technology-based services: financial innovations unquestionably improve consumer empowerment and choice, and their realised benefits require better financial literacy and regulatory frameworks. Inclusivity in banking requires purposeful interventions and collaborations. Governments, technology providers and financial institutions have to work hand in hand to bring the benefits of financial innovation to everyone (Van et al. 2021). There are great barriers to connecting society and designing inclusive financial products that are free from adverse discrimination.

To summarise, taking advantage of financial innovations to achieve greater financial inclusion and better consumer financial capability is complicated and it is necessary to approach technological potentials and socioeconomic dilemmas in diverse ways. In order to properly steer our ways within this ever-changing financial context, more advanced research and regulatory policies are asked for and all these measures will make a substantial contribution to the worldwide enhancement of individual prosperity concurrently.

Findings

Several key findings are visible when the evaluation is done concerning the impact of the financial innovations on consumer cost sensitivity and the following consequences on financial behaviour and future-making.

- a. **Increased Consumer Empowerment:** Consumers now have more power than ever, thanks to financial innovations. These tools give users the information they need to make better financial decisions – whether this means knowing more about what type of costs are associated with financial services or knowing exactly how much they charge (Blakstad & Allen, 2018).
- b. **Heightened Awareness of Cost:** The greater ability to compare financial service providers and products fostered by digital financial services creates greater consumer cost awareness, with price and product features coming together in a consumer's mind to form a more complete picture of the economic trade-offs of a transaction (Morgan et al. 2019).
- c. **Complex Decision-making Processes:** Although cost-effective decision-making is encouraged, plenty of information and choices have made decision-making processes more complicated, demanding better financial literacy (Vučinić, 2020).
- d. **Digital Divide and Financial Literacy:** A possible division is present between those who can use new financial technologies to improve financial well-being and those who cannot. That emphasises the significance of financial literacy and access to digital technology.
- e. **Necessity for Inclusive Financial Education:** In order to extend the reach of the benefits of financial innovations to a broader population, there is an urgent need for policies and programs that will increase financial literacy and digital access (Allen et al. 2021).

The findings demonstrate the transformative effect of financial innovations on consumer behaviour and the financial services industry and highlight the difficulties and imperatives of creating an inclusive landscape where all consumers can tap into those innovations.

Conclusion and Recommendation

Conclusion

Analysing the influence of financial product innovation on customer price elasticity and choices reflects a revolutionary turn in the financial sphere. These innovations enormously authorise the consumers to make well-informed and reasonably priced financial choices. However, the complexities of the decision-making and digital exclusions and divide bring a particular issue on better financial learning and equivalent digital access is very conclusive. Developing these hurdles by insensitivity through financial education and financial infrastructure grows paramount. Conclusively, reaching out the values of financial innovations to all segments of customers is deeply engaged in financial health and additional inclusive growth of the economic environment.

Recommendation

Given the assessment, it's advised that policymakers and financial institutions make investments in holistic financial education programs to enhance consumer's financial literacy. The must-haves consist of covering the competency in digital financial services as well as finding knowledge on financial products. Additionally, regulator frameworks are required to promote transparency and fairness and ensure that financial services are made accessible and useful to all levels of people. Further investment in digital infrastructure especially for the underserved community will facilitate equitable access to financial innovation, promoting financial inclusion and empowering consumers to make responsible financial decisions.

Acknowledgement

This research was funded by Taif university, Saudi Arabia, Project No.(TU-DSPP-2024-228). The author extends his appreciation to Taif University, Saudi Arabia, for supporting this work through project number (TU-DSPP-2024-228).

References

- Ahamed, M. M., & Mallick, S. K. (2019). Is financial inclusion good for bank stability? International evidence. *Journal of Economic Behavior & Organization*, 157, 403-427.<https://qmro.qmul.ac.uk/xmlui/bitstream/handle/123456789/31467/Ahamed%20Is%20financial%20inclusion%20good%20for%20bank%20stability%3F%20International%20evidence%202017%20Accepted.pdf?sequence=1&isAllowed=y>
- Ahmed, I., Farooq, W., & Khan, T. I. (2021). Customers' Perceptions and their Responses to Objectives of Islamic Banks—A Three-Wave Investigation. *Asian Economic and Financial Review*, 11(1), 43.
- Allen, F., Gu, X., & Jagtiani, J. (2021). A survey of fintech research and policy discussion. *Review of Corporate Finance*, 1, 259-339.https://www.gc.cuny.edu/sites/default/files/2021-07/wp20-21_1.pdf
- Anagnostopoulos, I. (2018). Fintech and regtech: Impact on regulators and banks. *Journal of Economics and Business*, 100, 7-25.<https://eprints.kingston.ac.uk/41340/1/Anagnostopoulos-Y-41340-AAM-1.pdf>
- Arner, D. W., Buckley, R. P., Zetsche, D. A., & Veidt, R. (2020). Sustainability, FinTech and financial inclusion. *European Business Organization Law Review*, 21, 7-35.<https://www.susfin.ch/s/Sus-Fintech-and-Fin-Inclus.pdf>

- Blakstad, S., & Allen, R. (2018). *FinTech revolution*. Cham, Switzerland: Springer, 121, 132.https://digilib.stekom.ac.id/assets/dokumen/ebook/feb_23af701c5cb6a8ff8fd695caa9696c769a2fd548_1658938966.pdf
- Broby, D. (2021). Financial technology and the future of banking. *Financial Innovation*, 7(1), 1-19.https://jfin-swufe.springeropen.com/articles/10.1186/s40854-021-00264-y?trk=public_post_comment-text
- Busetto, L., Wick, W. & Gumbinger, C., (2020). How to use and assess qualitative research methods. *Neurological Research and practice*, 2, pp.1-10.<https://link.springer.com/article/10.1186/s42466-020-00059-z>
- Chatterjee, A. (2020). Financial inclusion, information and communication technology diffusion, and economic growth: a panel data analysis. *Information Technology for Development*, 26(3), 607-635.<https://www.mse.ac.in/wp-content/uploads/2017/08/WP-165.pdf>
- Chauhan, A. (2018). Licensed Under Creative Commons Attribution CC BY Financial Inclusion: A Case Study of Present Scenario of Branch Penetration and Insurance Penetration. *International Journal of Science and Research (IJSR)* ResearchGate Impact Factor. <https://doi.org/10.21275/ART20201102>.<https://www.ijsr.net/archive/v8i9/ART20201102.pdf>
- Dehnert, M., & Schumann, J. (2022). Uncovering the digitalization impact on consumer decision-making for checking accounts in banking. *Electronic Markets*, 32(3), 1503-1528.<https://link.springer.com/article/10.1007/s12525-022-00524-4>
- Demir, A., Pesqué-Cela, V., Altunbas, Y., & Murinde, V. (2022). Fintech, financial inclusion and income inequality: a quantile regression approach. *The European Journal of Finance*, 28(1), 86-107.<https://www.tandfonline.com/doi/pdf/10.1080/1351847X.2020.1772335>
- Dougherty, M.R., Slevc, L.R. & Grand, J.A., (2019). Making research evaluation more transparent: Aligning research philosophy, institutional values, and reporting. *Perspectives on Psychological Science*, 14(3), pp.361-375.<https://osf.io/48qux/download>
- Frost, J. (2020). The economic forces driving fintech adoption across countries. *The technological revolution in financial services: how banks, fintechs, and customers win together*, 838, 70-89.<https://www.bis.org/publ/work838.pdf>
- Gabor, D., & Brooks, S. (2020). The digital revolution in financial inclusion: international development in the fintech era. In *Material Cultures of Financialisation* (pp. 69-82). Routledge.https://pure.york.ac.uk/portal/files/59397090/DG_SBnpe28Nov2016.pdf
- Gomber, P., Kauffman, R. J., Parker, C., & Weber, B. W. (2018). On the fintech revolution: Interpreting the forces of innovation, disruption, and transformation in financial services. *Journal of management information systems*, 35(1), 220-265.https://ink.library.smu.edu.sg/cgi/viewcontent.cgi?article=5277&context=sis_research
- Huynh, A.K., Hamilton, A.B., Farmer, M.M., Bean-Mayberry, B., Stirman, S.W., Moin, T. & Finley, E.P., (2018). A pragmatic approach to guide implementation evaluation research: strategy mapping for complex interventions. *Frontiers in public health*, 6, p.134.<https://www.frontiersin.org/articles/10.3389/fpubh.2018.00134/full>
- Kuo, Y. K., Khan, T. I., Islam, S. U., Abdullah, F. Z., Pradana, M., & Kaewsang-On, R. (2022). Impact of green HRM practices on environmental performance: The mediating role of green innovation. *Frontiers in Psychology*, 13, 916723.
- Lagna, A., & Ravishankar, M. N. (2022). Making the world a better place with fintech research. *Information Systems Journal*, 32(1), 61-102.<https://onlinelibrary.wiley.com/doi/pdf/10.1111/isj.12333>
- Mader, P. (2018). Contesting financial inclusion. *Development and change*, 49(2), 461-483.<https://www.researchgate.net/profile/Philip->

- Mader/publication/320226228_Contesting_Financial_Inclusion/links/59d60a11a6fdcc874698c93d/Contesting-Financial-Inclusion.pdf
- Mardiana, S., (2020). Modifying Research Onion for Information Systems Research. *Solid State Technology*, 63(4), pp.5304-5313. https://www.researchgate.net/profile/Siti-Mardiana/publication/359542575_Modifying_Research_Onion_for_Information_Systems_Research/links/62432dc07931cc7ccf033406/Modifying-Research-Onion-for-Information-Systems-Research.pdf
- Mhlanga, D. (2020). Industry 4.0 in finance: the impact of artificial intelligence (ai) on digital financial inclusion. *International Journal of Financial Studies*, 8(3), 45. <https://www.mdpi.com/2227-7072/8/3/45/pdf>
- Morgan, P. J., Huang, B., & Trinh, L. Q. (2019). The need to promote digital financial literacy for the digital age. IN THE DIGITAL AGE. https://www.researchgate.net/profile/Long-Trinh-6/publication/343682203_The_Need_to_Promote_Digital_Financial_Literacy_for_the_Digital_Age/links/5f38b060299bf13404c85548/The-Need-to-Promote-Digital-Financial-Literacy-for-the-Digital-Age.pdf
- Muneeza, A., Arshad, N. A., & Arifin, A. T. (2018). The application of blockchain technology in crowdfunding: towards financial inclusion via technology. *International journal of management and applied research*, 5(2), 82-98. https://www.researchgate.net/profile/Aishath-Muneeza/publication/327586306_The_Application_of_Blockchain_Technology_in_Crowdfunding_Towards_Financial_Inclusion_via_Technology/links/5ed5221f92851c9c5e720aa7/The-Application-of-Blockchain-Technology-in-Crowdfunding-Towards-Financial-Inclusion-via-Technology.pdf
- Oliva, R., (2019). Intervention as a research strategy. *Journal of Operations Management*, 65(7), pp.710-724. https://www.researchgate.net/profile/Rogelio-Oliva/publication/335989111_Intervention_as_a_research_strategy/links/5d98e75b92851c2f70eecf5d/Intervention-as-a-research-strategy.pdf
- Opie, C., (2019). Research approaches. *Getting Started in Your Educational Research: Design, Data Production and Analysis*, 137. https://books.google.co.in/books?hl=en&lr=&id=ELuODwAAQBAJ&oi=fnd&pg=PA137&dq=Research+Approach:&ots=SOjKred3RU&sig=nOOs33rrcvlTE6o6SDGvRq4GCNs&redir_esc=y#v=onepage&q=Research%20Approach%3A&f=false
- Ozili, P. K. (2021). Financial inclusion research around the world: A review. In *Forum for Social Economics* (Vol. 50, No. 4, pp. 457-479). Routledge. https://mpra.ub.uni-muenchen.de/101809/1/mpa_paper_101809.pdf
- Pazarbasioglu, C., Mora, A. G., Uttamchandani, M., Natarajan, H., Feyen, E., & Saal, M. (2020). Digital financial services. World Bank, 54. <http://pubdocs.worldbank.org/en/230281588169110691/Digital-Financial-Services.pdf>
- Pazarbasioglu, C., Mora, A. G., Uttamchandani, M., Natarajan, H., Feyen, E., & Saal, M. (2020). Digital financial services. World Bank, 54. <http://pubdocs.worldbank.org/en/230281588169110691/Digital-Financial-Services.pdf>
- Senyo, P. K., & Osabutey, E. L. (2020). Unearthing antecedents to financial inclusion through FinTech innovations. *Technovation*, 98, 102155. https://eprints.soton.ac.uk/441492/1/Technovation_Manuscript_R2_2020_Clean.pdf
- Snyder, H., (2019). Literature review as a research methodology: An overview and guidelines. *Journal of business research*, 104, pp.333-339. <https://www.sciencedirect.com/science/article/pii/S0148296319304564>
- The World Bank (2018). World Bank Fintech. [online] World Bank. Available at: <https://www.worldbank.org/en/topic/fintech> [Accessed 9 Feb. 2024].

- Van, L. T. H., Vo, A. T., Nguyen, N. T., & Vo, D. H. (2021). Financial inclusion and economic growth: An international evidence. *Emerging Markets Finance and Trade*, 57(1), 239-263.https://mpa.ub.uni-muenchen.de/103282/7/MPRA_paper_103282.pdf
- Vučinić, M. (2020). Fintech and financial stability potential influence of FinTech on financial stability, risks and benefits. *Journal of Central Banking Theory and Practice*, 9(2), 43-66.<https://sciendo.com/downloadpdf/journals/jcbtp/9/2/article-p43.xml>