

# Implementation of QIS (*Qasiimatun*) as A Secure Educational and Governance-based Cashless Transaction System in The Madrasah Environment

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**Abstract.** Technological advancements in education have encouraged madrasahs to adopt management systems that are safer, more organized, and educationally oriented. Previous studies on cashless systems in educational institutions have mainly focused on transaction efficiency and digital payment technology, while limited attention has been given to their role in institutional governance, character education, and environmental management at the primary madrasah level. At MI Al-Islamiyah, conventional cash-based canteen transactions created managerial challenges, including limited supervision of students' spending behavior, unhealthy food sales, and increasing plastic waste. Therefore, this study aims to describe the implementation of QIS as a cashless transaction system in supporting security, transparency, student character development, and canteen governance. This study employed a qualitative descriptive approach using observations, interviews, and documentation. The findings show that QIS improves transaction security and transparency, promotes discipline and financial awareness among students, and strengthens institutional supervision of student activities. In addition, QIS supports healthier and more environmentally friendly canteen management through the reduction of unhealthy packaged products and single-use plastic waste. These findings indicate that context-adaptive cashless systems can function not only as payment mechanisms but also as governance instruments that support environmental management and character education in madrasahs.

**Keywords:** Madrasah Management, QIS, Madrasah Canteen, Character Education, Cashless Transaction

**Abstrak.** Perkembangan teknologi dalam dunia pendidikan mendorong madrasah untuk mengadopsi sistem pengelolaan yang lebih aman, tertib, dan berorientasi edukatif. Penelitian mengenai sistem transaksi non-tunai di lembaga pendidikan umumnya berfokus pada efisiensi transaksi dan teknologi pembayaran digital, sementara kajian terkait perannya dalam tata kelola institusi, pendidikan karakter, dan pengelolaan lingkungan madrasah tingkat dasar masih terbatas. Di MI Al-Islamiyah, sistem transaksi tunai konvensional menimbulkan tantangan manajerial, seperti terbatasnya pengawasan perilaku konsumsi siswa, penjualan jajanan kurang sehat, dan meningkatnya sampah plastik. Oleh karena itu, penelitian ini bertujuan mendeskripsikan implementasi QIS sebagai sistem transaksi non-tunai dalam mendukung keamanan, transparansi, pembinaan karakter siswa, dan tata kelola kantin. Penelitian ini menggunakan pendekatan deskriptif kualitatif melalui observasi, wawancara, dan dokumentasi. Hasil penelitian menunjukkan bahwa QIS mampu meningkatkan keamanan dan transparansi transaksi, membentuk disiplin serta kesadaran finansial siswa, dan memperkuat pengawasan institusional terhadap aktivitas siswa. Selain itu, QIS mendukung pengelolaan kantin yang lebih sehat dan ramah lingkungan melalui pengurangan produk kemasan tidak sehat dan sampah plastik sekali pakai. Temuan ini menunjukkan bahwa sistem transaksi non-tunai yang adaptif terhadap konteks pendidikan dasar tidak hanya berfungsi sebagai mekanisme pembayaran, tetapi juga sebagai instrumen tata kelola yang mendukung pengelolaan lingkungan dan pendidikan karakter di madrasah.

**Kata kunci:** Manajemen Madrasah, QIS, Kantin Madrasah, Pendidikan Karakter, Transaksi Non-Tunai

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## INTRODUCTION

A conducive madrasah environment is a fundamental component in supporting effective learning processes and improving the quality of Islamic education. Environmental management in madrasahs involves not only physical aspects such as cleanliness, safety, and comfort, but also the regulation of systems that shape students' behavior, discipline, and financial awareness. Effective environmental management requires systematic planning, implementation, monitoring, and evaluation conducted by madrasah administrators to ensure the achievement of educational goals (Mulyasa, 2022).

In recent years, the digitalization of management systems has become an important strategy for improving efficiency, transparency, and accountability in educational institutions, including Islamic elementary schools or madrasahs ibtidaiyah (MI). Unlike general elementary schools, MI possess unique characteristics because they integrate academic learning with Islamic character education, moral supervision, and daily behavioral guidance rooted in religious values. Consequently, financial management in MI is not solely administrative in nature, but also functions as part of educational governance that shapes students' discipline, responsibility, and consumption behavior from an early age. The urgency of digitalizing financial management in MI has increased due to challenges in supervising students' spending activities, maintaining transaction security, regulating healthy consumption habits, and creating orderly school environments. Information-based management systems therefore become important instruments not only for transaction efficiency, but also for strengthening institutional supervision and supporting educational values aligned with Islamic principles (Gumilang and Purnama, 2024).

One of the challenges in managing the madrasah environment, particularly at the elementary level, is regulating students' non-academic activities, including transaction practices in the canteen. Before the implementation of QIS at MI Al-Islamiyah, canteen transactions were conducted entirely using cash, making it difficult for the madrasah to supervise students' spending behavior and regulate the types of food and beverages sold within the school environment. Preliminary observations indicated that many students frequently purchased instant packaged snacks and drinks, while plastic waste from food packaging was often found scattered around the madrasah area after break time. In addition, students occasionally lost money during school activities, and canteen transactions were often difficult to monitor due to the direct circulation of cash among students. Conventional cash-based transaction systems are also associated with limited transparency, higher risks of money misuse, and the emergence of consumptive behavior among children (Marsakha, 2021). These conditions demonstrate the need for an innovative management system that not only improves operational supervision and transaction control but also functions as an educational instrument in shaping students' discipline, responsibility, and healthy consumption habits.

Along with the growing adoption of the cashless society concept, non-cash transaction systems have increasingly been implemented across various sectors, including education. Recent studies have shown that cashless payment systems such as QRIS, RFID, and NFC contribute to transaction efficiency, financial transparency, and user convenience in educational environments and among student communities (Widhyaestoeti *et al.*, 2023; Alfiyana *et al.*, 2025). Research on QRIS adoption among students also highlights the influence of financial literacy, perceived ease of use, and digital habits in shaping cashless transaction behavior in the era of digital education (Sudartana & Nurmalasari, 2026; Dewi *et al.*, 2025). In addition, RFID-based school payment systems have been found to improve operational order and reduce transaction delays in school canteens (Widhyaestoeti *et al.*, 2023).

However, previous studies have generally focused on digital payment adoption, technology acceptance, and transaction efficiency, particularly in secondary schools, universities, and commercial sectors. Limited attention has been given to how cashless systems function as

instruments of institutional governance, environmental management, and character education within Islamic elementary schools or madrasahs. Unlike digital systems that depend on smartphones, internet connectivity, and digital infrastructure, this study examines QIS as a context-adaptive token-based cashless governance system designed specifically for primary-level madrasah students. In the context of Islamic education, QIS is not merely intended to facilitate transactions, but also to strengthen institutional supervision, promote discipline and financial responsibility, regulate healthier consumption habits, and reduce plastic waste within the madrasah environment. Therefore, this study contributes a different perspective by positioning cashless systems as part of educational and environmental governance rather than solely as financial technology innovations.

MI Al-Islamiyah is one of the madrasahs that has implemented QIS as a cashless transaction system within the madrasah environment. Through this system, students exchange cash for special transaction instruments issued by the madrasah, allowing transaction activities to be conducted in a more structured, secure, and controlled manner. Beyond its technical function as a transaction tool, QIS serves as an instrument of madrasah environmental management that emphasizes safety, order, transparency, and educational value.

This study is important in providing an empirical description of how the implementation of QIS contributes to effective and sustainable madrasah environmental management. The findings are expected to serve as a reference for other madrasahs in developing technology-based management systems that are secure, educational, and suitable for the characteristics of primary-level students. Therefore, this study aims to describe the implementation of QIS not merely as a cashless transaction tool, but as a madrasah environmental management instrument that integrates security, order, supervision, and character education within daily student activities.

## METHOD

This study employed a qualitative research design utilizing a case study approach to examine the deployment of QIS as a cashless transaction system as an instrument of madrasah environmental governance, particularly in regulating canteen-based student activities at MI Al-Islamiyah. A qualitative case study was chosen since it facilitates a comprehensive knowledge of managerial policy implementation, institutional practices, and user experiences within an authentic educational setting (Creswell and Creswell, 2022). The study examined the contributions of QIS to safety, practicality, discipline, frugality, canteen order, and transparency, as highlighted in the program's institutional narrative and implementation techniques.

The research was carried out at MI Al-Islamiyah, an elementary madrasa that has implemented QIS as a compulsory non-cash transaction system in its canteen. The QIS is executed using real color-coded coins crafted from thick mica paper, with grey tokens denoting IDR 1,000, pink tokens denoting IDR 2,000, and green tokens denoting IDR 5,000. Students provide cash to madrasah financial staff before acquiring things from the cafeteria, and transactions are finalized by presenting the tokens to the canteen operator. This framework embodies a streamlined cashless governance approach that prioritizes standardization and preventive oversight, rendering it especially appropriate for primary-level students and facilitating institutional regulation of student activities.

Participants were chosen using purposive sampling, as qualitative research necessitates informants with direct engagement and pertinent expertise regarding the topic being examined (Creswell and Creswell, 2022). A total of nine informants participated in this study, consisting of the principal, one member of the madrasah Adiwiyata team, one canteen operator, and six students representing lower and upper grade levels. The inclusion of students from different grade levels was intended to capture variations in understanding, transaction behavior, discipline, and responses toward of the QIS system (Yin, 2017).

Data were gathered via semi-structured interviews, non-participant observation, and document analysis. Observations were conducted for approximately four weeks during daily break-time activities in the madrasah canteen environment to observe transaction patterns, student behavior, the process of exchanging cash into QIS tokens through the madrasah financial staff, token usage in canteen transactions, and the implementation outcomes of the QIS system. Interviews with the principal focused on the objectives and institutional supervision of the QIS implementation. Interviews with the madrasah Adiwiyata team explored canteen monitoring, healthy food management, and plastic waste reduction efforts, while interviews with the canteen operator examined operational transaction processes and changes in canteen management after the implementation of QIS. Meanwhile, interviews with students focused on transaction experiences, safety, discipline, spending awareness, and perceptions regarding canteen cleanliness and order. The documentation analysis encompassed images of QIS token instruments, advertising posters urging student participation in QIS, and official school social media communications outlining program goals and protocols. Documentary evidence provided institutional validation of program socialization and facilitated triangulation among data sources (Miles et al., 2014).

The data analysis included an interactive qualitative framework comprising data condensation, data display, and conclusion drawing/verification (Miles, Huberman and Saldana, 2014). Interview recordings were transcribed and systematically coded to discern patterns and themes pertaining to the governance mechanism of QIS, QIS as an environmental control strategy (safety, order, transparency), compliance culture through obligatory implementation, and educational implications such as discipline and frugality. Coding was conducted manually by categorizing interview transcripts, observation results, and documentation findings into thematic groups related to governance, transaction security, discipline, supervision, environmental management, and student behavioral responses. The coding process was performed continuously across data sources to enhance analytical rigor and ensure consistent interpretation (Saldana, 2021). Credibility was bolstered through triangulation of interviews, observations, and documentation, along with member checking with the principal to validate important conclusions and mitigate misinterpretation. Ethical protocols encompassed alerting participants of the study's aims, ensuring confidentiality, and safeguarding student identities through anonymization in all reporting.

## RESULTS AND DISCUSSION

### Results

The results indicate that QIS (Qasiimatun / قَسِيمَةٌ), which means “coupon” or “voucher,” functions as a physical token-based cashless transaction system at MI Al-Islamiyah. Before the implementation of QIS, the madrasah canteen still operated using direct cash transactions, making it difficult for the institution to control the types of food and beverages sold in the canteen. Many vendors sold unhealthy instant packaged foods and drinks, and plastic waste from food packaging was frequently scattered around the madrasah environment. Figure 1 illustrates that QIS tokens are standardized by color-coded denominations: grey tokens represent IDR 1,000, pink tokens indicate IDR 2,000, and green tokens identify IDR 5,000. The tokens lack numerical values; rather, students recognize denominations solely by color, enhancing usability for primary-level learners and facilitating more efficient transactions in a high-frequency canteen setting (Ary et al., 2023).

**Table 1.** QIS Token Denominations

No.	Token Color	Nominal Value	Function
1.	Grey	IDR 1,000	Small transactions
2.	Pink	IDR 2,000	Medium transactions
3.	Green	IDR 5,000	Large transactions

From a security perspective, the QIS mechanism minimizes risks commonly associated with cash-based transactions, such as money loss, theft, and uncontrolled spending. By centralizing transaction procedures through the madrasah system and limiting transaction instruments to standardized tokens, the implementation of QIS strengthens institutional supervision and creates a more orderly transaction environment within the madrasah.



**Figure 1.** QIS physical tokens used at MI Al- Islamiyah

The QIS program is framed as a governance initiative designed to enhance safety, practicality, discipline, frugality, canteen order, and transparency, suggesting its integration into a formal madrasah policy framework rather than being regarded as an optional payment method. This institutional framing is bolstered by systematic socialization materials, indicating that QIS is integrated into daily organizational routines and policy implementation rather than being a transient invention. This perspective aligns with governance-focused methodologies in non-cash systems, wherein payment mechanisms are embedded inside organizational discipline and service management, rather than operating exclusively as transactional instruments (Muninggar *et al.*, 2024).

Operationally, QIS applies a structured exchange mechanism in which students first exchange cash into QIS tokens through the madrasah financial staff before conducting transactions in the canteen. As shown in Figure 2, this exchange mechanism serves as the main control point prior to canteen transactions, allowing the madrasah to supervise transaction circulation more effectively (Assyifa *et al.*, 2025).



**Figure 2.** Madrasah financial staff facilitated token exchange procedure in QIS implementation

The monitoring process of canteen management is conducted by the madrasah Adiwiyata team appointed by the institution. Weekly monitoring activities are carried out to evaluate whether food and beverages sold in the canteen are healthy, safe, and suitable for student consumption. Foods containing harmful preservatives, artificial coloring, flavor enhancers, and dangerous additives are not permitted to be sold within the canteen environment. In terms of reporting and financial supervision, the madrasah financial staff are responsible for calculating the circulation of QIS tokens at the end of each day. The staff manage the financial flow involving the exchange of QIS tokens into rupiah for canteen operator and the conversion of students' cash into QIS tokens. This system contributes to institutional transparency and strengthens financial supervision within the canteen management process.

Transactions in the canteen are completed through token transfers to canteen operator, creating a more standardized transaction process and minimizing complications associated with direct cash handling, such as counting money and providing change. Standardized transaction instruments contribute to improved transaction efficiency and better operational order within the canteen environment (Kristanti & Setyadi, 2021). Comparable results have been observed in RFID-based school canteen systems, where the implementation of structured payment methods enhances service efficiency and maintains operational organization (Ary *et al.*, 2023).

Observational findings reveal that QIS is integrated into students' break-time consuming habits and affects purchase behaviors in the canteen setting (Z and Kharisma, 2024). Students were observed conducting transactions using QIS tokens and consuming purchased snacks in an orderly manner, indicating the emergence of structured transaction habits within the madrasah environment. As shown in Figure 3, students actively participate in canteen transactions under the QIS system, demonstrating the practical implementation of standardized transaction procedures in daily school activities (Kristanti and Setyadi, 2021).



**Figure 3.** Students holding snacks during break time

Student responses also indicate positive perceptions toward the implementation of QIS. Lower-grade students stated that the color-coded tokens were easier to recognize and safer to use compared to carrying cash directly during break-time activities. Meanwhile, upper-grade students perceived that QIS encouraged more disciplined spending behavior and increased awareness in managing their purchases responsibly. In addition to improving transaction order and supervision (Muninggar et al., 2024), the findings indicate that QIS implementation also supports the madrasah's broader effort to strengthen canteen governance, particularly regarding healthier snack management and plastic waste reduction. After the implementation of QIS, the canteen gradually replaced instant packaged foods with healthier food options such as lontong sayur, fried rice, chicken rice, various fried snacks, and skewered foods including quail egg satay and nuggets. Beverage services were also adjusted by reducing the use of single-use plastic packaging and replacing them with reusable drinking containers such as glasses for iced tea, milk drinks, and fruit ice.

These changes contributed to a significant reduction in plastic waste within the canteen environment. The findings suggest that the implementation of QIS does not only regulate transactions but also supports environmental management and healthier consumption practices within the madrasah setting. Such findings are consistent with national guidelines on healthy school canteens, which highlight the school's responsibility in ensuring food safety, hygiene practices, and health-oriented student routines through organized canteen management (Pendidikan, 2025). Moreover, research on healthy canteen management emphasizes that school leadership and governance shape the consistency of supervision and policy enforcement in maintaining canteen quality and students' consumption patterns (Kadaryati et al., 2023).

## Discussion

Unlike fully digital cashless systems such as QRIS, RFID, or NFC, QIS represents a context-adaptive cashless governance model tailored to the cognitive and behavioral characteristics of primary-level madrasah students. Its physical token-based design ensures accessibility, reduces technological dependency, and reinforces institutional supervision. By minimizing the need for personal digital devices and centralized digital infrastructure, QIS enables a controlled transaction environment that prioritizes safety, simplicity, and institutional oversight. In this regard, QIS aligns security and educational objectives within the madrasah environment, positioning transaction

management as part of daily environmental governance rather than merely a technical payment solution (Ary et al., 2023; Muninggar et al., 2024).

QIS can be understood as a governance-oriented cashless innovation that enhances order and transaction regulation through standards, rather than depending on sophisticated digital infrastructure. Standardized payment systems have been consistently associated with operational efficiency and diminished transaction friction in canteen settings, as evidenced by RFID-based school canteen payment apps (Widhyaestoeti et al., 2023). Comparable findings are corroborated by RFID card systems that maintain user balances and facilitate payments at service locations (Ary et al., 2023). Data from an NFC-based e-canteen system indicates that cashless methods can enhance transaction efficiency and minimize delays during high-demand purchase periods (Z and Kharisma, 2024). Consequently, QIS aligns with the overarching notion that transaction design can influence service order and procedural efficiency within educational environments (Pinandito and Brilliansyach, 2024).

Madrasah control over the canteen in ensuring the provision of healthier products and reducing single-use plastic waste is a critical dimension of educational environmental management, as the canteen functions not only as a service unit but also as a space where students develop daily consumption habits. National healthy canteen guidance emphasizes that school leadership and management play central roles in regulating food safety, hygiene standards, and environmentally conscious routines as part of educational health governance (Pendidikan, 2025). Studies on healthy canteen management similarly highlight that school governance determines the consistency of supervision, policy enforcement, and monitoring mechanisms that regulate canteen quality and shape students' consumption patterns (Kadaryati et al., 2023). In addition, research on single-use plastic restriction policies indicates that school regulations can influence students' behavior by encouraging more responsible consumption practices and reducing plastic waste within school environments (Nazirah and Mustika, 2024). Therefore, QIS may be positioned not only as a cashless transaction mechanism but also as a supporting instrument for madrasah canteen governance by reinforcing order, strengthening supervision, and supporting institutional commitments toward healthier snacks and reduced plastic waste (Pendidikan, 2025).

Beyond transaction efficiency, QIS functions as an educational medium that cultivates students' financial discipline, responsibility, and frugality. The requirement for students to exchange cash through teachers before engaging in canteen transactions encourages planned spending, limits impulsive consumption, and familiarizes students with controlled financial decision-making. This practice reflects the principles of character education in Islamic schooling, where routine activities are intentionally structured as learning spaces for moral development, self-control, and accountability. Consequently, QIS transcends its role as a transactional mechanism and becomes an integral component of educational practice embedded within the madrasah environment (Mulyasa, 2022; Marsakha, 2021).

From a managerial standpoint, QIS enhances institutional oversight by designating instructors as the principal gatekeepers of transactional value prior to canteen transactions. A comparable governance model is observed in the cashless canteen systems of pesantren, wherein institutional players regulate the payment process to enhance efficiency and transparency (Assyifa et al., 2025). This teacher-mediated transaction parallels regulated entry-point models outlined in QRIS governance literature, highlighting that organized payment paths enhance accountability and operational oversight (Muninggar et al., 2024). In campus canteen settings, the adoption of QRIS significantly impacts purchasing decisions, as users regard digital payments as both practical and secure. This suggests that cashless systems influence behavioral routines as much as they affect transaction methods (Sava et al., 2024). Therefore, the QIS mechanism functions as a procedural governance technique that integrates oversight into everyday purchasing activities (Assyifa et al., 2025).

The QIS approach is pertinent to the discussion on school canteen management as it fosters a more organized and possibly safer consumption environment. Studies on effective cafeteria governance highlight that the preparedness of school administration and the establishment of operational regulations are essential components in developing safer and more organized canteen services (Kadaryati et al., 2023). Research on school canteen management indicates that institutional procedures might influence student behavior and promote healthy and orderly consuming behaviors (Fathurrahman et al., 2024). Moreover, evidence from the implementation of healthy canteens at the primary level demonstrates that organized school canteen programs enhance food safety procedures and improve service regulation (Dewi and Komalasari, 2023). Therefore, QIS enhances overarching canteen governance objectives by modulating student purchase behavior via systematic protocols.

Finally, QIS might be seen as a contextually relevant substitute for comprehensive digital QRIS implementation, especially for primary-level students. Research in university canteen settings indicates that the acceptability of QRIS is affected by convenience and the establishment of habits, suggesting that payment systems achieve sustainability when they conform to user routines (Nirwasita et al., 2024). A recent systematic literature review on QRIS perception indicates that convenience, perceived utility, and security are predominant themes influencing adoption results across various contexts (Pangestika et al., 2025). These findings suggest that QIS can be viewed as a transitional governance model, providing the essential advantages of cashless governance standardization, regulated circulation, and consistent discipline while remaining pedagogically accessible for younger students.

Despite its positive impacts, several operational challenges were also identified during the implementation process. One of the main challenges involves maintaining accuracy and supervision in the manual counting and circulation of QIS tokens. Therefore, stronger control and more careful financial supervision are still required to ensure consistency and accountability in the implementation of the QIS system. Furthermore, the reliance on manual token circulation and counting procedures requires additional administrative attention from teachers and financial staff, particularly in maintaining transaction accuracy and daily financial reconciliation. Therefore, institutional support through standardized operational procedures, periodic supervision, and the gradual adoption of simple digital recording mechanisms is necessary to improve efficiency, minimize human error, and sustain accountability in the long-term implementation of QIS.

## CONCLUSION

This study concludes the implementation of QIS at MI Al-Islamiyah has changed the paradigm of canteen management from a conventional cash-based transaction system into a more organized, supervised, and educational governance system. Before QIS was implemented, the madrasah had difficulty controlling the types of food and beverages sold in the canteen, resulting in the widespread sale of instant packaged foods and the accumulation of plastic waste around the school environment. After the implementation of QIS, the madrasah was able to supervise transactions, regulate canteen management, and encourage healthier consumption habits more effectively. The system also supported the reduction of single-use plastic waste and helped students become more disciplined and orderly in conducting daily transactions. Although challenges still exist, particularly in the manual calculation and supervision of token circulation, the findings indicate that QIS functions not only as a cashless transaction mechanism but also as a governance instrument that supports managerial control, environmental awareness, and educational values within the madrasah environment. This study is limited to a single case study conducted in one madrasah environment; therefore, further research involving multiple institutions and broader comparative analysis is recommended to strengthen the generalizability of the findings.

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