User Satisfaction as a Key Driver of Digital Transaction Efficiency: Kepuasan Pengguna sebagai Pendorong Utama Efisiensi Transaksi Digital

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General Background: The digital revolution has transformed financial transactions, particularly through fintech innovations like QRIS, increasingly adopted by millennials and Gen Z. **Specific Background**: QRIS and digital finance have shown potential in enhancing transaction efficiency, yet user satisfaction remains a crucial moderating factor. **Knowledge Gap**: Existing studies often overlook the mediating role of user satisfaction between technological effectiveness and transaction outcomes. **Aims**: This study investigates the mediating effect of user satisfaction on the relationship between QRIS effectiveness, digital finance, and transaction efficiency. **Results**: Based on data from 210 respondents and analysis using SmartPLS 3, results show digital finance directly impacts transaction efficiency ($\beta = 0.425$, $p < 0.001$), while QRIS effectiveness influences efficiency only indirectly via user satisfaction ($\beta = 0.177$). **Novelty**: This study introduces user satisfaction as a key mediator that bridges technology performance and operational outcomes in digital payments. **Implications**: The findings suggest that improving UI/UX, educating users, and strengthening digital literacy can enhance the effectiveness of digital payment systems. These insights support Bank Indonesia's inclusive payment initiatives and inform fintech strategies to boost adoption and user retention.

Highlight :

- User satisfaction significantly mediates the impact of QRIS and digital finance on transaction efficiency, highlighting its central role.

- QRIS effectiveness alone does not directly enhance transaction efficiency but works through enhancing user experience.

- Digital finance shows strong direct influence on both transaction efficiency and user satisfaction, proving its transformative potential in modern payments.

Keywords : QRIS Effectiveness, Digital Finance, User Satisfaction, Transaction Efficiency, Millennials

INTRODUCTION

The digital revolution has had a significant impact on various aspects of life, such as the financial sector. This is evident with the development of financial technology (fintech), which gave birth to various innovations in digital payment systems, especially among millennials who are known as the digital generation. Innovations such as e-wallets, mobile banking, QRIS, and mobile payment

applications have increased convenience for buyers and sellers by utilizing one QR code for efficient transactions on mobile phones [2].

In the Industry 4.0 era, financial digitalization has become an integral part of economic activity, technological advances have driven changes in payment patterns and systems in economic transactions [3]. Transaction efficiency is an important factor in the modern economy, where processing speed, decreased transaction costs, and accessibility are the main indicators of the effectiveness of digital payment systems. According to [4], digitization in financial transactions enables increased speed, security, and accuracy, which significantly reduces barriers in traditional payment systems. Digital transformation in payment systems enables faster, safer, and more efficient transaction processes. Financial Technology (Fintech) is an innovation in financial services that is the result of technological

developments [5]. The development of information and communication technology has changed the way people transact, one of which is QRIS. Quick Response Code Indonesian Standard (QRIS) is a QR code standard developed by Bank Indonesia in collaboration with the Indonesian Banking System (ASPI) to facilitate easier, faster, and safer digital payment transactions [1]. According to Bank Indonesia, the number of QRIS users in Indonesia reached 50.50 million in July 2024, with a transaction growth rate of 226.54% compared to the previous year. In October 2024, the number of users increased to 54.1 million. In December 2022, ASPI reported that total QRIS users reached 28.76 million, an increase of 92.5% compared to the beginning of the year. This increase shows the significant adoption of QRIS in Indonesia in recent years. This shows that QRIS can be accepted and used optimally by the public and there is great interest in using QRIS as a digital-based payment tool in Indonesia even though it has not been used as the main transaction tool [5].

From a regional perspective, financial digitization plays a major role in accelerating economic development in developing countries, especially in developing countries in Southeast Asia [6]. Non-cash transactions are supported by several factors, such as non-cash transactions can provide convenience and efficiency in the transaction process and financial management [7]. Some benefits such as security from physical crime, time efficiency, and reduced need for physical currency encourage them to switch to digital payment methods [4].

QRIS transaction data from year to year shows a consistent increase. In 2020, 124 million transactions were recorded, which increased to 375 million in 2021. 2022 recorded a growth of 117.59%, and in 2023 total transactions reached IDR 99.98 trillion (BI, 2023). This figure further jumped in October 2024 to IDR188.36 trillion with more than 54 million active users and 34.7 million merchants who have adopted QRIS. This data strengthens the narrative that QRIS is now one of the important pillars in an inclusive national payment system.

The use of QRIS has increased transaction efficiency for millennials by providing convenience and speed of digital payments [8]. Digital payments such as QRIS also change consumer behavior in transactions, where they tend to prefer practical and safe payment methods over cash [9]. Meanwhile, perceived benefits and trust are the main factors that drive their preference in using QRIS [10]. In addition, ease of use and perceived problems also play a role in QRIS adoption decisions, although risk perception is still a consideration for some users [11] The factors of social media and the level of knowledge about QRIS also have a significant effect on the millennial generation's interest in utilizing this payment technology [12].

The adoption of blockchain technology is proven to increase the level of transparency and security in transactions, which in turn strengthens users' trust in digital-based financial systems [13] Ease of use is a crucial factor in the implementation of QRIS, where the more user-friendly a technology is, the more likely users are to accept it [14]. Consumer trust and perceived benefits have been shown to play a significant role in increasing user satisfaction, with ease of use serving as a mediating factor that strengthens this link [15], there is a strong positive relationship between QRIS implementation and customer satisfaction, especially in the MSME sector, which confirms the

role of QRIS in increasing transaction efficiency [16]. This strengthens the perception that digital systems can be a more reliable alternative to conventional systems. Other research also shows that perceived benefits and ease of use have a direct impact on user satisfaction, especially in the MSME ecosystem and support local economic growth.

Understanding how customer satisfaction serves as a link between QRIS effectiveness, digital finance, and transaction efficiency provides a useful analytical tool. This research has the potential to provide a deeper understanding of the most effective approaches to stimulate the judicious use of digital financial services and improve transaction efficiency among millennials.

The findings in this study have important managerial implications. For bank managers and fintech service providers, the results of this study can be utilized to design a more user-friendly payment system and increase customer loyalty. For MSME players, QRIS adoption opens up opportunities for transaction efficiency, increased customer satisfaction, and strengthened business competitiveness. Regulators such as Bank Indonesia can also use these findings as a basis for formulating policies that support digital financial inclusion. Thus, this study contributes to the development of data-driven policies in the field of financial technology management and operations management, as well as expanding insights related to consumer behavior in the digital financial era.

The transaction efficiency of a digital payment system has a significant impact on user satisfaction. A faster and more accurate system in processing transactions will result in higher user satisfaction. Efficiency is a key factor in ensuring users can use digital services sustainably [17]. In addition, user satisfaction is influenced by e-service quality, trust, and consumer loyalty. This makes trust a key factor in building long-term relationships between users and digital service providers [18].

The digital payments revolution has changed the global financial landscape by introducing innovations such as e-wallets, mobile banking, and QR code-based payments. This study highlights how financial technology facilitates financial inclusion and transaction efficiency [19]. Digitized payments have reduced transaction costs and increased the speed of payments, especially in developing countries. They also emphasized the role of regulation in supporting the adoption of digital payment technologies.

Digital payments according to [20] Digital transactions involve the use of digital information through electronic means to disburse, distribute and settle money. QRIS implementation increases transaction efficiency and encourages financial inclusion, so that customers can transact more easily and quickly [21] QRIS offers a system with alternative payment methods that are not paid directly or non-cash so that it can be more effective and efficient through standardized QR code scanning [22]. Based on this research, the following hypothesis can be built:

H1 : QRIS effectiveness has a significant effect on transaction efficiency

The implementation of the Quick Response Code Indonesian Standard (QRIS) has had a positive impact on transaction efficiency. Interest in using QRIS continues to increase in the new normal era, which has an impact on efficiency in the digital transaction process [23]. In addition, research [24] shows that factors such as perceived usefulness and ease of use have a significant influence on the millennial generation's decision to use QRIS, which in turn can increase transaction efficiency. In addition, research by [25] highlights that the implementation of QRIS-based payments encourages digitalization among MSMEs in Indonesia, thus contributing to increased operational efficiency. Based on this research, the following hypothesis can be built:

H2 : Digital finance has a significant effect on transaction efficiency

Along with the rapid development of financial technology (fintech), digital finance has now become a crucial factor in improving operational efficiency in the banking and retail sectors. In a study [26]

showed that the adoption of fintech substantially improved the operational efficiency of banks in Indonesia, especially in reducing costs and accelerating services. So that the use of QRIS is proven to speed up transaction time by 40% compared to conventional payment methods [25] A study conducted by [27] found that digital payments have a significant influence on sales effectiveness and efficiency with a contribution of up to 60% to its sales efficiency. Based on these findings, this study proposes the hypothesis that digital finance has a significant impact on transaction efficiency. Thus, based on these studies, the following hypothesis can be built:

H3 : User satisfaction has a significant effect on transaction efficiency

User satisfaction is a key factor in improving transaction efficiency, especially for financial services, in digital and technological systems. Users who are satisfied with the speed of transactions are usually more efficient in conducting digital transactions [28]. users in e-commerce and fintech services are positive and contribute to increasing transaction efficiency by reducing transaction time and system errors [29].In addition [30], shows that user satisfaction factors such as functional integrity and system flexibility have a significant impact on the effectiveness and efficiency of digital applications. Based on this research that user satisfaction has a significant effect on transaction efficiency, the following hypothesis is built:

H4 : QRIS effectiveness has a significant effect on user satisfaction

The effectiveness of QRIS is proven as a cashless payment tool to increase customer satisfaction. By using QRIS transactions payments can be completed in less than a minute, making it faster than traditional payment methods [31]. So that the convenience of QRIS has been associated with increased satisfaction among users, especially in non-cash transactions [32], the effectiveness of QRIS in MSMEs has a positive impact on user satisfaction due to the quality of the system provided, information, and services provided [33]. Based on this research that the effectiveness of QRIS has a significant effect on user satisfaction, the following hypothesis is built

H5 : Digital finance has a significant effect on user satisfaction.

Digital finance has brought major changes to the modern transaction system, allowing users to be faster, safer, and more efficient than traditional methods. The aspects of transaction speed and security of digital services, such as mobile banking and e-wallets, are the main factors that determine user satisfaction with digital financial services [34]. Based on these results, the research hypothesis can be formulated as follows:

H6 : QRIS effectiveness has a significant effect on transaction efficiency through user satisfaction.

QRIS effectiveness increases transaction efficiency by speeding up the payment process and reducing payment waiting time [21]. According to the study [35] user satisfaction plays a key role in strengthening the relationship between QRIS effectiveness and transaction efficiency, where security and convenience improve the user experience in transactions. Based on these results, the research hypothesis is formulated as follows

H7 : Digital finance has a significant effect on transaction efficiency through user satisfaction.

Digital financial services have been [36] proven to improve transaction efficiency by providing ease of access, speed, and security in [37]. In addition, user satisfaction is an important factor in strengthening this relationship, where aspects of reliability, accessibility, and efficiency of digital services have a significant impact on better user experience [38]

METHOD

This study employs a quantitative research method with 250 sample respondents from users and managers of digital finance, who come from several groups of workers ranging from students, private employees, civil servants, housewives, SPG, entrepreneurs, and laborers, 59.52% students, 20.95% private employees, 5.71% civil servants, 1.90% housewives, 0.95% SPG, 8.57% entrepreneurs and 2.38% laborers. Age distribution of respondents at the age of 19 years 0.43%, age 20 years 2.17%, age 21 years 4.78%, age 23 years 22.17%, age 24 years 30.43%, age 25 years 10.87%, age 26 years 3.48%, 27 years old 2.61%, 28 years old 1.74%, 29 years old 1.74%, 30 years old 1.30%, 32 years old 0.87%, 34 years old 0.43%, 35 years old 2.61%, 36 years old 0.87% and 37 years old 0.43%. This research is aimed at millennials and generation Z who intensely use QRIS and digital finance in Indonesia. This research employs a descriptive and associative sampling method. Sample used in this study was a stratified random sampling method with a total response of 210 individuals with 42.39% men and 57.61% women, with an education level of 1.43% junior high school, 27.14% high school, 4.76% Diplomat and 66.67% S1. From the results of the questionnaire distributed after conducting the evaluation, 210 respondents were determined to be the sample in this study based on appropriate criteria. This study uses primary data from Google Forms-distributed questionnaire results. the data analysis technique used in this research is to use Smart PLS 3 data processing software.
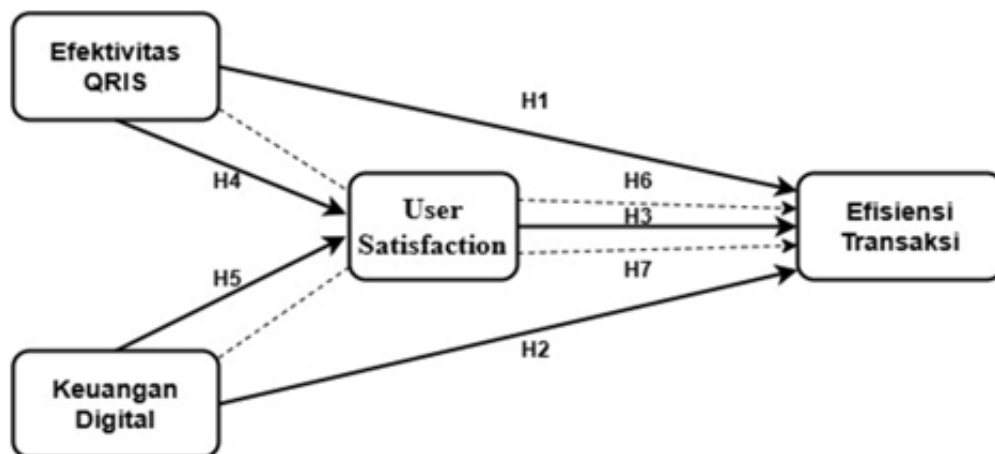

Figure 1. *Framrwork*

RESULT AND DISCUSSION

Variable Construct	Item Code	Item Loading	Cronbach's Alpha	Rho_A	CR	AVE
QRIS Effectiveness	EQ1	0.705	0.844	0.848	0.882	0.516
	EQ2	0.754				
	EQ3	0.726				
	EQ4	0.669				
	EQ5	0.697				
	EQ6	0.697				
	EQ7	0.735				
	EQ8	0.739				
Transaction efficiency	ET1	0.755	0.835	0.837	0.876	0.503
	ET2	0.667				
	ET3	0.721				
	ET4	0.729				
	ET5	0.638				
	ET6	0.728				

	ET8	0.718				
Digital Finance	KD1	0.796	0.810	0.818	0.864	0.517
	KD3	0.638				
	KD4	0.648				
	KD5	0.656				
	KD6	0.778				
	KD7	0.778				
User Satisfaction	US1	0.661	0.861	0.517	0.892	0.510
	US2	0.665				
	US3	0.675				
	US4	0.633				
	US5	0.762				
	US6	0.732				
	US7	0.782				
	US8	0.785				

Table 1.

Source: Processed data, 2025

Confirmatory factor analysis (CFA) is a procedure used to evaluate the validity and reliability of the data collected. In this study obtained the Cronbachs Alpha and Rho A values in table 1> 0.70 [39]all constructs used in this study meet the reliability requirements. As well as Convergent validity > 0.70 meets the requirements [39]. and > 0.60 according to [40] and the average variance extraction (AVE) is greater than 0.5 [41]. Table 2 shows discriminant validity, which helps determine whether all constructs in this study are independent of each other. The root value of AVE> 0.5 correlates between constructs with others [42]. so this study can be said to have a satisfactory measurement model.

	QRIS Effectiveness	Transaction Efficiency	Digital Finance	User Satisfaction
QRIS Effectiveness	0.718			
Transaction Efficiency	0.609	0.709		
Digital Finance	0.693	0.693	0.719	
User Satisfaction	0.726	0.665	0.653	0.714

Table 2. *Discriminant validity (fornell-larcker criterion)*

Source: Processed data, 2025

Variables	Path Coeficient (β)	Direct Effect (R2)	Critical Ratio	P Values
EQ->ET	0.070	0.247	3.113	0.002
EQ->US	0.527	0.527	7.591	0.000
KD->ET	0.425	0.522	6.711	0.000
KD->US	0.289	0.289	4.112	0.000
US->ET	0.336	0.336	3.283	0.001

Table 3. *Relationship between QRIS effectiveness, digital finance and transaction efficiency*

Source: Processed data, 2025

Predicted realitionship	standard phat loading (β)	T-Value	P-Value	Indirect Effect	Total effect

EQ->ET	0.070	3.113	0.455	0.177	0.002
EQ->US	0.527	7.591	0.000		0.000
KD->ET	0.425	6.711	0.000	0.097	0.000
KD->US	0.289	4.112	0.000		0.000
US->ET	0.336	3.283	0.001		0.001

Table 4. *Direct and indirect effects of user satisfaction, QRIS effectiveness and digital finance on transaction efficiency*

Source: Processed data, 2025

To find out whether the effectiveness of QRIS on transaction efficiency and digital finance on transaction efficiency as independent variables affects the dependent variable, namely transaction efficiency and user satisfaction, path analysis is carried out as shown in Table 3.

The analysis conducted in Table 3 shows that the effectiveness of QRIS on transaction efficiency has an insignificant correlation with the millennial generation (β0. 0.070, R(2) 0.247, P<0.002). the first hypothesis is still stated to be accepted because it gets empirical support. This finding is consistent with the results of previous research conducted by [24] ,[23], and [25], which show that although the direct effect is not significant, there is an indication of the contribution of QRIS in supporting transaction efficiency among the millennial generation.

According to the analysis conducted in Table 3, the contribution of digital finance to transaction efficiency shows a positive and significant contribution to the millennial generation (β0.425, R(2) 0.522, P<0.000), therefore Hypothesis 2 is accepted or supported. This finding is consistent with the results of previous studies conducted by [26], [25], and [27].

Furthermore, Table 3 shows a significant correlation between user satisfaction and transaction efficiency (β0.336, R (2) 0.336, P< 0.001), so Hypothesis 3 is accepted or supported. The results of this research are in line with research conducted by [28], [29], and [30].

Based on the analysis conducted in Table 3, it is found that the effectiveness of QRIS on User satisfaction has a significant correlation in the millennial generation (β0.527R(2) 0.527 P<0.000). Hypothesis 4 is accepted because it has empirical support. This finding is in line with the results of research conducted by [31], [32], and [33].

According to the analysis conducted in Table 3, it was found that digital finance on user satisfaction showed a significant correlation (β0.289, R²0.289, P<0.000). This explains that hypothesis 5 is accepted or gains support. From [34]

The next analysis is used to test the mediating effect between user satisfaction in the relationship between QRIS effectiveness on transaction efficiency and digital finance on transaction efficiency which is significantly correlated to improve millennials' transaction efficiency. As shown in Table 4 (EQ→ET = β 0.070, T 3.113, P< 0.455), (KD→ET = β 0.425, T 6.711, P< 0.000), (US→ET = β 0.336, T 3.283, P< 0.001), (EQ→US = β 0.527, T 7.591, P< 0.000), (KD→US = β 0.289, T 4.112, P< 0.000). Thus, the direct relationship has a significant and positive value in each variable. Table 4 also explains that the indirect relationship of QRIS effectiveness and transaction efficiency through user satisfaction has a positive and significant effect (EQ→US→ET= β 0.177, P < 0.445) with a total effect (β 0.070, P < 0.002) and (KD→US→LK= β 0.097, P < 0.000) with a total effect (β 0.425, P < 0.000). It is concluded that user satisfaction partially mediates (0.177) the relationship between QRIS effectiveness and transaction efficiency. Thus, hypothesis 6 is accepted or supported, and user satisfaction mediates (0.097) the relationship between financial digitalization and millennial generation financial literacy. Thus hypothesis 7 is accepted or supported.

These findings have important implications for national monetary and payment system policies, especially in supporting Bank Indonesia's strategy through the Indonesia Payment System Master

Plan 2025. BI is actively encouraging the expansion of QRIS adoption as an inclusive and efficient digital payment tool, through stimulus policies such as the adjustment of MDR (Merchant Discount Rate) to 0% for micro transactions below Rp100,000, as well as the launch of QRIS Tuntas and QRIS Intercountry. This policy aims to accelerate digital transformation in the financial sector and support national financial inclusion, especially among MSMEs and the younger generation.

In line with the findings of this study, digital financial education is also an important component in improving user satisfaction and driving transaction efficiency. Therefore, collaboration between Bank Indonesia, payment service providers, and educational institutions is needed to develop digital literacy programs that target millennials in a sustainable manner, whether through online campaigns, MSME training, or integration into higher education curricula.

Implication and Suggestion

The results of this study indicate that user satisfaction positively and significantly mediates the effectiveness of QRIS by 17.7% and digital finance by 9.7%. In addition, the direct effect of QRIS effectiveness on transaction efficiency is 7.0% and on user satisfaction is 52.7%. Then digital finance on transaction efficiency is 42.5% and user satisfaction is 28.9%. As well as user satisfaction on transaction efficiency by 33.6%. While the rest is influenced by other variables in lar this research model, these results can be seen in Figure 2 below.

Figure 2. *SmartPLS acyl model and the mediating role of user satisfaction*

This study makes a significant contribution to understanding the role of QRIS and digital resources in improving transaction efficiency, particularly among millennials and generation Z. Theoretically, the findings confirm that user satisfaction has a significant mediating role in strengthening the relationship between QRIS effectiveness and digital finance to transaction efficiency. This means that while digital payment systems such as QRIS are designed to provide convenience and speed, their effectiveness in improving transaction efficiency is strongly influenced by the level of user satisfaction with the service. This broadens the perspective in the digital finance literature that technology alone is not enough; user experience and emotional satisfaction factors are also key aspects in driving transaction optimization. From a practical perspective, this research provides relevant direction for regulators, service providers, and businesses. For the government and Bank Indonesia, the results point to the need to strengthen digital and financial literacy, especially for

the younger generation who are the main users of digital services. Regulations that encourage data protection, system security, and ease of access also need to be improved to create an inclusive and trusted digital ecosystem. Meanwhile, digital financial service providers and QRIS need to focus not only on technology development, but also on improving the convenience, speed, and reliability of services that have a direct impact on user satisfaction. Intuitive and hassle-free user interface design aspects, as well as responsive customer service, are important factors that must be continuously refined.

In addition, MSME players are advised to continue adopting digital payment systems as they are proven to speed up and simplify the transaction process. However, this adoption also needs to be accompanied by an increase in the capacity of digital system management, such as training in the use of QRIS, digital transaction recording, and technology-based financial management. For future researchers, it is recommended to explore other factors that can affect transaction efficiency, such as risk perception, social influence, or even user psychological factors. Further research can also be conducted with a comparative approach between urban and rural areas, or between millennials and generation Z separately, to get a more comprehensive picture of digital financial technology adoption behavior in Indonesia.

CONCLUSION

This research shows that the digital payment revolution through the use of QRIS and digital financial services has a significant role in improving transaction efficiency, especially among millennials and Generation Z. While QRIS effectiveness does not have a strong direct influence on transaction efficiency, the findings show that user satisfaction plays an important role as a mediator strengthening the relationship. While QRIS effectiveness does not have a strong direct influence on transaction efficiency, the findings show that user satisfaction plays an important role as a mediator that strengthens the relationship. This suggests that the effectiveness of digital payment systems can only be optimized if accompanied by a satisfying user experience. Moreover, digital finance is shown to have a strong direct impact on transaction efficiency, while increasing user satisfaction. Therefore, the combination of effective technology and user satisfaction is key to creating efficient, fast, and reliable transactions in the digital era. The results of this study can be utilized by Bank Indonesia, fintech service providers, as well as MSME players to design user satisfaction-oriented strategies to drive the efficiency of digital payment systems. Overall, this study confirms that the success of payment system digitalization depends not only on the level of technological sophistication, but also on the extent to which the technology is able to provide satisfaction, convenience, and trust to its users. Therefore, strategies to improve transaction efficiency in the future need to focus on strengthening the functional and emotional aspects of user interaction with digital financial services.

References

1. [1] Farhan A,. Shifa A., W. "Penggunaan Metode Pembayaran QRIS Pada Setiap UMKM di Era Digital," Journal pengabdian masyarakat nusantara, vol. 4, no. 2, pp. 1198–1206, 2023, doi: https://doi.org/10.55338/jpkmn.v4i2.1045.
2. [2] J. Tarantang, A. Awwaliyah, M. Astuti, M. Munawaroh, "Perkembangan Sistem Pembayaran Digital Pada Era Revolusi Industri 4.0 Di Indonesia.," 2019. doi: https://doi.org/10.23971/jaq.v4i1.1442.
3. [3] T. Laudon, E-commerce : Business,technology,society. 2020.
4. [4] S. G. Ardana et al., "Efektifitas Penggunaan QRIS bagi Kalangan Mahasiswa UNNES untuk Transaksi Pembayaran dalam Rangka Mendorong Perkembangan Ekonomi pada Era Digitalisasi," Nov. 2023. [Online]. Available: http://jurnalilmiah.org/journal/index.php/potensial
5. [5] N. N. Annisa, L. Irwanah, N. I. Rosa, C. D. Al Adawiyah, R. Ranggika, and S. A. Karimah, "Implementasi QRIS Metode Pembayaran Digital pada Kualitas Peningkatan UMKM di

Masyarakat Desa Rancabungur," PRAXIS: Jurnal Pengabdian kepada Masyarakat, vol. 2, no. 1, pp. 97–104, Jan. 2024, doi: 10.47776/praxis.v2i1.749.

6. [6] A. Amar, B. Rachmad, and M. R. Raharjo, "'QRIS Cross Border' as Digital Financial Inclusion Acceleration in Southeast Asia," Journal of International Relations, vol. 3, no. 1, pp. 45–55, Feb. 2023, doi: https://doi.org/10.22219/gli.v3i1.25234.

7. [7] R. Suarantalla et al., "PARTA: Jurnal Pengabdian Kepada Masyarakat Melangkah ke Era Digital: Sosialisasi Literasi Keuangan untuk Transaksi Non Tunai History Artikel," PARTA: Jurnal Pengabdian Kepada Masyarakat, vol. 4, p. 2023, Jun. 2023, doi: https://doi.org/10.38043/parta.v4i1.4417.

8. [8] M. Ardi and F. Aditya, "Implementasi Pengguna Qris Pada Kaum Milenial," 2023.

9. [9] K. Rizkiyah, L. Nurmayanti, R. D. N. Macdhy, and A. Yusuf, "Pengaruh Digital Payment Terhadap Perilaku Konsumen Pengguna Platform Digital Payment OVO," Jurnal Ilmiah Manajemen, vol. 16, no. 1, pp. 107–126, 2021, doi: https://doi.org/10.33369/insight.16.1.

10. [10] M. S. Gultom, H. Salsabila, and A. Amri, "Preferensi Generasi Milenial dalam Menggunakan QRIS sebagai Alat Pembayaran Digital," Jurnal Inovasi Pendidikan Ekonomi (JIPE), vol. 13, no. 1, p. 19, May 2023, doi: 10.24036/011194030.

11. [11] I. Nur Yasar, T. Handayani, and L. Puspitasari, "Persepsi Penggunaan Uang Elektronik QRIS Pada Generasi Milenial di DKI Jakarta," vol. 6, no. 1, May 2022, [Online]. Available: www.wartaekonomi.co.id,

12. [12] A. Mutiara Ahmad Pabulo and Suliah, "Pengaruh Media Sosial, Pengetahuan, dan Kemudahan Penggunaan QRIS terhadap Minat Generasi Z dalam Mengadopsi Teknologi Pembayaran Digital," Jurnal Sains dan Teknologi, vol. 5, no. 2, pp. 619–625, Dec. 2023, doi: 10.55338/saintek.v5i2.2280.

13. [13] A. Munandar, Nurul Huda, and Nafisah Nurulrahmatiah, "Pengaruh Teknologi Blockchain terhadap Kepercayaan dan Efisiensi Transaksi di Sektor Perbankan," Jurnal Publikasi Manajemen Informatika, vol. 4, no. 1, pp. 01–17, Dec. 2024, doi: 10.55606/jupumi.v4i1.3434.

14. [14] N. R. Poncowati and S. Sutarni, "Pengaruh Persepsi Kemudahan Penggunaan, Literasi Keuangan, Efektivitas, Dan Kemampuan Finansial Terhadap Minat Penggunaan Qris Dalam Transaksi Pembayaran (Studi Kasus Mahasiswa S1 Universitas Amikom Yogyakarta)," AL-MIKRAJ Jurnal Studi Islam dan Humaniora (E-ISSN 2745-4584), vol. 5, no. 01, pp. 209–228, Jul. 2024, doi: 10.37680/almikraj.v5i01.5688.

15. [15] A. Clementino Rudolf and A. Budi Setyawan, "Analysis of the Influence of Consumer Trust, Perceived Benefits, and Usage Risks on QRIS User Satisfaction with Ease of Use as a Mediating Variable: A Case Study of Jatinegara District, East Jakarta," Journal of Economics, Finance and Management Studies, 2024, doi: 10.47191/jefms/v7.

16. [16] R. Nur Aini Pertiwi and Wan Junita Raflah, "The Effect Of Payment Through Quick Response Indonesian Standard (QRIS) On Customer Satisfaction Of Micro, Small And Medium Enterprises (MSMEs) In Riau Province," Dinamika Publik: Jurnal Manajemen dan Administrasi Bisnis, vol. 2, no. 2, pp. 75–89, Jul. 2024, doi: 10.59061/dinamikapublik.v2i2.708.

17. [17] A. Monang and H. Alrasyid, "Pengaruh Efisiensi Dan Kualitas Layanan E-Maal Terhadap Kepuasan Konsumen.," vol. 4, no. 1, p. 2023, 2023.

18. [18] S. Marwanah and M. Saggaf Shihab, "Pengaruh kualitas pelayanan elektronik dan kepuasan terhadap kepercayaan konsumen serta dampaknya terhadap loyalitas konsumen," Jurnal Ilmiah Akuntansi dan Keuangan, vol. 4, no. 7, p. 2022, Nov. 2022, doi: https://doi.org/10.32670/fairvalue.v4i7.1274.

19. [19] Y. Varli and Y. Yildirim, "Default and prepayment modelling in participating mortgages," J Bank Financ, vol. 61, pp. 81–88, 2015, doi: 10.1016/j.jbankfin.2015.09.003.

20. [20] H. Nur Rahma, D. Rahma Hanum, A. Vitha Noviyanti, and N. Kustiningsih, "Penggunaan Electronic Payment Sebagai Solusi Pembayaran Pada Umkm Serendipity Snack Ditengah Pandemi Covid-19," 2021. doi: http://dx.doi.org/10.54980/imkp.v4i2.161.

21. [21] P. Muniarty, M. S. Dwiriansyah, W. Wulandari, M. Rimawan, and O. Ovriyadin, "Efektivitas Penggunaan QRIS Sebagai Alat Transaksi Digital Di Kota Bima," Owner, vol. 7, no. 3, pp. 2731–2739, Jul. 2023, doi: 10.33395/owner.v7i3.1766.

22. [22] S. C. Sudyantara and A. Yuwono, "Mengelola penggunaan QRIS dan QRcode dalam meningkatkan kualitas layanan bagi UMKM," Insight Management Journal, vol. 3, no. 3, pp. 252–258, May 2023, doi: 10.47065/imj.v3i3.271.
23. [23] D. Kusuma Wardani, A. Nofita Sari, and P. Studi Akuntansi, "Minat Penggunaan Terhadap Penggunaan Sesungguhnya Quick Response Code Indonesia Standard (Qris) Di Era New Normal," Jurnal Simki Economic, vol. 6, no. 1, pp. 1–8, 2023, doi: https://doi.org/10.29407/jse.v6i1.145.
24. [24] Hasyim Fuad, Janah Miftaqul, and Sari Permata Evira Lina, "Quranomic: Jurnal Ekonomi Dan Bisnis Islam Analisis Faktor Yang Mempengaruhi Keputusan Penggunaan Qris Pada Generasi Milenial Kabupaten Sukoharjo.," vol. 2, no. 2, 2023, [Online]. Available: https://jurnalannur.ac.id/index.php/quranomic
25. [25] A. C. Sari and H. H. Adinugraha, "Implementation of QRIS-Based Payments Towards the Digitalization of Indonesian MSMEs," EKONOMIKA SYARIAH : Journal of Economic Studies, vol. 5, no. 2, Jan. 2022, doi: 10.30983/es.v5i2.5027.
26. [26] Sadiqin Amin, Komariyah Fitri, and Prasetyo Dwi Hendra, "Pengaruh Penerapan Teknologi Finansial (Fintech) Terhadap Efisiensi Operasional Perbankan di Indonesia," Nov. 2024.
27. [27] E. T. Oktaria and H. Hermansyah, "Pengaruh Sistem Pembayaran Digital terhadap Efektivitas dan Efisiensi Penjualan di PT Sumber Alfariya Trijaya Tbk," Jurnal Akuntansi, Keuangan, dan Manajemen, vol. 4, no. 4, pp. 313–325, Oct. 2023, doi: 10.35912/jakman.v4i4.2340.
28. [28] K. A. Al-Emadi, Z. A. Kassim, and A. Razzaque, "User friendly and user satisfaction model aligned with FinTech," in Innovative Strategies for Implementing FinTech in Banking, IGI Global, 2020, pp. 291–301. doi: 10.4018/978-1-7998-3257-7.ch017.
29. [29] Gobel Puspitasari Yulia, "Pengaruh End-User Satisfaction Terhadap Performance Pengguna Akhir Sistem Akuntansi Instansi Berbasis Akrual (Saiba) Pada Satuan Kerja Di Provinsi Gorontalo," Feb. 2021.
30. [30] D. Almira Hidayati et al., "Analisis Kualitas Layanan Elektronik Untuk Mengukur Kepuasan Pengguna Menggunakan Dimensi E-Servqual (Studi Kasus Pengguna Aplikasi MyTelkomsel di Kota Pontianak)," 2023.
31. [31] A. S. Hartono, "Analisis Of Factors Affecting User Satisfaction With Using The Quick Response Code Indonesian Standard (QRIS) Payment System," Syntax Idea, vol. 6, no. 6, p. 1247, Jun. 2024, doi: 10.36418/syntax-idea.v3i6.1227.
32. [32] N. S. Tricahyono, I. Y. Aviva, and H. Hasnita, "The Impact of QRIS Convenience on Non-Cash Transaction Satisfaction: The Role of Usage as an Intervening Factor," Jurnal REKSA: Rekayasa Keuangan, Syariah dan Audit, vol. 11, no. 1, pp. 29–41, Mar. 2024, doi: 10.12928/jreksa.v11i1.10116.
33. [33] L. Mustagfiroh, A. Supriyadi, and I. Kudus, "Efektivitas Penggunaan QRIS sebagai Media Pembayaran dalam Meningkatkan Perkembangan UMKM di Jepara," vol. 2, no. 2, 2024, [Online]. Available: http://jim.ac.id/index.php/JEBISKU/
34. [34] A. Gunawan, A. F. Fatikasari, and S. A. Putri, "The Effect of Using Cashless (QRIS) on Daily Payment Transactions Using the Technology Acceptance Model," in Procedia Computer Science, Elsevier B.V., 2023, pp. 548–556. doi: 10.1016/j.procs.2023.10.557.
35. [35] Akbar Pratama Aditya, Nova Aris safitri, Pinkan Dwi Ananda, Wahyu Hidayat, Hadi Perwisto, and Fitri, "Pengaruh Layanan Aplikasi Dana Terhadap Kepuasan Mahasiswa Banten dalam Transasi Online Sebagai Alat Pembayaran Elektronik," SANTRI : Jurnal Ekonomi dan Keuangan Islam, vol. 2, no. 4, pp. 132–141, Jul. 2024, doi: 10.61132/santri.v2i4.758.
36. [36] Fadiah Sahya Putri, Kurnianingsih Fera, N Hidayat Rusdi, and Kusumasari Respati Indah, "Pengaruh Metode Pembayaran Qris Terhadap Keputusan Pembelian Pada UMKM.," Nov. 2024, doi: https://doi.org/10.62017/jemb.
37. [37] T. Alifandi and M. I. Fasa, "Analisis Pengaruh Digitalisasi Banking Terhadap Kepuasan Nasabah Analysis of the Influence of Banking Digitalization on Customer Satisfaction in Using BSI Bank in Bandar Lampung," 2024, [Online]. Available: https://jicnusantara.com/index.php/jicn

38. [38] N. Masitoh, E. Rosidah, and A. Kurniawati, "Pengaruh Layanan Digital Banking Terhadap Kepuasan Nasabah Pada Pt Bank Negara Indonesia (Persero) Tbk Kantor Cabang Tasikmalaya.," Jurnal Perbankan dan Keuangan, vol. 4, no. 1, pp. 11–16, 2023, doi: https://doi.org/10.37058/banku.v4i1.6812.

39. [39] J. F. Hair, J. J. Risher, M. Sarstedt, and C. M. Ringle, "When to use and how to report the results of PLS-SEM," Jan. 14, 2019, Emerald Group Publishing Ltd. doi: 10.1108/EBR-11-2018-0203.

40. [40] W. W. Chin, "The Partial Least Squares Approach to Structural Equation Modeling," 1998. [Online]. Available: https://www.researchgate.net/publication/311766005

41. [41] J. Moral de la Rubia, "Revisión de los criterios para validez convergente estimada a través de la Varianza Media Extraída," Psychologia, vol. 13, no. 2, pp. 25–41, Nov. 2019, doi: 10.21500/19002386.4119.

42. [42] D. H. Huang and H. E. Chueh, "Chatbot usage intention analysis: Veterinary consultation," Journal of Innovation and Knowledge, vol. 6, no. 3, pp. 135–144, Jul. 2021, doi: 10.1016/j.jik.2020.09.002.