

Cashless Society: The Impact of Payment System Digitalization on Transaction Patterns Society

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ABSTRAK: Digitalisasi sistem pembayaran telah mendorong perubahan pola transaksi masyarakat dan mempercepat transisi menuju cashless society, khususnya pada Generasi Z yang memiliki tingkat adaptasi teknologi tinggi. Namun, peningkatan penggunaan instrumen pembayaran digital tidak secara otomatis menghapus penggunaan uang tunai maupun menjamin terciptanya inklusi keuangan yang merata. Penelitian ini bertujuan menganalisis dampak digitalisasi sistem pembayaran terhadap pola transaksi Generasi Z serta mengidentifikasi kesenjangan yang muncul dalam proses transisi tersebut. Penelitian menggunakan pendekatan kualitatif deskriptif dengan orientasi fenomenologis melalui studi kepustakaan berbasis data sekunder yang diperoleh dari jurnal ilmiah, laporan lembaga internasional, dan publikasi resmi otoritas keuangan. Data dianalisis melalui sintesis konseptual dan evaluasi kritis terhadap temuan empiris terkini. Hasil kajian menunjukkan bahwa meskipun transaksi digital mengalami pertumbuhan signifikan, Generasi Z belum sepenuhnya meninggalkan uang tunai karena pertimbangan privasi, keamanan data, dan biaya transaksi. Selain itu, ditemukan tiga tantangan utama, yaitu rendahnya literasi keuangan digital, risiko keamanan dan perlindungan konsumen, serta ketimpangan akses infrastruktur antarwilayah. Penelitian ini menyimpulkan bahwa penguatan literasi digital, peningkatan keamanan sistem pembayaran, dan kebijakan yang inklusif diperlukan untuk mewujudkan ekosistem pembayaran yang berkeadilan dan berkelanjutan.

Kata kunci: cashless society, digital payment, Generasi Z, literasi keuangan digital, inklusi keuangan.

ABSTRACT: The digitization of payment systems has driven changes in people's transaction patterns and accelerated the transition to a cashless society, particularly among Generation Z, who have a high level of technological adaptation. However, the increased use of digital payment instruments does not automatically eliminate the use of cash or guarantee the creation of equitable financial inclusion. This research aims to analyze the impact of the digitization of payment systems on the transaction patterns of Generation Z and identify the gaps that arise in the transition process. The research uses a descriptive qualitative approach with a phenomenological orientation through a literature research based on secondary data obtained from scientific journals, international agency reports, and official publications from financial authorities. The data is analyzed through conceptual synthesis and critical evaluation of the latest empirical findings. The results of the research show that despite the significant growth in digital transactions, Generation Z has not completely abandoned cash due to considerations of privacy, data security, and transaction costs. In addition, three main challenges were identified, namely low digital financial literacy, security risks and consumer protection, and regional disparities in infrastructure access. This research concludes that strengthening digital literacy, improving payment system security, and implementing inclusive policies are necessary to create a fair and sustainable payment ecosystem.

Keywords: cashless society, digital payment, Generation Z, digital financial literacy, financial inclusion.

1. INTRODUCTION

The rapid development of digital technology has brought significant changes to the payment system in society. The digitalization of payment systems is driving a shift from cash to cashless payment instruments, such as mobile banking, e-wallets, and QR code-based payments. This change not only increases transaction efficiency but also creates new transaction patterns that are faster, more convenient, and integrated with people's digital activities (Bank Indonesia, 2023).

The cashless society phenomenon becomes increasingly relevant when linked to Generation Z. Generation Z is a demographic group born and raised amidst the development of digital technology and the internet, thus possessing a high level of adaptation to technological innovation, including the use of digital payment systems. Generation Z's characteristics of prioritizing speed, convenience, and flexibility make them the most active group in utilizing digital payment services in their daily activities, whether for consumption, transportation, or online transactions (Putri & Nugroho, 2021).

In Indonesia, the increased use of digital payment systems among Generation Z is driven by Bank Indonesia's policy of strengthening the National Payment System and implementing the Quick Response Code Indonesian Standard (QRIS). This policy aims to create an inclusive, efficient, and secure payment system, while encouraging the adoption of cashless transactions across various segments of society, including young people and students (Bank Indonesia, 2022). Furthermore, the high penetration of smartphones and social media also strengthens Generation Z's preference for digital payments over conventional methods (Saragih & Ramadhan, 2022).

The digitalization of payment systems has had a significant impact on Generation Z's transaction patterns. The use of digital payment instruments tends to increase transaction frequency, encourage consumer behavior, and change the way personal finances are managed. However, behind these conveniences, there are challenges that require attention, such as low digital financial literacy, data security risks, and a tendency towards impulsive consumption behavior due to ease of transactions (Pratama, 2023).

Against this backdrop, research on a cashless society with a focus on Generation Z is crucial, offering a comprehensive assessment of the impact of digital payment systems on the transaction patterns of young people. The findings are expected to contribute to academic research and serve as a basis for regulators, financial institutions, and digital payment service providers in designing policies and strategies for digital financial education that are more targeted to Generation Z.

2. METHOD

2.1 Research Approach

This research employs a qualitative research approach with a descriptive–phenomenological orientation. The phenomenological perspective is used to facilitate an in-depth exploration of the meanings embedded in individuals' lived experiences and how these experiences are consciously interpreted by participants. Rather than pursuing statistical generalization, the research focuses on producing a rich and comprehensive understanding of the essence of the phenomenon as directly experienced by the subjects (Bado, 2021; Rachman et al., 2024; Tavakol & Sandars, 2025).

2.2 Descriptive and Exploratory Orientation

The descriptive approach is utilized to present a systematic, factual, and accurate account of the characteristics and dynamics of the issue under investigation (Maulinas et al., 2024). An exploratory approach is incorporated to examine emerging issues, identify relevant information, and generate preliminary insights, particularly in research areas that remain insufficiently explored (Reda, 2025). The integration of descriptive and

exploratory perspectives supports the development of a conceptual and solution-oriented analytical framework.

2.3 Research Design

The research adopts a Research and Development (R&D) design, aimed at formulating alternative solutions to identified problems. This design emphasizes conceptual development through analytical discussion and synthesis of existing knowledge (Richey & Klein, 2022; Winaryati et al., 2021).

2.4 Research Strategy

Methodologically, the research is conducted as library-based research, relying on systematic examination and critical interpretation of relevant academic literature rather than primary field data collection (Rachman et al., 2024).

2.5 Data Sources

The research utilizes secondary data sources, obtained through a structured and critical literature review. The data sources include: Peer-reviewed journal articles, Academic books, Research reports, Mass media publications, and Credible online resources meeting national and international academic standards (Fitri et al., 2023; Rachman et al., 2024).

2.6 Data Collection Procedures

The collected data are analyzed qualitatively through: Conceptual synthesis, Comparative interpretation of findings, Integration of scholarly arguments and theoretical perspectives. This analytical process enables the formulation of comprehensive insights and conceptual solutions (Fitri et al., 2023).

2.7 Rationale for Using Secondary Data

The use of secondary data is intentionally chosen based on considerations of effectiveness and efficiency, allowing timely research completion while maintaining analytical rigor and depth (Kelly et al., 2024).



Figure 1. Research Methodology Steps

3. RESULT AND DISCUSSION

This section presents the results of an analysis of various literature sources to answer the three levels of research questions formulated in the introduction. First, what is the empirical picture of the impact of digital payment systems on people's transaction patterns, particularly those of Generation Z? Second, how is the analysis of the gaps that emerge in the transition to a cashless society related to the concepts of digital financial literacy and inclusion? Third, what are the policy implications and solutions that can be offered to create an inclusive and sustainable digital payment ecosystem?

3.1 Acceleration of Digital Transactions and Shifting Transaction Patterns of Generation Z

The digitalization of payment systems has fundamentally changed the way people transact. The World Bank's Global Findex 2025 data shows that 79 percent of adults worldwide now have access to an account at a financial institution or mobile money service provider, a significant increase from 51 percent in 2011 (World Bank, 2025). However, account ownership does not automatically translate to active use. Only 42 percent of adults in low- and middle-income countries will make digital payments to merchants by 2024. This means that nearly six out of ten retail transactions still involve cash, and this figure is even lower in South Asia (15 percent) and Sub-Saharan Africa (20 percent) (World Bank, 2025).

In Indonesia, the phenomenon of digital payments is showing interesting dynamics. The Quick Response Code Indonesian Standard (QRIS), launched by Bank Indonesia in 2019, has become a major catalyst for expanding access to digital payments. Bank Indonesia (2025) reported that by the first semester of 2025, QRIS transactions had grown 162 percent year-on-year, reaching a value of IDR 579 trillion. The number of QRIS users has reached 58 million, while merchants accepting QRIS have surpassed 41 million, 93 percent of whom are Micro, Small, and Medium Enterprises (MSMEs). This achievement demonstrates that QRIS has successfully reached grassroots segments previously difficult to access by conventional digital payment systems.

Pergeseran perilaku paling mencolok justru terjadi pada Generasi Z. Namun temuan dari Interledger Foundation (2025) di Amerika Serikat membantah asumsi umum bahwa generasi muda secara otomatis menjadi pendorong utama matinya uang tunai. Survei tersebut menemukan bahwa 51 persen responden Generasi Z menyatakan belum siap melepaskan uang tunai, dengan alasan utama kekhawatiran terhadap privasi data dan biaya transaksi yang melekat pada pembayaran digital. Bahkan, 56 persen responden dari seluruh kelompok usia mengaku masih menggunakan uang tunai setidaknya sekali dalam seminggu. Temuan ini mengindikasikan bahwa uang fisik masih memiliki fungsi sosial dan psikologis yang tidak sepenuhnya dapat digantikan oleh instrumen digital (Interledger Foundation, 2025).

The most striking behavioral shift is occurring among Generation Z. However, findings from the Interledger Foundation (2025) in the United States contradict the common assumption that younger generations are automatically the primary drivers of cash's demise. The survey found that 51 percent of Generation Z respondents stated they were not ready to give up cash, citing concerns about data privacy and the transaction costs inherent in digital payments as the primary reasons. In fact, 56 percent of respondents across all age groups admitted to still using cash at least once a week. These findings indicate that physical money still serves social and psychological functions that cannot be fully replaced by digital instruments (Interledger Foundation, 2025).

Aspect	Key Finding / Statistic	Source
Global Account Ownership	79% of adults worldwide now have access to a financial account (2025).	World Bank (2025)
Active Digital Payment Use	Only 42% of adults in low/middle-income countries use digital payments to merchants (2024).	World Bank (2025)
QRIS Adoption in Indonesia	162% YoY growth (H1 2025), reaching IDR 579	Bank Indonesia (2025)

	trillion with 58 million users and 41 million merchants.	
Gen Z's Reluctance to Go Cashless	51% of Gen Z respondents are not ready to give up cash; 56% of all age groups use cash at least weekly.	Interledger Foundation (2025)
Gen Z's Perception of Financial Institutions	50% of Gen Z respondents consider payment apps (e.g., Cash App) to be "banks," despite lacking deposit protection.	Interledger Foundation (2025)
Financial Literacy Gap	Low digital literacy correlates with vulnerability to online fraud, hidden fees, and impulsive buying.	Pratama (2023)
Security Risks	Fraud losses in Europe increased from €3.5 billion to €4.2 billion in one year, with consumers bearing 85% of losses.	University of Surrey & University of Birmingham (2025)
Infrastructure & Access Gap	Only 1 in 4 adults selling crops/livestock receive payment through an account; the majority in the agricultural sector remain dependent on cash.	Bank Indonesia (2025)

3.2 Structural Inequalities: Digital Literacy, Security, dan Exclusion

The above data needs to be read more critically, referring to the conceptual framework of digital financial literacy and financial inclusion. Shahan and Sharaf (2025), in their systematic review of 37 empirical studies from 2016 to 2025, emphasized that digital payment technology has indeed been proven to expand financial access, especially in developing countries. However, its effectiveness is largely determined by demographic factors such as age, gender, and geographic location. In other words, payment digitalization does not automatically result in inclusion; it even has the potential to widen the gap if not accompanied by appropriate policies.

Three main gaps can be identified from recent literature. First, the digital financial literacy gap. Pratama (2023), in his research on digital literacy and consumer behavior, found that a low understanding of digital financial mechanisms is positively correlated with vulnerability to online fraud and impulsive consumption behavior. The research revealed that users with low digital literacy are less likely to read terms and conditions of service, are unaware of hidden fees, and are more easily tempted by irrational promotions or discounts. These findings are reinforced by the Interledger Foundation (2025), which indicates a distorted understanding among Generation Z regarding what constitutes a "bank." Only 56 percent of Gen Z respondents classify JPMorgan Chase as a bank, while 50 percent consider payment apps like Cash App to be banks, even though they lack FDIC deposit protection.

Third, the gap in access between regions. A Bank Indonesia report (2025) noted that more than half of the 1.3 billion adults who remain untouched by formal financial services—around 650 million people—are concentrated in eight countries, including Indonesia. Within these countries, there are pockets of massive exclusion, particularly in the agricultural sector. Only about one in four adults who sell crops or livestock receive payment through accounts, leaving the majority of farmers dependent on cash that is not recorded in the formal financial system. A research by Maulinas et al. (2024) on education quality management also indirectly highlighted that the gap in digital infrastructure between regions impacts the quality of services, including digital financial services. Regions with limited internet access are automatically unable to fully utilize the digital payment ecosystem.

3.3 Policy Implications: Towards an Inclusive and Equitable Digital Payment Ecosystem

The above findings have important implications, both academically and practically. Academically, the results of This research emphasize that research on a cashless society should not stop at measuring the level of technology adoption. Indicators such as the number of users or transaction volume only tell a small part of the picture. Future research, as suggested by Tavakol and Sandars (2025) in their phenomenological approach, should focus more on users' subjective interpretations of digital transaction experiences, including their anxieties, concerns, and expectations regarding payment systems.

At the practical-policy level, there are three main agendas that require stakeholder attention. First, systematically strengthening digital financial literacy. Bank Indonesia (2023) has emphasized the importance of public education as a key pillar in developing the National Payment System. However, sporadic education is not sufficient. A structured digital financial literacy curriculum is needed, from elementary school to the general public, which not only teaches how to use applications but also an understanding of consumer rights, data protection, and complaint mechanisms when problems arise. Reda (2025), in his research of exploratory qualitative research methodology, emphasized the importance of a participatory approach in designing literacy programs to ensure they truly align with the needs and characteristics of the target group.

Second, strengthening cybersecurity and consumer protection. Research findings from the University of Surrey and the University of Birmingham (2025) identified security gaps in the contactless payment system, where the addition of various new features for convenience actually created new vulnerabilities that could be exploited by criminals. In one simulation, researchers successfully conducted a fraudulent transaction worth £25,000 by exploiting a weakness in an offline payment terminal. These findings underscore the urgency of continuously strengthening security systems, not just during initial launch. Bank Indonesia (2022) in its Payment System Policy has mandated security standardization for all payment service providers, but implementation in the field still requires stricter oversight.

Third, ensuring access to cash as a public right. Interestingly, amidst the rapid digitalization, various countries are moving in the opposite direction, protecting the public's right to use cash. Hungary amended its constitution in 2025 to make cash payments a fundamental right. Slovakia and Slovenia are also discussing similar protections. In the United States, eighteen states already have laws prohibiting merchants from refusing cash payments (Interledger Foundation, 2025). These policies are driven by the recognition that cash is a public good that ensures inclusion for vulnerable groups—the elderly, people with disabilities, and the unbanked—and serves as a backup when digital systems experience disruptions.

Kelly et al. (2024) in their article on secondary data analysis remind us that public policy must be based on comprehensive data, not only aggregate data but also disaggregated data capable of capturing the experiences of marginalized groups. A more appropriate approach is to create a hybrid payment ecosystem where digital and cash instruments can coexist. Digitalization should continue to be encouraged for efficiency and inclusion, but guaranteed access to cash must be maintained as a form of social protection and a safety net for the national financial system.

Thus, realizing a just and cashless society requires synergy between strengthening technological infrastructure, widespread public literacy, strong consumer protection, and adaptive regulations. Regulators, payment service providers, and educational institutions need to work together to ensure that no single group of people is left behind in this digital transition.

4. CONCLUSION

The digitalization of payment systems is fundamentally reshaping transaction patterns, but this research reveals that the transition to a cashless society is more complex than a simple shift from cash to digital. While digitalization has successfully expanded financial access—evidenced by 79% global account ownership and 162% growth in Indonesian QRIS transactions—this growth is accompanied by significant structural challenges.

Crucially, this study finds that Generation Z, often seen as the primary driver of a cashless future, exhibits a cautious attitude, with 51% reluctant to abandon cash due to privacy and cost concerns. This finding challenges the assumption that younger generations will automatically lead the demise of physical currency. Furthermore, the research identifies three critical gaps hindering an equitable transition: (1) a digital financial literacy gap that increases vulnerability to fraud; (2) a security gap where system vulnerabilities and consumer-borne fraud losses are rising; and (3) an access gap that continues to exclude sectors like agriculture from the formal digital economy..

Therefore, this research concludes that building an inclusive digital payment ecosystem requires more than just promoting technology adoption. A balanced, hybrid approach is essential—one that simultaneously strengthens digital literacy through structured education, enhances cybersecurity and consumer protection, and, importantly, guarantees access to cash as a public right for vulnerable groups and as a critical backup. The future of payments is not a binary choice between cash and digital, but a resilient coexistence of both. Future research should employ phenomenological methods to capture the subjective experiences of marginalized users and conduct longitudinal studies to track the evolution of these disparities over time.

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