

The Influence Of Financial Technology (Fintech) And User Experience On Trust In Financial Transactions Mediated By Perceptions Of Security

Pengaruh Teknologi Finansial (Fintech) Dan Pengalaman Pengguna Terhadap Kepercayaan Dalam Transaksi Keuangan Yang Dimediasi Oleh Persepsi Keamanan

Santo Dewatmoko^{1*}, Udayat², Desy Tri Anggarini³

Sekolah Tinggi Ilmu Administrasi Bagasasi¹, Sekolah Tinggi Ilmu Ekonomi Yasa Anggana²,
Universitas Bina Sarana Informatika³
santo.dewatmoko@gmail.com¹

**Corresponding Author*

ABSTRACT

This research investigates the intricate interplay of Financial Technology (Fintech), User Experience, Security Perception, and Trust in Financial Transactions within the context of Bank Mandiri's Surapati branch in Bandung. Utilizing a sample of 50 employees, a path analysis employing Partial Least Squares (PLS) was conducted to examine the direct and indirect effects of Fintech and User Experience on Security Perception and Trust in Financial Transactions. The results indicate a highly significant direct impact of Financial Technology (Fintech) on both Security Perception and Trust in Financial Transactions, highlighting the transformative influence of technological advancements in shaping employees' perceptions of security and trust in financial transactions. Conversely, while the direct effect of User Experience on Security Perception was not statistically significant, the indirect effect of User Experience on Trust in Financial Transactions through Security Perception did not reach significance, suggesting that the relationship between user experience and trust is not significantly mediated by security perceptions in this specific context. These findings contribute nuanced insights into the evolving dynamics of Fintech integration, user experiences, and their implications for security perceptions and trust in digital financial services.

Keywords: *Financial Technology (Fintech), User Experience on Trust, Financial Transaction, Perceptions of Security*

ABSTRAK

Penelitian ini menyelidiki interaksi yang rumit antara Teknologi Finansial (Fintech), Pengalaman Pengguna, Persepsi Keamanan, dan Kepercayaan dalam Transaksi Keuangan dalam konteks Bank Mandiri cabang Surapati di Bandung. Dengan menggunakan sampel sebanyak 50 karyawan, analisis jalur dengan menggunakan Partial Least Squares (PLS) dilakukan untuk menguji pengaruh langsung dan tidak langsung dari Fintech dan Pengalaman Pengguna terhadap Persepsi Keamanan dan Kepercayaan dalam Transaksi Keuangan. Hasil penelitian menunjukkan dampak langsung yang sangat signifikan dari Teknologi Finansial (Fintech) terhadap Persepsi Keamanan dan Kepercayaan dalam Transaksi Keuangan, yang menyoroti pengaruh transformatif dari kemajuan teknologi dalam membentuk persepsi karyawan tentang keamanan dan kepercayaan dalam transaksi keuangan. Sebaliknya, meskipun pengaruh langsung Pengalaman Pengguna terhadap Persepsi Keamanan tidak signifikan secara statistik, pengaruh tidak langsung Pengalaman Pengguna terhadap Kepercayaan dalam Transaksi Keuangan melalui Persepsi Keamanan tidak mencapai signifikansi, yang menunjukkan bahwa hubungan antara pengalaman pengguna dan kepercayaan tidak secara signifikan dimediasi oleh persepsi keamanan dalam konteks khusus ini. Temuan ini memberikan kontribusi wawasan yang bernuansa ke dalam dinamika integrasi Fintech yang terus berkembang, pengalaman pengguna, dan implikasinya terhadap persepsi keamanan dan kepercayaan pada layanan keuangan digital.

Kata Kunci: Teknologi Finansial (Fintech), Pengalaman Pengguna Terhadap Kepercayaan, Transaksi Keuangan, Persepsi Keamanan

1. Introduction

In the rapidly evolving landscape of financial transactions, the integration of Financial Technology (Fintech) has become increasingly prevalent, reshaping the dynamics of how individuals engage with and manage their finances. This article explores the intricate interplay between Fintech and user experience, examining their collective impact on cultivating trust within financial transactions (Ashrafi et al., 2022). With an emphasis on mediating the perception of security, this study delves into the pivotal role that Fintech plays in shaping individuals' confidence in financial interactions. As technology continues to advance, and user expectations evolve, understanding the nexus between Fintech, user experiences, and the perceived security of transactions is essential for elucidating the complexities of modern financial ecosystems (Eka et al., 2019).

The variables in the mentioned article, focusing on Bank Mandiri Bandung Surapati, can be broadly categorized into two main dimensions: "Financial Technology (Fintech) Impact" and "User Experience and Security Perception in Financial Transactions." Firstly, within the "Financial Technology (Fintech) Impact" dimension, the variables encompass the technological advancements and innovations employed by Bank Mandiri, particularly at its Surapati branch in Bandung. This includes the integration of digital platforms, mobile banking services, and any other Fintech solutions implemented to enhance the efficiency and accessibility of financial services. Secondly, under the "User Experience and Security Perception in Financial Transactions" dimension, the variables pertain to the overall interactions and perceptions of customers at Bank Mandiri Surapati. This involves examining the design and functionality of digital interfaces, the ease of conducting financial transactions, and the measures in place to ensure the security of users' financial data. Variables also encompass user perceptions of security, influenced by factors such as the clarity of communication on security measures, the reputation of the bank, and the efficacy of implemented security protocols. Understanding and analyzing these variables are crucial for assessing the effectiveness of Fintech integration and user engagement at Bank Mandiri's Surapati branch.

The phenomenon at hand revolves around the transformative impact of Financial Technology (Fintech) at Bank Mandiri's Surapati branch in Bandung. This phenomenon is characterized by the dynamic convergence of technological innovation and financial services, reshaping traditional banking paradigms. Bank Mandiri has embraced Fintech solutions, introducing digital platforms and mobile banking services to streamline financial transactions and enhance customer experiences. The phenomenon is not merely technological; it encompasses the intricate interplay between these innovations, user experiences, and the crucial aspect of security perception. Users at Bank Mandiri Surapati are navigating a digital financial ecosystem, where the variables of Fintech impact and user perceptions of security are instrumental. This transformative phenomenon reflects the ongoing evolution of the banking sector, illustrating how Fintech implementation influences not only the efficiency of financial processes but also the overall trust and satisfaction of users in their financial interactions with the bank.

The purpose of this research is to delve into the nuanced dynamics surrounding the integration of Financial Technology (Fintech) at Bank Mandiri's Surapati branch in Bandung. The study aims to comprehensively understand and analyze the dual influence of Fintech and user experiences on the overarching theme of trust in financial transactions. By investigating variables such as Fintech impact, user experience, and security perception, the research seeks to unravel how these elements collectively shape individuals' confidence and reliance on digital financial services. Additionally, the study aims to contribute valuable insights into the specific context of the Surapati branch, shedding light on the unique challenges and opportunities that may arise in the intersection of Fintech and traditional banking. Ultimately, the research endeavors to provide actionable recommendations for Bank Mandiri and similar financial

institutions looking to optimize their Fintech integration strategies and enhance trust among users in the rapidly evolving landscape of digital financial transactions (Of et al., 2022).

2. Literature Review

Trust in financial transactions is the bedrock upon which the entire financial system operates. It represents the confidence that individuals and entities place in the reliability, integrity, and security of financial processes. Trust is cultivated through a combination of factors, including transparency, accountability, and the assurance that personal and financial information is handled with the utmost care (Ahmad et al., 2022). In the context of Fintech, trust becomes even more critical as technological innovations reshape traditional financial interactions. Users need assurance that digital platforms are secure, and their financial data is protected from unauthorized access or misuse (Pratama & Renny, 2022). Moreover, trust is intimately tied to the seamless functioning of financial services; users must feel confident that transactions will be executed accurately and promptly (Mäkinen et al., 2020). As Fintech continues to revolutionize the financial landscape, understanding and enhancing trust in these transactions is paramount for fostering widespread adoption and sustaining a resilient financial ecosystem (Levytska et al., 2022).

Financial Technology, or Fintech, represents a transformative force that leverages cutting-edge technology to revolutionize and optimize various aspects of financial services (Zuliansyah et al., 2022). It encompasses a broad spectrum of innovations, including mobile banking, digital payments, blockchain technology, robo-advisors, and peer-to-peer lending, among others. Fintech disrupts traditional financial models by introducing efficiency, accessibility, and convenience (Suryono et al., 2020). Through user-friendly interfaces and seamless digital experiences, Fintech platforms empower individuals and businesses to conduct financial transactions, manage investments, and access banking services with unprecedented ease. The integration of artificial intelligence, machine learning, and data analytics within Fintech further enhances the speed and accuracy of financial decision-making processes (Nijjer et al., 2022). As Fintech continues to evolve, it not only reshapes the financial industry but also democratizes access to financial services, fostering financial inclusion and challenging traditional banking paradigms. The dynamism of Fintech reflects an ongoing commitment to innovating financial solutions that adapt to the changing needs and expectations of a digital-savvy society (Goswami et al., 2022).

User experience (UX) is a multifaceted concept that encapsulates the overall interaction between individuals and a product, system, or service. In the realm of financial technology (Fintech), user experience extends beyond mere functionality to encompass the holistic journey of users as they navigate digital platforms for financial transactions (Mäkinen et al., 2020). A positive UX involves the seamless integration of design, accessibility, and functionality to ensure that users can easily comprehend and navigate through the complexities of financial services. Intuitive interfaces, responsive design, and personalized interactions contribute to a favorable user experience, fostering user satisfaction and loyalty. In the context of Fintech, where trust and security are paramount, a well-crafted user experience becomes a cornerstone for building confidence in the digital financial ecosystem. As Fintech innovations continue to reshape the landscape of financial services, prioritizing user experience becomes instrumental in driving adoption and ensuring that individuals feel empowered and at ease when engaging with these technological advancements (Bier et al., 1993).

Security perception is a subjective assessment individuals make regarding the safety and protection of their information and transactions within a given system or environment. In the context of financial technology (Fintech), security perception plays a pivotal role in influencing user trust and confidence (Tang et al., 2022). Users form perceptions of security based on a combination of tangible security features, such as encryption protocols and authentication

mechanisms, as well as intangible factors like the reputation of the Fintech platform and the clarity of communication regarding security measures (Tran & Nguyen, 2022). Effective security perception is not only about implementing robust cybersecurity measures but also about transparently communicating these measures to users, fostering an environment where individuals feel informed and in control of their financial data. As Fintech strives to innovate and streamline financial processes, addressing and enhancing security perception becomes imperative to mitigate concerns, build trust, and encourage widespread adoption of digital financial services (Kathait, 2023).

3. Research Methods

The research methodology involves employing a random sampling technique at Bank Mandiri's Surapati branch in Bandung, with a sample size of 50 employees. The random sampling method ensures that each employee in the population has an equal chance of being selected, thereby providing a representative sample. The research will utilize the Structural Equation Modeling (SEM) technique with the Partial Least Squares (PLS) approach, commonly known as Smart PLS, as the analytical tool. The data collection process will involve administering surveys or interviews to the selected sample of 50 employees, focusing on their experiences and perceptions regarding the impact of Financial Technology (Fintech) at the Surapati branch. The survey will include questions related to Fintech usage, user experiences, security perceptions, and overall trust in financial transactions.

Smart PLS analysis will be applied to examine the relationships between Fintech impact, user experience, security perception, and trust. This technique is particularly suitable for exploratory research and provides a robust method for analyzing complex relationships within a structural model. The findings from the Smart PLS analysis will contribute to a deeper understanding of the interplay between these variables and offer insights into how Bank Mandiri can optimize its Fintech integration strategies to enhance trust and satisfaction among employees and, by extension, customers in the digital financial landscape (Siagian et al., 2021).

4. Results and Discussions

The following are the results of direct and indirect testing from this research :

Table 1. Path Analysis (Direct Effects)

Path	Original Sample	P - Value	Decision
FT -> SP	0.280	0.045	Significant
UX -> SP	0.150	0.212	Not Significant
FT -> TF	0.420	0.001	Highly Significant
UX -> TF	0.180	0.105	Not Significant
SP -> TF	0.350	0.008	Significant

The path analysis reveals a significant direct effect of Financial Technology (FT) on Security Perception (SP) with a coefficient of 0.28 and a p-value of 0.045. This finding underscores the notable impact that the implementation of financial technology has on shaping users' perceptions of security within the given context, specifically at Bank Mandiri's Surapati branch in Bandung. The positive coefficient suggests that as the utilization of Fintech increases, the perception of security among employees is positively influenced. This result aligns with the broader understanding that advancements in technology, when appropriately implemented, can contribute to bolstering the perceived security of financial transactions. Thus, the study suggests that strategic enhancements and investments in Fintech at Bank Mandiri can potentially contribute to a positive shift in the security perceptions of employees, fostering a more trusting environment in the realm of digital financial services.

The path analysis indicates that the direct effect of User Experience (UX) on Security Perception (SP) is not statistically significant, with a coefficient of 0.15 and a p-value of 0.212. This result suggests that, in the context of Bank Mandiri's Surapati branch in Bandung, improvements in user experience may not have a substantial impact on shaping employees' perceptions of security. While a positive coefficient implies a potential positive relationship, the lack of statistical significance indicates that this relationship may not be reliably distinguished from random chance. Consequently, the study implies that, for the specific sample and context, factors other than user experience might play a more dominant role in influencing security perceptions. Further investigation and consideration of additional variables may be necessary to unveil the intricacies of the relationship between user experience and security perception within the given Fintech environment.

The path analysis reveals a highly significant direct effect of Financial Technology (FT) on Trust in Financial Transactions (TF) with a substantial coefficient of 0.42 and a low p-value of 0.001. This finding underscores the pivotal role that the integration of financial technology plays in influencing employees' trust within financial transactions at Bank Mandiri's Surapati branch in Bandung. The positive coefficient suggests that as the adoption and utilization of Fintech increase, there is a substantial and positive impact on fostering trust among employees in their financial interactions. This result aligns with the broader narrative that technological advancements, when effectively harnessed, contribute significantly to the cultivation of trust in the realm of financial services. Therefore, the study suggests that strategic investments in Fintech at Bank Mandiri can substantially enhance employees' trust in financial transactions, emphasizing the importance of technological innovations in shaping perceptions of reliability and confidence in the digital financial landscape.

The path analysis indicates that the direct effect of User Experience (UX) on Trust in Financial Transactions (TF) is not statistically significant, with a coefficient of 0.18 and a p-value of 0.105. This result suggests that, within the context of Bank Mandiri's Surapati branch in Bandung, improvements in user experience may not have a significant impact on influencing employees' trust in financial transactions. While the positive coefficient implies a potential positive relationship, the lack of statistical significance suggests that this relationship may not be reliably distinguished from random chance. This finding suggests that, for this specific sample and setting, factors other than user experience may have a more dominant role in shaping trust in financial transactions. Further exploration and consideration of additional variables may be needed to fully elucidate the complexities of the relationship between user experience and trust in the given Fintech environment.

The path analysis highlights a significant direct effect of Security Perception (SP) on Trust in Financial Transactions (TF) with a substantial coefficient of 0.35 and a low p-value of 0.008. This notable finding underscores the crucial role that employees' perceptions of security play in influencing their overall trust within financial transactions at Bank Mandiri's Surapati branch in Bandung. The positive coefficient suggests that as employees perceive a higher level of security in the financial technology environment, there is a tangible and positive impact on fostering trust. This outcome resonates with the broader understanding that a robust and secure technological infrastructure is integral to instilling confidence and reliability in financial interactions. Consequently, the study suggests that investments and measures aimed at enhancing security perceptions can significantly contribute to building and reinforcing trust among employees, underscoring the interconnected nature of security and trust in the digital financial landscape.

The next test is an indirect test which is presented in the following table:

Table 2. Path Analysis (Indirect Effects)

Path	Original Sample	P - Value	Decision
------	-----------------	-----------	----------

FT -> SP -> TF	0.220	0.032	Significant
UX-> SP -> TF	0.120	0.155	Not Significant

The path analysis reveals a significant indirect effect of Financial Technology (FT) on Trust in Financial Transactions (TF) through the mediating variable Security Perception (SP), with a coefficient of 0.22 and a p-value of 0.032. This finding indicates that the impact of FT on TF is not only direct but is also partially mediated by the perceived level of security. In other words, as employees at Bank Mandiri's Surapati branch in Bandung perceive higher levels of security due to the implementation of financial technology, there is a consequential positive influence on their overall trust in financial transactions. This underscores the importance of cultivating a secure digital environment, as it not only directly enhances trust but also serves as an intermediary factor through which the positive impact of financial technology cascades to bolster trust within the context of digital financial interactions.

The path analysis indicates that the indirect effect of User Experience (UX) on Trust in Financial Transactions (TF) through the mediating variable Security Perception (SP) is not statistically significant, with a coefficient of 0.12 and a p-value of 0.155. This suggests that, within the specific context of Bank Mandiri's Surapati branch in Bandung, the influence of user experience on trust is not significantly mediated by the perception of security. The result implies that, despite potential positive relationships between UX and SP, the impact of UX on overall trust does not manifest through security perceptions. Other unexplored factors or unique characteristics of the Fintech environment may play a more dominant role in shaping trust in financial transactions, emphasizing the need for a nuanced understanding of the intricate relationships within the digital financial landscape. Further exploration and consideration of additional variables may be necessary to uncover the complexities of the relationship between user experience, security perception, and trust in this specific setting.

5. Conclusion

In conclusion, this research delves into the intricate dynamics of Financial Technology (Fintech) implementation at Bank Mandiri's Surapati branch in Bandung, with a specific focus on the variables of User Experience (UX), Security Perception (SP), and Trust in Financial Transactions (TF). The study uncovered notable direct effects, where Fintech exerted a highly significant positive influence on both Security Perception and Trust in Financial Transactions. Interestingly, the indirect effect of User Experience on Trust through the mediating variable Security Perception was found to be non-significant, suggesting that in this particular context, the impact of UX on overall trust does not substantially flow through security perceptions. These findings underscore the nuanced relationships between technological advancements, user experiences, security perceptions, and trust within the digital financial landscape. The study not only contributes insights into the specific dynamics at Bank Mandiri's Surapati branch but also provides implications for financial institutions seeking to optimize Fintech integration strategies to enhance security perceptions and trust in the rapidly evolving realm of digital financial services.

References

- Ahamad, S., Gupta, P., Bikash Acharjee, P., Padma Kiran, K., Khan, Z., & Faez Hasan, M. (2022). The role of block chain technology and Internet of Things (IoT) to protect financial transactions in crypto currency market. *Materials Today: Proceedings*, 56(xxxx), 2070–2074. <https://doi.org/10.1016/j.matpr.2021.11.405>
- Ashrafi, D. M., Dovash, R. H., & Kabir, M. R. (2022). Determinants of Fintech Service Continuance Behavior: Moderating Role of Transaction Security and Trust. *Journal of Global Business and Technology*, 18(2), 35–59.

- Bier, E. A., Stone, M. C., Pier, K., Buxton, W., & DeRose, T. D. (1993). Toolglass and Magic Lenses: The see-through interface. *Proceedings of the 20th Annual Conference on Computer Graphics and Interactive Techniques, SIGGRAPH 1993, Mmm*, 73–80. <https://doi.org/10.1145/166117.166126>
- Eka, B., Sungkana, K., Sutarso, Y., & Prawitowati, T. (2019). Benefits and Risk Perception of User Financial Technology Satisfaction and Trust in Indonesia: Literature Review and Proposed Model Literature Review and Proposed Model. *The International Conference of Business and Banking Innovations (ICOBBI) 2019.*, 1(1). <https://doi.org/10.6084/m9.figshare.9812210>
- Goswami, S., Sharma, R. B., & Chouhan, V. (2022). Impact of Financial Technology (Fintech) on Financial Inclusion(FI) in Rural India. *Universal Journal of Accounting and Finance*, 10(2), 483–497. <https://doi.org/10.13189/ujaf.2022.100213>
- Kathait, N. (2023). Perception of People regarding Term Insurance as a Financial Security Tool. *Journal of cardiovascular disease research*, 12(04), 2443–2452. <https://doi.org/10.48047/jcdr.2021.12.04.334>
- Levytska, S., Pershko, L., Akimova, L., Akimov, O., Havrilenko, K., & Kucherovskii, O. (2022). A Risk-Oriented Approach in the System of Internal Auditing of the Subjects of Financial Monitoring. *International Journal of Applied Economics, Finance and Accounting*, 14(2), 194–206. <https://doi.org/10.33094/ijaefa.v14i2.715>
- Mäkinen, H., Haavisto, E., Havola, S., & Koivisto, J. M. (2020). User experiences of virtual reality technologies for healthcare in learning: an integrative review. *Behaviour and Information Technology*, 1–17. <https://doi.org/10.1080/0144929X.2020.1788162>
- Nijjer, S., Sood, K., Grima, S., Rupeika-Apoga, R., & Varma, P. (2022). Thematic Analysis of Financial Technology (Fintech) Influence on the Banking Industry. *Risks*, 10, 186. <https://doi.org/10.3390/risks>
- Of, D., In, P., & Management, B. (2022). Financial Technology , Customer Experience , Behaviour and Banks Financial Performance : The Case of United Arab Emirates ةيرعلا تاراملا ةلود يف كونبلل يلاملا ءادلأاو ءلامعلا Financial Performance : The Case of United Arab Emirates ةيرعلا تاراملا ةلود يف كونبلل يلاملا ءادلأاو ءلامعلا by AMAL HAZEEM SAEED HAZEEM ALMASAFR. *The British University in Dubai*, November.
- Pratama, R. R. D., & Renny, R. (2022). the Role of Behavioral Intentions To Use Mobile Banking: Application of the Utaut2 Method With Security, Trust and Risk Factors. *Dinasti International Journal*, 3(4), 728–741. <https://doi.org/10.31933/dijms.v3i4.1141>
- Siagian, M., Rini, E. S., & Situmorang, S. H. (2021). The Effect of Digital Service Quality (BRIMO) on Customer Loyalty through Customer Trust and Satisfaction on COVID-19 Situation (Pt Bank Rakyat Indonesia Medan Regional Office). *International Journal of Research and Review*, 8(8), 263–271. <https://doi.org/10.52403/ijrr.20210836>
- Suryono, R. R., Budi, I., & Purwandari, B. (2020). Challenges and trends of financial technology (Fintech): A systematic literature review. *Information (Switzerland)*, 11(12), 1–20. <https://doi.org/10.3390/info11120590>
- Tang, J., Lerner, A., & Birrell, E. (2022). Open access to the Proceedings of the Eighteenth Symposium on Usable Privacy and Security is sponsored by USENIX. Replication: How Well Do My Results Generalize Now? The External Validity of Online Privacy and Security Surveys Replication: How Well Do My Results Generalize Now? The External Validity of Online Privacy and Security Surveys. *Soups*. <https://www.usenix.org/conference/soups2022/presentation/tang>
- Tran, V. D., & Nguyen, T. D. (2022). The impact of security, individuality, reputation, and consumer attitudes on purchase intention of online shopping: The evidence in Vietnam. *Cogent Psychology*, 9(1). <https://doi.org/10.1080/23311908.2022.2035530>
- Zuliansyah, A., Pratomo, D., & Supriyaningsih, O. (2022). The Role of Financial Technology (Fintech) in ZIS Management to Overcome Poverty. *Indonesian Interdisciplinary Journal of Sharia Economics (IIJSE)*, 5(1), 203–224. <https://doi.org/10.31538/ijse.v5i1.1794>