



Transforming Payment Systems through QRIS in Indonesia: Regulatory Challenges in Advancing an Inclusive Digital Financial System

¹Muhammad Ikhlas Bin Rosele Iubis, ²Yara Shita

¹Universiti Malaya, Kuala Lumpur, Malaysia, ²Universitas Islam Negeri Sumatera Utara

E-mail: ¹ikhlas@um.edu.my, ²yarashita2@gmail.com

Info Articles	Abstract
Article History Received : 2026-08-23 Revised: 2026-09-03 Published: 2026-09-30 Keywords: <i>Digital Financial Inclusion; Financial Regulation; QRIS; Regulatory Governance; Payment Systems.</i>	The transformation of digital payments through <i>the Quick Response Code Indonesian Standard</i> (QRIS) has changed the structure of Indonesia's financial transactions, but the expansion of its use has also resulted in new challenges related to consumer protection, security, data governance, and equality of access. This study aims to analyze the adequacy of the QRIS regulatory framework in supporting an inclusive digital financial system and identify the regulatory gap between innovation expansion and legal protection. The research uses normative legal methods with legislative, conceptual, and analytical approaches. Legal materials are analyzed descriptively-analytically and prescriptively to evaluate the coherence and regulatory effectiveness of digital payment systems. Research shows that QRIS has evolved from a standardization instrument to a strategic digital financial infrastructure. Although the regulatory framework is becoming more comprehensive, there are still challenges in ensuring consumer protection, operator accountability, data security, and substantive access for <i>unbanked</i> and <i>underserved groups</i> . Digital inclusion is not enough to be measured through adoption growth, but must be accompanied by effective legal protection. QRIS regulations need to be directed at <i>proportional innovation governance</i> based on interoperability, consumer protection, data security, substantive access, and accountability to realize equitable and sustainable digital financial inclusion.

I. INTRODUCTION

Digital transformation has transformed the payment system from a mere mechanism for transferring funds to a strategic infrastructure that determines people's access to economic and financial activities. In Indonesia, the transformation takes concrete form through *Quick Response Code Indonesian Standard* (QRIS), which was developed by Bank Indonesia as a national standard for QR code-based payments (Simanjuntak et al., 2024).

The development of QRIS shows that the digital payment system is no longer a complementary instrument, but has become an important part of the national economic infrastructure. As of the first semester of 2025, QRIS has reached 57 million users and 39.3 million *Merchant*, with 93.16% of them being MSMEs, while the transaction volume reached 6.05 billion transactions with a value of IDR 579 trillion (Shalihin et al., 2025). The scale shows that QRIS has moved from payment technology innovation to

public-digital infrastructure that has broad legal, economic, and social consequences.

The problem is that the expansion of the use of QRIS is not by itself synonymous with the achievement of financial inclusion. The more widely a payment system is used, the more complex the legal risks that must be controlled (Pramesti & Priyono, 2026). QRIS users are not only faced with the issue of access and ease of transactions, but also with the issue of consumer protection, data security, transaction failure, cost transparency, operator responsibility, interoperability, and dispute resolution mechanisms (Azzahra et al., 2026). Thus, the success of payment system transformation should not be measured solely by the growth in the number of users, *Merchant*, or transaction volume, but also based on legal capabilities to ensure that the benefits of digitalization can be accessed fairly, securely, and sustainably by different groups of society.

This problem has become increasingly important because the regulatory framework of Indonesia's payment system is undergoing structural changes. Law Number 4 of 2023 concerning the Development and Strengthening of the Financial Sector (P2SK Law) strengthens the institutional architecture and regulation of the financial sector, including aspects of financial sector technological innovation, financial literacy and inclusion, consumer

protection, and inter-institutional coordination. The framework is then strengthened through Bank Indonesia Regulation Number 4 of 2025 concerning Payment System Policy which places speed, convenience, affordable costs, security, infrastructure stability, expanded access, and consumer protection as part of the policy direction of the payment system. Furthermore, PBI Number 10 of 2025 concerning Payment System Industry Regulation which takes effect from March 31, 2026 expands the regulation on industrial structure, technological innovation, governance, risk management, *market conduct*, consumer protection, and payment system data and information.

At the same time, QRIS regulations also continue to evolve following technological developments and transaction needs. PADG Number 3 of 2025 expands the scope of QRIS not only on QR code scanning, but also data communication-based technology and expands the development of QRIS for cash withdrawals, transfers, cash deposits, and the interconnection of transactions between countries (Rami, 2025). The regulation even stipulates the obligation to use QRIS in certain transactions facilitated by QR Code-based payment technology, including transactions with funding sources or payment instruments issued outside Indonesia (Scott, 2026). These developments show that the law no longer functions simply as

an instrument to regulate the technology that has developed, but must be able to anticipate the legal consequences of continuous innovation.

Thus, the main issue is no longer whether QRIS is able to accelerate payment digitalization, but whether the transformation has been built on a regulatory framework that is able to balance innovation, efficiency, security, consumer protection, and financial inclusion. This question is important because the very rapid growth of QRIS has the potential to create new forms of exclusion if digital access, literacy, security, and legal protection are not developed in a balanced manner. Therefore, this study analyzes the transformation of the payment system through QRIS in Indonesia by placing regulation as a central variable, especially in identifying the gap between the expansion of digital payment technology and legal capacity to ensure an inclusive, secure, and equitable digital financial system.

II. RESEARCH METHODS

This study uses normative legal research methods (*Normative Legal Research*) which is directed to analyze the adequacy, coherence, and direction of the development of digital payment system regulations through QRIS in supporting financial inclusion in Indonesia. Normative legal research was chosen because the main object of the research is not the behavior of QRIS users, but the legal norms that

govern the establishment, implementation, supervision, user protection, and development of digital payment systems (Rizkia & Fardiansyah, 2023). In this approach, law is understood not only as a collection of written rules, but also as a normative construct that must be tested for its consistency, connectedness, and ability to respond to the development of payment technology. The approach allows research to identify gaps between regulatory objectives and available normative designs.

The research uses three approaches. First, the *statute approach* is used to examine the hierarchy and interconnectedness of various regulations that form the legal regime of the digital payment system, especially Law No. 7 of 1992 concerning Banking as amended, Law No. 23 of 1999 concerning Bank Indonesia as amended, Law No. 4 of 2023 concerning the Development and Strengthening of the Financial Sector, and Bank Indonesia's regulation on payment systems and QRIS. The analysis also pays attention to the latest regulatory developments, especially PBI No. 4 of 2025 concerning Payment System Policy and PBI No. 10 of 2025 concerning Payment System Industry Regulation which form a new framework for the integration of the digital economy and finance.

Second, a *conceptual approach* is used to build normative parameters regarding an inclusive payment

system by connecting the concepts of *financial inclusion*, consumer protection, security, interoperability, regulatory proportionality, and fairness of access. This approach is important so that financial inclusion is not reduced to an increase in the number of QRIS users, but is understood as the ability of the public to gain access to payment services that are safe, affordable, non-discriminatory, and have adequate legal protection.

Third, the research uses an analytical *approach* to test the substance of norms, find potential overlaps or regulatory vacancies, and evaluate existing regulatory capabilities in anticipating the development of QRIS. This approach is directed at identifying *regulatory gaps* between payment technology expansion and the need for legal protection and financial inclusion. This is relevant because the latest payment system industry regulations are explicitly directed to build a consolidating and resilient industry structure in supporting the integration of the digital economy-finance.

The research legal material consists of primary, secondary, and tertiary legal materials. The primary legal materials include laws and regulations, Bank Indonesia Regulations, Regulations of Members of the Board of Governors, and official policies of Bank Indonesia related to QRIS and the payment system. Secondary legal materials include

scientific journal articles, legal books, research results, and academic publications relevant to digital payment and financial inclusion, while tertiary legal materials are used to clarify the terminology and concepts used. The collection of legal materials is carried out through literature studies and document studies.

All legal materials are analyzed descriptively-analytically and prescriptively through the stages of inventory, classification, interpretation, synchronization, and norm evaluation. The analysis does not stop at the description of the content of the regulation, but is directed to produce arguments regarding whether the QRIS legal framework is adequate in balancing payment innovation, transaction security, consumer protection, and financial inclusion. In the final stage, the research formulates a legal prescription in the form of the direction of strengthening regulations needed so that the transformation of QRIS not only results in payment efficiency, but also forms an inclusive, fair, and sustainable Indonesian digital financial system.

III. RESULTS AND DISCUSSION

A. QRIS's Transformation from Payment Standardization to Digital Financial Infrastructure

The results of the study show that the transformation of QRIS in Indonesia can no longer be understood only as the success of

payment technology innovation. QRIS in the early stages is indeed designed to solve the problem of payment-based fragmentation *Quick Response Code* by building a single standard that can be used by various payment service providers (Ulum & Sari, 2026). However, the development of its regulations shows a more fundamental change in function, QRIS has gradually become an infrastructure that connects consumers, *Merchant*, payment service providers, banks, non-bank institutions, and even cross-border payment systems (Manurung et al., 2024). These changes can be seen from the expansion of QRIS from just retail payments to instruments that support transfers, cash withdrawals, cash deposits, and payment interconnections between countries. PADG Number 3 of 2025 explicitly acknowledges the increase in the volume and nominal value of QRIS transactions while expanding the QRIS model and function in response to the development of payment system innovations (Aryani et al., 2026). Thus, the legal character of QRIS has undergone a shift from *Payment Standard To Digital Financial Infrastructure*.

This change is important because the more strategic a payment infrastructure is, the greater the legal consequences it causes. At a stage when QRIS only functions as a retail means of payment, regulatory attention can be focused on standardization, interoperability, and

transaction security (Sasra & Baidhowi, 2025). When QRIS began to be used for transfers, cash withdrawals, cash deposits, and cross-border transactions, the legal relationships that were formed became much more complex. Consumers do not just buy goods or services, but enter a digital ecosystem that involves data processing, transaction authorization, fund settlement, responsibility sharing between actors, and complaint mechanisms. QRIS TUNTAS, for example, is designed so that users can make transfers, cash withdrawals, and cash deposits through the interconnection of various payment service providers, including banks and non-bank institutions (Umam et al., 2026). Bank Indonesia explicitly places this feature as an instrument to support the community *Unbanked* and *underserved* (Nurdiana, 2026). This means that the wider the function of QRIS, the more important it is to ensure that the expansion of access is followed by the expansion of legal protection.

The scale of QRIS's development strengthens this conclusion. As of the first semester of 2025, QRIS has reached 57 million users and 39.3 million *Merchant*, with 93.16% *Merchant* from the MSME group. In the same period, QRIS transactions reached 6.05 billion transactions with a value of IDR 579 trillion (Ridwan et al., 2026). These figures do not only show the popularity of the technology, but show that QRIS has gained a

position that resembles public infrastructure in daily economic life. When tens of millions of users and businesses rely on a single payment standard, system failures, security breaches, unclear responsibilities, or weak dispute resolution mechanisms are no longer a purely individual issue (Absari, 2026). These risks have the potential to have a systemic dimension because disruptions to payment infrastructure can affect economic activity on a broad scale.

From a legal perspective, these conditions have important consequences for how to measure the success of QRIS. Indicators are in the form of the number of users, *Merchant*, and transaction volume is relevant to demonstrate the level of adoption, but not enough to prove that the payment system has been inclusive. Inclusions that are only measured by the number of people who can make transactions have the potential to yield *Quantitative Inclusion* without *Substantive inclusion* (Nabila et al., 2026). A user may formally have access to QRIS, but remain in a vulnerable position if he does not understand the risks of digital transactions, does not have an effective mechanism in the event of payment errors, does not have adequate access to digital networks, or does not obtain protection when data misuse occurs. Therefore, the results of the study show that the expansion of QRIS must be read through two dimensions at once, namely the expansion of access and

the quality of legal protection (Purba & Dwijayanthi, 2025).

Bank Indonesia's policy direction has actually moved in this direction. PBI Number 4 of 2025 concerning Payment System Policy places speed, convenience, and low cost as part of the payment system goals, but at the same time emphasizes the security and stability of infrastructure as well as good governance, including accountability and transparency (Atmaja & Paulus, 2022). The regulation also strengthens the *Looking forward* and inter-sectoral coordination in payment system policy formulation. Normatively, this approach shows that Bank Indonesia no longer views the payment system as a purely technical issue, but as part of an economic policy that requires governance, supervision and accountability.

However, the critical issue is whether these normative developments have resulted in protection comparable to technological expansion. This is where the first paradox of this research is found. The wider QRIS becomes an inclusion instrument, the greater the need to regulate the risks arising from such inclusion. This means that regulations should not only function as *enabler* innovation, but it must also be *Risk allocation mechanism* (Dewi, 2026). The law must determine who is responsible when a transaction fails, who bears the losses due to system errors, how user data is protected,

how *Merchant* and consumers obtain transparent information, and how disputes are resolved quickly. Thus, the transformation of QRIS has created the need to shift the regulatory orientation from mere standardization of technology to governance of digital financial relationships (Prihatanti et al., 2025).

These changes are even clearer in PBI Number 10 of 2025 concerning Payment System Industry Regulations which comes into effect on March 31, 2026. This regulation regulates the structure of the payment system industry to support the integration of the digital economy and finance in a consolidative and resilient structure, while regulating the activities of operators, payment system products, infrastructure, and pricing schemes. Thus, the new regime provides an indication that the Indonesian payment system is entering *the regulatory consolidation* stage. QRIS as part of the ecosystem is no longer appropriately placed as a stand-alone innovation, but must be analyzed as one of the components of the national digital payment system architecture.

B. The Regulatory Gap between Innovation, Consumer Protection, and Substantive Inclusion

The results of subsequent research show that the main problem of QRIS is not the absence of regulation, but the imbalance between the speed of innovation and the depth of legal protection. Indonesia actually

has a relatively progressive regulatory apparatus. The problem is that the expansion of the QRIS function produces a new type of legal relationship and risk that develops faster than the ability of the community to understand and manage these risks (Pratama et al., 2025). In other words, *Regulatory Challenge* QRIS is not primarily in the form of *Regulatory vacuum*, but in the form of a need to ensure that the various norms scattered across the payment system, consumer protection, data, and financial sector regimes can work as a coherent unit (Muninggar & Rahardiansah, 2024).

PBI Number 10 of 2025 shows a shift towards a more comprehensive approach because the regulation of the payment system industry is not only related to licensing, but also includes industry structures, activities, products, service development, cooperation, supervision, and infrastructure. This change is normatively advanced because the digital payment ecosystem requires regulations that are able to oversee horizontal and vertical relationships at the same time. However, this complexity also produces new problems in the form of *Regulatory Fragmentation*. Consumers interact with a single app or a QR code, but legally those transactions can involve multiple entities with different functions. For consumers, such institutional complexity is not always apparent (Amaliah et al., 2025). When

transactions are problematic, users tend not to distinguish whether the error comes from the application, payment service provider, network, *Merchant*, or transaction settlement infrastructure.

This is where the principle of consumer protection gains greater relevance. Consumer protection in digital payment systems cannot stop at the obligation to provide information (Fitriyani & Putri, 2026). Protection should include the consumer's ability to understand the transaction, obtain confirmation, file an objection, obtain recovery of losses, and identify the responsible party (Hadi et al., 2026). The more complex the technology chain used, the more important the principle will be. *accountability by design*. This means that the design of the payment system must establish a clear path of accountability from the beginning, not just look for it after a dispute arises. From a legal perspective, this principle is important to avoid situations when consumers become the weakest party because they are dealing with several organizers who can each throw responsibility at each other.

This problem becomes more complex when QRIS is used for cross-border transactions. PADG Number 3 of 2025 develops QRIS interconnection for interstate transactions while expanding the function of QRIS through several use models and technologies (Atmaja & Paulus, 2022). The expansion creates

great economic benefits because it facilitates tourist transactions, trade, and cross-border economic activities (Sari et al., 2026). However, cross-jurisdictional transactions also present legal issues that do not arise in domestic transactions, such as differences in consumer protection standards, dispute resolution mechanisms, operator responsibility, data protection, and supervision of transactions. Therefore, success *cross-border QRIS* It does not only depend on technical interoperability, but also on regulatory interoperability.

Another problem arises from the relationship between QRIS and financial inclusion. In terms of policy, QRIS does have a strong capacity to expand access because it allows businesses to accept digital payments without having to build their own payment infrastructure (Al Umar, 2025). The dominance of MSMEs in the QRIS ecosystem is proof that the technology has penetrated economic sectors that were previously relatively far from modern payment infrastructure (Basia, 2025). Bank Indonesia data shows that 93.16% of the 39.3 million *Merchant* QRIS in the first semester of 2025 is an MSME (Ridwan et al., 2026). These findings show that QRIS has strong distributive potential because the benefits of digitalization are not only enjoyed by large corporations.

However, the inclusion of MSMEs also produces different legal issues. MSME actors often have more limited administrative, technological,

and legal literacy capacity than large business actors. They may be able to use QRIS as a means of receiving payments, but they do not necessarily understand the cost structure, risk of fake transactions, credential security, complaint procedures, or legal obligations inherent in the use of digital services. Therefore, expanding *merchant onboarding* without strengthening *merchant protection* can result in an asymmetrical form of inclusion. MSMEs do enter the digital system, but they enter with a protection capacity that is not always balanced.

These findings lead research to the argument that financial inclusion should be understood as a concept that has both procedural and substantive dimensions. Procedurally, a person is said to be inclusive if they can access and use payment services. Substantively, inclusion is only truly achieved if users can use the service with an adequate level of security, certainty, affordability, and protection. This distinction is important because unprotected access can expand the user population while expanding the population of parties vulnerable to digital loss.

This paradox can be seen through the development of QRIS TUNTAS. On the one hand, QRIS TUNTAS is designed to reach the community *Unbanked* and *underserved*, including through the interconnection of banks and institutions other than banks. On the other hand, the wider the payment

function provided to users, the greater the consequences if users do not have adequate digital and financial literacy (Umam et al., 2026). The ability to withdraw cash or transfer through digital systems does increase access, but it must still be accompanied by secure authorization mechanisms, transaction notifications, error recovery, and monitoring against abuse (Srikaningsih, 2020). Therefore, QRIS TUNTAS shows that payment innovation and legal protection are not two separate agendas, both must be built simultaneously.

From a governance perspective, the results of the study also show that the challenge of QRIS lies in changing Bank Indonesia's position from just *Standard Setter* become *Ecosystem Regulator*. When QRIS is still in the standardization stage, the regulator's focus is on defining technical standards and ensuring interoperability. When QRIS has become an economic infrastructure, regulators must manage the industrial structure, systemic risks, business behavior, data security, consumer protection, and cross-jurisdictional relations (Manurung et al., 2024). PBI Number 4 of 2025 itself emphasizes that the supervision of payment system policies is carried out through direct and indirect supervision, while its implementation emphasizes coordination and synergy with external parties while maintaining policy independence. This shows that institutional design has moved

towards *Ecosystem Governance*, but its effectiveness still depends on the consistency of implementation and coordination between actors.

Thus, the issue of QRIS regulation is inappropriate if formulated as a question of whether Indonesia has enough regulations. A more relevant question is whether these regulations have resulted in effective protection throughout the entire digital transaction cycle. This approach shifts the analysis from *rule-based adequacy* to *outcome-based regulation*. A regulation can appear textually comprehensive but still results in weak protection if users are not aware of their rights, complaint mechanisms are ineffective, the responsibility of the organizers is unclear, or supervision is unable to detect risks early. Therefore, the measure of the quality of regulation must be placed on the legal ability to produce a *trustworthy digital payment ecosystem*, not solely on the number of norms available.

C. Reconstruction of QRIS Regulation towards an Inclusive and Equitable Digital Financial System

Based on previous findings, this study produces a proposition that the direction of QRIS regulation needs to move from the innovation-enabling regulation paradigm to rights-protective and inclusion-oriented regulation. The first paradigm places innovation as the primary goal and regulation as an instrument to prevent

innovation from being stifled. The second paradigm maintains innovation but adds questions about who benefits, who bears the risks, and whether vulnerable groups receive equal protection. This shift does not mean over-tightening regulations. Rather, regulations must be designed proportionately to be able to encourage innovation without compromising access security and fairness.

PBI Number 4 of 2025 provides a strong normative foundation for this shift because payment system policies are directed at a system that is fast, easy, cheap, secure, and stable, with the principles of good governance, accountability, transparency, and an approach *Looking forward*. The problem is that these principles need to be translated further into protection indicators that users can feel. For example, the security principle is not enough to be interpreted as the security of technical infrastructure, but must include user security throughout the transaction cycle (Febriana, 2026). Similarly, the principle of convenience should not only mean the number of steps in the application, but also the ease of filing a complaint and obtaining recovery when a loss occurs.

On that basis, this research offers a five-dimensional framework of QRIS regulatory governance, namely interoperability, consumer protection, security and data, substantive access, and operator accountability (Azzahra et al., 2026).

The five dimensions do not stand alone, but form a single chain of protection. Interoperability ensures users are not locked into a single provider; consumer protection ensures users have rights and recovery mechanisms; security and data maintain transaction integrity; substantive access ensures the benefits of QRIS reach groups *Unbanked* and *underserved*; Meanwhile, accountability ensures that there are parties who can be held accountable when the system fails (Basia, 2025). The framework offers a more comprehensive reading than an approach that uses only adoption indicators.

The first dimension, namely interoperability, must be maintained as the fundamental character of QRIS. Standardization only has value if users can transact across providers without losing the basic function of payment. PADG Number 3 of 2025 shows that Bank Indonesia has developed QRIS not only in the context of domestic payments, but also for cross-border transactions (Azzahroo & Estiningrum, 2021). However, technical interoperability needs to be complemented by liability interoperability. When a transaction involves multiple operators, there should be an accountability structure that allows consumers to know who is responsible without having to understand the technical architecture behind the transaction.

The second dimension is consumer protection. In the digital

ecosystem, consumers are in a structurally weaker position because they do not have control over algorithms, authentication systems, settlement processes, or data architectures. Therefore, consumer protection must include the principle of transparency, *fair dealing*, security, grievance mechanisms, and redress (Jazuli & Washil, 2025). This approach is becoming increasingly important because PBI Number 10 of 2025 organizes the payment system industry in an increasingly complex structure, including transaction forwarding, clearing, and settlement activities. This complexity should not be transferred to consumers as a burden to determine for themselves who should be responsible.

The third dimension is data security and governance. QRIS transformation makes transaction data an integral part of the payment ecosystem. Each transaction generates information about the time, value, location, account identity, and patterns of users' economic activities (Rudi, 2024). Therefore, payment system security can no longer be separated from data governance. In this context, payment system regulation must interact harmoniously with personal data protection and cybersecurity regimes. The goal is not only to prevent leaks, but also to prevent the use of data excessively, non-transparently, or beyond legitimate purposes. The wider the use of QRIS, the greater the economic value of transaction data;

therefore, the stronger the need to treat such data as an object of legal protection.

The fourth dimension is substantive access. QRIS cannot be called fully inclusive if the groups that economically or geographically need digital services the most face the greatest barriers to using them. Inclusion must pay attention to network quality, device ownership, digital literacy, risk understanding, and affordability of services. This orientation is in line with the development of QRIS TUNTAS which is explicitly directed at *the unbanked* and *underserved* groups. However, inclusion policies must go one step further: not only bring these groups into the system, but ensure that they are able to use the system safely and receive the same protections.

The fifth dimension is accountability. In a digital payment system that involves multiple actors, accountability must be designed *end-to-end*. This principle means that users should not lose the right to recovery just because a mistake occurs at a point that is between several operators. This kind of accountability model is important to maintain public trust. The payment system ultimately works not only through technology, but through the trust that funds will move according to instructions and that losses incurred as a result of system failures will acquire a clear recovery mechanism.

From these five dimensions, it can be concluded that QRIS

regulations must be developed based on the principle of proportional innovation governance. Regulations that are too loose can generate consumer risks and digital exclusion, while regulations that are too restrictive can hinder innovation and increase access costs. Therefore, the regulator's task is not to choose between innovation or protection, but to design legal institutions that allow both to develop simultaneously. This approach is also in line with the direction of PBI Number 10 of 2025 which places the restructuring of industrial structures as part of the integration of a consolidated and resilient digital economy-finance (Sasra & Baidhowi, 2025).

The most important finding of this study is that QRIS has succeeded in resolving some of the access problems, but this success has also created the next generation of legal problems. In the first phase, the main problem is the fragmentation of payment instruments. QRIS answers this through standardization and interoperability. In the second phase, the problem is how to expand its use to MSMEs and communities that have not been served. QRIS expansion and expansion *Merchant* shows progress in this direction. In the third phase that Indonesia is now facing, the problem has changed to how to ensure that the expanded ecosystem remains safe, fair, transparent, and accountable. In other words, the next regulatory frontier is no longer QR

adoption, but the governance of QRIS at scale (Umam et al., 2026).

This position makes a conceptual contribution to the literature because it introduces a distinction between digital payment inclusion and protected digital payment inclusion. The first only measures people's ability to enter the digital payment system, while the second measures whether people have adequate access and legal protection. This distinction is important for Indonesia because the expansion of QRIS has reached a very large scale, while regulatory transformation is also underway. With a total of 57 million users and 39.3 million *Merchant* In the first semester of 2025, QRIS has reached a stage where the quality of governance is as important as the speed of expansion (Basia, 2025).

In the end, this study shows that the future of QRIS is not primarily determined by its technological ability to conduct transactions faster, but by the legal ability to build trust, fairness, accountability, and equal access within the ecosystem. Indonesia's payment system regulations have moved towards a more adaptive direction through PBI Number 4 of 2025, PBI Number 10 of 2025, and the further development of QRIS through PADG Number 3 of 2025. However, the development of these regulations needs to continue to be directed so that it does not stop at industry consolidation and technological expansion. The ultimate goal must be

a digital payment system that places humans as legal subjects, not just technology users. With this perspective, QRIS can truly function not only as a payment digitization machine, but as a legal-economic instrument to build substantive, safe, and equitable digital financial inclusion.

IV. CONCLUSION

This research shows that the transformation of the payment system through QRIS has exceeded its initial function as a payment standardization instrument based on *Quick Response Code*. The expansion of the number of users and *merchants*, integration with MSMEs, the development of QRIS TUNTAS, and the expansion of transactions between countries have placed QRIS as a strategic part of Indonesia's digital financial infrastructure. These changes also shift legal issues from simply ensuring technological interoperability to complex payment ecosystem governance issues.

The findings of the study show that Indonesia has basically had a relatively progressive regulatory foundation through the strengthening of payment system policies and the development of payment system industry regulations. However, the main challenge lies not in the absence of norms, but in the need to ensure regulatory coherence and effectiveness in dealing with the risks that develop with the expansion of QRIS. Consumer protection,

transaction security, data governance, complaint and recovery mechanisms, operator accountability, and access for *unbanked* and *underserved groups* should be placed as an integral part of the regulatory design, not as an additional consequence after innovation is implemented.

The main contribution of this research is to introduce the perspective of protected digital payment inclusion, which is an approach that views financial inclusion not only as measured by people's ability to access and use digital payment systems, but also by the ability of the law to guarantee security, fairness, affordability, transparency, and recovery when losses occur. Within this framework, the success of QRIS should not only be determined by the growth of adoption, but by the quality of protection that accompanies such expansion.

The research recommends strengthening QRIS governance through five interintegrated dimensions, namely interoperability, consumer protection, data security and governance, substantive access, and operator accountability. Future regulations need to use a proportional innovation governance approach that is able to maintain a balance between innovation and protection. Thus, QRIS can develop not only as an efficient payment technology, but as a legal-economic infrastructure that supports Indonesia's inclusive, secure, fair, and sustainable digital financial system.

REFERENCES

- Absari, D. U. A. (2026). Adopsi Fintech dan Kinerja Keuangan UMKM: Tinjauan Konseptual tentang Pembayaran Digital, Pinjaman P2P, dan Manajemen Modal Kerja. *Idarotuna: Journal of Administrative Science*, 7(1), 142–165.
- Al Umar, A. U. A. (2025). QRIS sebagai sistem pembayaran digital untuk meningkatkan akses keuangan masyarakat di Indonesia. *Waralaba: Journal Of Economics and Business*, 2(2).
- Amaliah, A. K., Lima, D., Maharani, T., & Djuanda, G. (2025). Manajemen Risiko Penggunaan QRIS pada UMKM Coffee Shop di Sukabumi. *Penerbit Tahta Media*.
- Aryani, D., Elfalahy, L., & Agustian, T. (2026). *Efektivitas Quick Response Code Indonesian Standar (Qris) Sebagai Metode Fundraising Di Baznas Rejang Lebong Di Tinjau Oleh Hukum Ekonomi Syariah*. INSTITUT AGAMA ISLAM NEGERI CURUP.
- Atmaja, Y. S., & Paulus, D. H. (2022). Partisipasi Bank Indonesia dalam pengaturan digitalisasi sistem pembayaran Indonesia. *Masalah-Masalah Hukum*, 51(3), 271–286.
- Azzahra, N., Syafitra, R. I., Cahyani, M. P., Mutia, S. F., Viola, S. A. P., & Habibi, N. (2026). Sosialisasi QRIS Dalam Upaya Meningkatkan Produktivitas UMKM di Desa Kemuning Kecamatan Legok Kabupaten Tangerang: Penelitian. *Jurnal Pengabdian Masyarakat Dan Riset Pendidikan*, 4(3), 16003–16011.
- Azzahroo, R. A., & Estiningrum, S. D. (2021). Preferensi Mahasiswa

- dalam Menggunakan Quick Response Code Indonesia Standard (QRIS) sebagai Teknologi Pembayaran. *Jurnal Manajemen Motivasi*, 17(1), 10.
- Basia, L. (2025). Dampak Pemberian Kredit Usaha Rakyat (KUR) dan Penerapan Sistem Pembayaran QRIS terhadap Peningkatan Pendapatan UMKM. *JAKUMA: Jurnal Akuntansi Dan Manajemen Keuangan*, 6(1), 227–237.
- Dewi, R. (2026). *Dana: Dompot Digital dan Masa Depan Transaksi Non-Tunai Indonesia*. Afdan Rojabi Publisher.
- Febriana, E. A. (2026). *Dialektika Dunia Kerja: Dinamika Peran Serikat Pekerja, Pengusaha, dan Pemerintah dalam Perselisihan Hubungan Industrial*. Banjarnegara: PT Penerbit Qriset Indonesia.
- Fitriyani, S., & Putri, A. (2026). PERLINDUNGAN DAN PERTANGGUNGJAWABAN HUKUM PADA DOMPET DIGITAL (DANA) TERHADAP KONSUMEN. *Jurnal Transformasi Hukum Dan Keadilan Sosial*, 10(1).
- Hadi, I. G. A. A., Windari, R. A., Hartono, M. S., & Gerri, G. F. (2026). Perlindungan Hukum Terhadap Konsumen dalam Perjanjian Berlangganan Digital dengan Mekanisme Perpanjangan Otomatis (Auto-renewal). *Jurnal Ilmu Hukum Sui Generis*, 6(3), 9–17.
- Jazuli, M., & Washil, A. (2025). Perlindungan Konsumen Fintech Syariah di Indonesia: Tinjauan Integratif atas Regulasi, Keadilan Akad, dan Tata Kelola Digital. *Jurnal Pemikiran Dan Ilmu Keislaman*, 8(2), 563–588.
- Magfiroh, D. (2026). Efektivitas Program QRIS Bank Indonesia terhadap Peningkatan Inklusi Keuangan Digital UMKM di Daerah Tertinggal, Terdepan, dan Terluar (3T). *Journal of Economics, Technology & Business/Jurnal Ekonomi Teknologi & Bisnis (JETBIS)*, 5(5), 155.
- Manurung, C. M., Sipahutar, J. N., Charolin, A., Saputra, Z. E., & Hasyim, H. (2024). Efektivitas Program Q-Ris (Quick Response Code Indonesian Standard) Oleh Bank Indonesia Dalam Meningkatkan Transaksi Non-Tunai. *Global Leadership Organizational Research in Management*, 2(3), 68–88.
- Muninggar, R. A., & Rahardiansah, T. (2024). Pemberdayaan hukum pembayaran digital melalui penggunaan teknologi Quick Response Code Indonesian Standar di masyarakat. *Jurnal Pembangunan Hukum Indonesia*, 6(3), 394–417.
- Nabila, F., Nuraeni, N., & Murtadlo, K. (2026). PERAN MODERASI KAPABILITAS DIGITAL PADA PENGARUH KREASI PRODUK DIGITAL DAN AKSES PEMBIAYAAN TERHADAP KINERJA UMKM KULINER PANDAAN. *Currency (Jurnal Ekonomi Dan Perbankan Syariah)*, 5(1), 1267–1283.
- Nurdiana, I. (2026). *Disrupsi SeaBank: Dominasi Finansial dalam Ekosistem Teknologi Digital*. Afdan Rojabi Publisher.
- Pramesti, M., & Priyono, E. A. (2026). Tinjauan Yuridis Penambahan Biaya Tambahan Pada Sistem

- Pembayaran Quick Response Code Indonesian Standard (QRIS). *Law, Development and Justice Review*, 9(1), 103–119.
- Pratama, F., Sinuhaji, N. L. B., Sari, D. L., & Sumual, A. K. (2025). Peran Inovasi dalam Menghubungkan dan Memperkuat Hubungan Manajemen Risiko Perusahaan dengan Kinerja UMKM di Indonesia. *Journal of Economics, Management, and Accounting*, 1(1), 78–93.
- Prihatanti, V. W., Ritonga, I., & Nanda, A. S. (2025). DSN-MUI FATWA IN DIGITAL BANKING: ADDRESSING THE CHALLENGES OF THE SHARIA ECONOMY IN THE 5.0 ERA AND ITS PROSPECTS IN THE FUTURE. *WORLDVIEW (Jurnal Ekonomi Bisnis Dan Sosial Sains)*, 4(2), 113–129.
- Purba, R. S. D., & Dwijayanthi, P. T. (2025). PERLINDUNGAN HUKUM TERHADAP LAYANAN PEMBAYARAN ELEKTRONIK BERBASIS QRIS PADA TRANSAKSI OFFLINE DAN ONLINE. *Kertha Desa: Journal Ilmu Hukum*, 13(11), 1219–1231.
- Rami, A. D. (2025). Dampak Regulasi Pajak Terhadap Penggunaan Quick Response Code Indonesian Standard (Qris) Dalam Transaksi Lintas Negara. *Jurnal Akademik Ekonomi Dan Manajemen*, 2(3), 586–595.
- Ridwan, M., Rahmad, M. A., & Pardede, T. E. N. (2026). PERAN FINANCIAL TECHNOLOGY DALAM MENINGKATKAN INKLUSI KEUANGAN UMKM DI INDONESIA. *Kamara Journal*, 4(1), 168–177.
- Rizkia, N. D., & Fardiansyah, H. (2023). *Metode Penelitian Hukum (Normatif dan Empiris)*. Bandung: Penerbit Widina.
- Rudi, Y. (2024). Strategi Penghimpunan ZIS (Zakat, Infaq Dan Sedekah) Melalui Digital QRIS. *Kafalah: Jurnal Ekonomi, Manajemen, Dan Keuangan Syariah*, 1(1), 1–22.
- Sari, D. F., Wulandari, D. B., & Kultsum, I. (2026). Positioning QRIS Within Global Retail Payment Systems: Comparative and Regulatory Perspectives. *MARGIN ECO*, 10(1), 38–51.
- Sasra, A. D., & Baidhowi, B. (2025). Perlindungan Hukum Dalam Transaksi Nontunai Berbasis Quick Response Code Indonesian Standards (QRIS) Berdasarkan Perspektif Hukum Perbankan. *Jurnal Ilmiah Nusantara*, 2(4), 266–274.
- Shalihin, R., Mustaqilla, S., & Sholihin, R. (2025). Sistem Pembayaran Digital Quick Response Code Indonesian Standard (QRIS) dalam Transaksi Digital menurut Hukum Ekonomi Islam: Studi pada Pelaku Usaha di Banda Aceh. *Al-Mudharabah: Jurnal Ekonomi Dan Keuangan Syariah*, 6(2), 474–496.
- Simanjuntak, B., Putri, A. P., & Syahidah, A. W. (2024). Efisiensi penggunaan Quick Response Code Indonesia Standard (QRIS) dalam mendukung penjualan di era digital. *Media Hukum Indonesia (MHI)*, 2(4).
- Sriekaningsih, A. (2020). *QRIS dan Era Baru Transaksi Pembayaran 4.0*. Penerbit Andi.
- Ulum, M. B., & Sari, N. K. (2026). REGULASI QRIS ATAS PENGEMBANGAN METODE

PEMBAYARAN DIGITAL DI
WILAYAH ASEAN. *HEI EMA:
Jurnal Riset Hukum, Ekonomi
Islam, Ekonomi, Manajemen Dan
Akuntansi*, 5(1), 66–82.

Umam, K., Faruq, U., Azizi, N. A., &
Rahmawati, N. Z. (2026).
*Transformasi Digital UMKM:
Adopsi QRIS dalam Transaksi
Pembayaran*. UIN Madura Press.