

# Strategies, Obstacles, and Perceptions of MSMEs in Bandar Masilam, Simalungun Regency in Implementing QRIS as a Digital Payment Tool

Intan Juwita Damanik<sup>1\*</sup>, Rahmi Syahriza<sup>2</sup>, Tuti Anggraini<sup>3</sup>

<sup>123</sup>Universitas Islam Negeri Sumatra Utara, Indonesia

\*Correspondence Email: [intanjuwita540@gmail.com](mailto:intanjuwita540@gmail.com)

## ABSTRACT

The development of financial technology has encouraged the use of the Quick Response Code Indonesian Standard (QRIS) as a digital payment system to improve transaction efficiency and support digital economic growth. However, the implementation of QRIS in Micro, Small, and Medium Enterprises (MSMEs) in rural areas still faces various obstacles. This research is motivated by the still low use of QRIS among MSMEs in Bandar Masilam District, Simalungun Regency. Previous research generally discusses strategies, obstacles, or perceptions separately, thus not providing a comprehensive picture of QRIS implementation. This study aims to analyze the strategies, obstacles, and perceptions of MSMEs regarding the implementation of QRIS as a digital payment tool. The method used is qualitative research with a descriptive approach. Informants were selected using a purposive sampling technique based on the principle of data saturation. Data were collected through interviews, observation, and documentation, then analyzed qualitatively. The results show that QRIS use is still uneven. The strategy implemented by MSMEs is still simple, providing QR codes as an alternative payment. The main obstacles include limited internet network, delays in balance disbursement, and low digital literacy among the community. MSMEs have a positive perception of QRIS because it is considered practical and efficient. Increasing digital literacy, outreach, and infrastructure support are needed to optimize the use of QRIS.

**Keywords:** QRIS, MSME, Strategy, Obstacles, Perception

## ABSTRAK

Perkembangan teknologi keuangan mendorong penggunaan Quick Response Code Indonesian Standard (QRIS) sebagai sistem pembayaran digital untuk meningkatkan efisiensi transaksi dan mendukung pertumbuhan ekonomi digital. Namun, implementasi QRIS pada Usaha Mikro, Kecil, dan Menengah (UMKM) di wilayah pedesaan masih menghadapi berbagai kendala. Penelitian ini dilatarbelakangi oleh masih rendahnya penggunaan QRIS pada UMKM di Kecamatan Bandar Masilam, Kabupaten Simalungun. Penelitian terdahulu umumnya membahas strategi, hambatan, atau persepsi secara terpisah sehingga belum memberikan gambaran yang menyeluruh mengenai implementasi QRIS. Penelitian ini bertujuan untuk menganalisis strategi, hambatan, dan persepsi UMKM terhadap implementasi QRIS sebagai alat pembayaran digital. Metode yang digunakan adalah penelitian kualitatif dengan pendekatan deskriptif. Informan dipilih menggunakan teknik purposive sampling berdasarkan prinsip saturasi data. Data

dikumpulkan melalui wawancara, observasi, dan dokumentasi, kemudian dianalisis secara kualitatif. Hasil penelitian menunjukkan bahwa penggunaan QRIS masih belum merata. Strategi yang dilakukan UMKM masih sederhana dengan menyediakan kode QR sebagai alternatif pembayaran. Hambatan utama meliputi keterbatasan jaringan internet, keterlambatan pencairan saldo, dan rendahnya literasi digital masyarakat. UMKM memiliki persepsi positif terhadap QRIS karena dianggap praktis dan efisien. Peningkatan literasi digital, sosialisasi, dan dukungan infrastruktur diperlukan untuk mengoptimalkan penggunaan QRIS.

**Kata Kunci:** QRIS, UMKM, Strategi, Hambatan, Persepsi

## INTRODUCTION

The strategies, obstacles, and perceptions of MSMEs in Bandar Masilam, Simalungun Regency, regarding the implementation of the Quick Response Code Indonesian Standard (QRIS) as a digital payment tool are important topics to study along with the development of financial technology in Indonesia. The Quick Response Code Indonesian Standard (QRIS) is a digital payment system innovation launched by Bank Indonesia in collaboration with the Indonesian Payment System Association to unify various QR code-based payment methods into one national standard (Zainarti, 2025). The development of digital technology is not only utilized by the public for communication and entertainment needs through applications such as TikTok and Facebook, but is also starting to be used in economic activities through the implementation of digital payment systems such as QRIS.

The development of financial technology is driving the implementation of cashless transactions, which are expected to increase transaction efficiency, expand financial inclusion, and support the growth of the digital economy, including in the Micro, Small, and Medium Enterprises (MSMEs) sector (Anggraini et al., 2026). As a crucial sector in the Indonesian economy, MSMEs are required to adapt to technological developments to remain competitive and meet increasingly diverse consumer needs.

The economy of Bandar Masilam District is dominated by MSMEs, such as grocery stores, minimarkets, and restaurants, with the majority of transactions still conducted in cash. This reliance on cash transactions is influenced by community habits, limited technological understanding, and low digital literacy. However, in recent years, the use of digital payment technology has begun to grow in the region. Several businesses have expanded from simple kiosks to minimarkets with their own brands, such as Pasar Wahyu, Pasar Berkah, and Pasar Dewi, which have begun implementing digital payment systems using QRIS (Februari et al., 2024).

According to data from the Central Statistics Agency (BPS), in 2024, there were six registered MSMEs in Bandar Masilam District, consisting of four minimarkets, one restaurant, and one market without a permanent building (Simalungun, 2024). In 2025, this number increased to ten MSMEs, consisting of five markets and five minimarkets/supermarkets. Furthermore, researchers' observations found at least sixteen MSMEs that had used QRIS but were not yet recorded in official BPS data (Simalungun b.p., 2025).

Although the number of MSMEs using QRIS has increased, its implementation in Bandar Masilam District remains suboptimal. Most business transactions are still conducted in cash, and not all MSMEs utilize QRIS as their primary payment method. This low QRIS usage is influenced by various obstacles, such as limited internet access, delays in balance withdrawals, low digital literacy, and consumer preferences for cash

payments. This situation indicates a gap between the government's ongoing push for digitalization of payment systems and the level of QRIS utilization among MSMEs in rural areas (Februari, 2024a).

(Najiyah, 2025) research explains that QRIS implementation in rural areas still faces various challenges due to the still quite large gap in QRIS usage between urban and rural areas. Meanwhile, (Sebayang, 2023) discusses perceptions of trust and security in QRIS usage, which shows that consumer trust in digital payment systems remains varied. (Firdaus, 2025) in his research on MSME strategies in encouraging people to use QRIS in Bogor City found that ease of use, transaction security, and digital payment trends are the main factors in QRIS adoption.

(Putri, 2022) explains that QRIS-based fintech provides convenience, flexibility and transparency in financial transactions. (Elisa & Zulinda, 2025) identified the experience of MSME customers in using QRIS with a focus on aspects of comfort, security, efficiency and user satisfaction. Apart from that, (Mughtar et al., 2024) explains the development of QRIS which has been connected to various countries and shows the great potential of digital payment systems in supporting economic efficiency.

Based on various previous studies, it can be seen that research on QRIS has been conducted extensively from various perspectives, such as adoption rate, transaction security, user experience, and QRIS usage strategies. However, most studies still focus on urban areas with relatively high levels of technology utilization. Furthermore, previous studies generally only discuss one specific aspect separately, namely QRIS usage strategies, implementation barriers, and user perceptions. Research that simultaneously examines implementation strategies, usage barriers, and MSMEs' perceptions of QRIS in a single study, particularly in rural areas such as Bandar Masilam District, is still very limited. Therefore, this study has novelty by integrating these three aspects to obtain a more comprehensive picture of QRIS implementation among MSMEs in Bandar Masilam District.

In general, a strategy is a plan or pattern of actions designed to achieve specific goals within an organization or business. In the context of MSMEs, strategy relates to business actors' efforts to optimize their resources to face competition and technological change. (Khotima et al., 2026) concluded that the implementation of QRIS as a digital payment strategy for MSMEs in Batah Barat Village has not been optimal due to low digital literacy and the community's high dependence on cash transactions.

Barriers are anything that can hinder or delay the achievement of goals, whether originating from internal or external factors. (Abdilah, 2024) explains that limited internet access and low technological understanding are the main obstacles to QRIS utilization in rural areas.

Perception is the process by which individuals receive, organize, and interpret information to form a specific understanding. According to (Februari, 2024b), some MSMEs consider QRIS to simplify transactions and increase business efficiency. (Rahman, 2025) also explained that QRIS is perceived as a practical, safe, and hygienic payment method that simplifies transactions because it only requires a single QR code for various digital payment applications.

The development of digital payment systems is also supported by the development of financial technology (fintech). Fintech enables faster, safer, and automatically documented transactions, thus supporting the financial management of MSMEs (Nur et al., 2025). (Aisyah, 2023) stated that the use of digital payments can help MSMEs save time, energy, and costs in running their businesses. In fact, the implementation of QRIS has been mandatory in the national digital payment system since

January 1, 2020 (Annisa et al., 2024). Meanwhile, (Sari, 2024) found that the implementation of QRIS in traditional markets is still suboptimal because most buyers prefer cash payments and are not yet familiar with QRIS usage. QR code-based digital payment systems also play a crucial role in promoting financial inclusion in underserved communities (Choirinnida & Utari, 2025).

Based on the background description, this study focuses on analyzing the strategies of MSMEs in implementing QRIS as a digital payment tool, identifying various obstacles faced in its use, and understanding the perceptions of MSMEs towards QRIS implementation in Bandar Masilam District, Simalungun Regency. Thus, this study aims to provide a comprehensive overview of QRIS implementation in MSMEs through a study of the strategies implemented, obstacles faced, and business actors' perceptions towards the use of this digital payment system.

## METHODS

This study employed a qualitative method with a descriptive approach. This approach was chosen because the study aimed to gain a deeper understanding of the implementation of the Quick Response Code Indonesian Standard (QRIS) among MSMEs in Bandar Masilam District, Simalungun Regency, specifically regarding implementation strategies, obstacles encountered, and MSMEs' perceptions of QRIS use as a digital payment tool. Through a qualitative approach, researchers were able to gain a more comprehensive understanding of the experiences and perspectives of informants based on conditions on the ground.

The research was conducted in Bandar Masilam District, Simalungun Regency, during the month of Ramadan. The data used in this study were primary data obtained directly from informants involved in the use and utilization of QRIS in their business activities.

Informants were selected using a purposive sampling technique, which involves the deliberate selection of informants based on specific criteria aligned with the research objectives. The informants included MSMEs that had used QRIS and those that had not, thus providing diverse information regarding the implementation of digital payments in the study area. The number of informants was determined based on the principle of data saturation, which means data collection was carried out until the information obtained was deemed sufficient and no significant new information was found.

Data collection techniques were conducted through in-depth interviews, observation, and documentation. In-depth interviews were used to obtain information on the experiences, strategies, obstacles, and perceptions of MSMEs in using QRIS. Observations were conducted to directly observe the condition of MSMEs and the use of QRIS in transaction activities. Meanwhile, documentation was used to supplement and strengthen the data obtained from the interviews and observations.

Data analysis was conducted qualitatively through the stages of data reduction, data presentation, and drawing conclusions. This analysis aimed to generate a deep understanding of the phenomenon under study, not to generalize to the wider population. Thus, this study is expected to provide a comprehensive picture of QRIS implementation among MSMEs in Bandar Masilam District (Rahmani, 2022).

## RESULTS AND DISCUSSION

In Bandar Masilam District, Simalungun Regency, there are 10 villages, the names of which are: Bandar Masilam, Bandar Masilam II, Bandar Rejo, Bandar Silou, Bandar Tinggi, Gunung Serawan, Lias Baru, Panombean Baru, and Partimbalan.

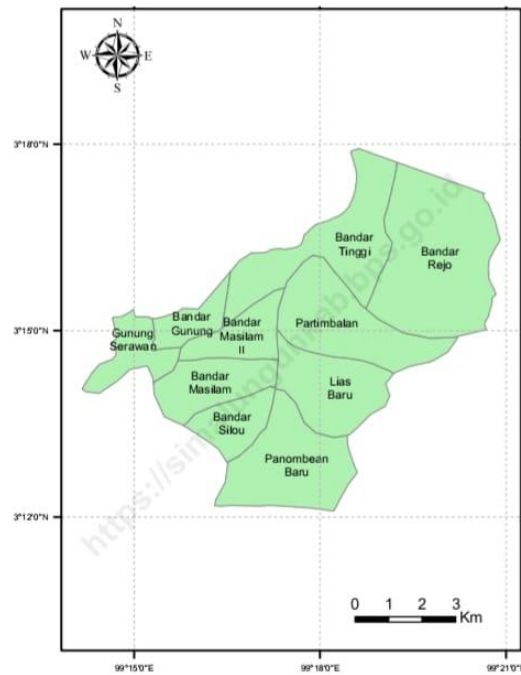


Figure 1. Map of the Bandar Masilam sub-district area  
Source: BPS Simalungun Regency 2025

MSMEs in Bandar Masilam are still too new in using QRIS as a digital payment implementation. Of the 10 villages in Bandar Masilam sub-district, not all MSMEs use QRIS in their businesses, only 6 villages use QRIS. The 6 villages are: Bandar Masilam I Village, Bandar Masilam II Village, Bandar Silou Village, Penambean Baru Village, Partimbalan Village, and Bandar Tinggi Village. The remaining 4 villages do not use QRIS, namely: Bandar Gunung Village, Bandar Gunung Serawan Village, Bandar Rejo Village, and finally Lias Baru Village. In addition to their lack of literacy regarding QRIS, MSMEs also adapt to the conditions of the surrounding community. For example, some villages have not used or implemented QRIS as a digital payment tool for their businesses. Interviews with MSMEs in Bandar Masilam District, Simalungun Regency, revealed that QRIS adoption as a digital payment tool is still relatively new and uneven across all villages. Of the ten villages studied, only a few have implemented QRIS in their business activities, while others still rely entirely on cash transactions.

In villages that have adopted QRIS, such as Bandar Masilam I, Bandar Masilam II, Penambean Baru, Partimbalan, Bandar Silou, and Bandar Tinggi, MSMEs generally understand QRIS as a digital payment tool that uses a QRIS code and can be accessed via mobile phones. This understanding indicates that MSMEs have begun to become familiar with cashless payment systems, although the level of understanding varies.

**Table 1. MSMEs using QRIS**

| No. | Village Name      | Information   | MSMEs that use QRIS |         |
|-----|-------------------|---------------|---------------------|---------|
|     |                   |               | Not yet             | Already |
| 1   | Bandar Gunung     | Not Yet Using | ± 30                | -       |
| 2   | Bandar Masilam I  | Already Using | ± 54                | 2       |
| 3   | Bandar Masilam II | Already Using | ± 85                | 8       |
| 4   | Gunung Serawan    | Not Yet Using | ± 15                | -       |
| 5   | Bandar Silou      | Already Using | ± 43                | 1       |

|    |                |               |          |   |
|----|----------------|---------------|----------|---|
| 6  | Penambean Baru | Already Using | $\pm 32$ | 3 |
| 7  | Lias Baru      | Not Yet Using | $\pm 10$ | - |
| 8  | Partimbalan    | Already Using | $\pm 27$ | 1 |
| 9  | Bandar Redjo   | Not Yet Using | $\pm 20$ | - |
| 10 | Bandar Tinggi  | Already Using | $\pm 35$ | 5 |

The main reasons why MSMEs use QRIS are to keep up with technological developments and meet customer demand. Several business owners stated that using QRIS makes transactions easier because it's more practical, faster, and eliminates the need for change. Furthermore, QRIS is also considered to attract customers, especially among young people who are accustomed to using digital payments.

In terms of benefits, most MSMEs feel that QRIS simplifies the transaction process and helps improve business efficiency. Transactions are faster and recorded automatically, making financial management easier.

However, various obstacles remain in its implementation. The most common obstacle is delays in the balance being credited to accounts, which can take several hours or even until the next day. Furthermore, unstable internet connections are also a major obstacle, especially in areas where many customers are still unfamiliar with QRIS and prefer to use cash.

In addition to these obstacles, there are also villages that have not yet used QRIS, such as Bandar Gunung, Bandar Rejo, Gunung Serawan, and Lias Baru. This is due to the public's lack of knowledge about QRIS and the economic conditions that are still dominated by cash transactions.

The research results indicate that QRIS implementation among MSMEs in Bandar Masilam sub-district is still in its early stages and is uneven. This aligns with the theory that digital technology adoption in rural areas tends to be slower than in urban areas, primarily due to limited infrastructure and low digital literacy.

Strategically, MSMEs generally lack a specific, structured strategy to encourage QRIS adoption. The strategies employed are simple, such as providing QR codes in visible locations, providing Wi-Fi, and offering QRIS to customers. This indicates that the digitalization strategy is still passive and that QRIS implementation among MSMEs is not yet optimal.

Regarding obstacles, the research results show that the main obstacles lie in technical and non-technical factors. Technically, internet network issues and balance delays are the main obstacles affecting MSME trust in the QRIS system. Meanwhile, non-technically, low public understanding and the habit of using cash are inhibiting factors in QRIS adoption. This reinforces previous research findings that limited internet access and digital literacy are key obstacles to implementing digital payments in rural areas.

From a perceptual perspective, most MSMEs have a positive view of QRIS. They consider it a practical, easy-to-use payment method that can increase transaction efficiency. However, this positive perception has not yet translated into high adoption rates, as it is still influenced by environmental factors, such as the community's economic condition and level of technological literacy.

Overall, it can be concluded that QRIS implementation in Bandar Masilam District is influenced by three main factors: MSMEs' strategies, technical and non-technical barriers, and perceptions of QRIS ease of use. These three factors are interrelated and determine the success rate of QRIS adoption within the MSME environment.

Based on the research findings and supported by previous research, for comprehensive, effective, and sustainable QRIS implementation among MSMEs in Bandar

Masilam District, a strategy is needed that focuses not only on providing QR codes but also on the readiness of businesses, the community, and supporting infrastructure.

To improve digital literacy, MSMEs need to actively provide simple education to customers about how to use QRIS, the benefits of digital payments, and assist customers who are unfamiliar with cashless transactions. This strategy is crucial to addressing the public's lack of understanding of QRIS.

To strengthen digital infrastructure, MSMEs must ensure the availability of a stable internet network, choose a provider appropriate to the local conditions, and provide alternative networks such as business Wi-Fi to ensure consistent use of QRIS transactions.

To promote the habit of using QRIS, MSMEs can create digital payment habits by actively offering QRIS payments to customers, placing QR codes in highly visible locations, and encouraging customers to try digital transactions in their daily activities.

Adapting to local conditions: Because rural communities still tend to use cash transactions, QRIS implementation needs to be gradual, tailored to the economic conditions, habits, and readiness levels of each village.

Furthermore, to address delays in balance disbursement, MSMEs need to implement better business financial management, such as not relying entirely on QRIS balances for daily operational needs and understanding the disbursement policies of payment service providers. This way, technical obstacles will not significantly impact business activities.

Therefore, the success of QRIS implementation in MSMEs depends not only on the availability of technology but also on the ability of business actors to implement educational strategies, adapt to the technology, manage technical obstacles, and build public trust in the digital payment system.

## CONCLUSIONS

Based on the research results, it can be concluded that the use of QRIS by MSMEs in Bandar Masilam Regency is still relatively low and uneven. Of the ten villages studied, only a portion of MSMEs have used QRIS as a payment method. This indicates that the digital payment transformation in the region is still in its early stages.

The strategy employed by MSMEs in implementing QRIS remains simple: providing QR codes at business locations and adapting them to customer needs. Some businesses also provide internet access to support digital transactions. This strategy has not been optimally implemented due to MSMEs' limited understanding and digital literacy regarding the benefits and management of digital payments.

The main obstacles faced by MSMEs include limited internet access, delays in transaction balances being credited to accounts, and low public understanding of QRIS usage. The public's continued preference for cash is also a factor hindering the increase in digital payment usage in Bandar Masilam Regency.

MSME perceptions of QRIS are generally positive. Businesses consider QRIS a practical, easy-to-use payment method that can increase transaction efficiency. However, this positive perception has not yet been fully translated into increased QRIS usage due to various technical barriers and consumer transaction habits.

Based on these findings, it is recommended that local governments, banks, and digital payment service providers increase outreach and education about QRIS for MSMEs and the public. Improving the quality of internet networks and transaction services is also necessary to mitigate user challenges. MSMEs are expected to be more active in encouraging customers to use QRIS so that digital payment utilization can

expand further and support the advancement of the digital economy in Bandar Masilam Regency.

## ACKNOWLEDGMENTS

Only gratitude and best prayers that the researcher can convey to the parties who have been very helpful, prayed for and supported the researcher in the research and completion of this manuscript. especially to the most beloved family, namely both parents, brother and sister who have provided regular donations and the best prayers, to mother Rahmi Syahriza as a supervisor who is always patient in providing direction for this research, to friends and all parties who have provided support and who have participated in this research.

## REFERENCES

- Abdilah, A. I. (2024). Peran Kepercayaan, Kualitas Pelayanan, Kemudahan Dan Biaya Admin Dalam Meningkatkan Penggunaan Qris Di Kota Pekalongan. *UIN K.H. Abdurrahman Wahid Pekalongan*.
- Aisyah, S. (2023). Implementasi Teknologi Financial Dalam Qris Sebagai Sistem Pembayaran Digital Pada Sektor Umkm Di Kota Binjai. *Jurnal Pengabdian Kepada Masyarakat*, 3(1), 102–106.
- Anggraini, T., Adinda, A., Lestari, F., & Fitra, E. (2026). Edukasi dan Pelatihan Pemasaran Digital untuk Optimalisasi Hasil Penjualan Produk UMKM di Desa Bekiung. *Journal of Innovation and Sustainable Empowerment*, 5(1), 1–7. <https://doi.org/10.25134/jise.v5i1.184>
- Annisa, N. N., Irwanah, L., Rosa, N. I., Dibah, C., Adawiyah, A., Ranggika, R., Al, S., Karimah, B., Akuntansi, P., Nahdlatul, U., Indonesia, U., Tadris, P., Nahdlatul, U., & Indonesia, U. (2024). Implementasi Qris Metode Pembayaran Digital Pada Kualitas Peningkatan Umkm Di Masyarakat Desa Rancabungur. *Jurnal Pengabdian Kepada Masyarakat*, 2(1), 97–104. <https://doi.org/10.47776/praxis.v2i1.749>
- Choirinnida, I. T., & Utari, D. (2025). Digital Payment Adoption in Rural Area. *Jurnal Manajemen Bisnis*, 15(02), 73–85. <https://doi.org/10.22219/mb.v15i2.41923>
- Elisa, E., & Zulinda, N. (2025). QRIS: Solusi Pembayaran Digital di Bank Syariah Indonesia untuk UMKM. *Studia Economica : Jurnal Ekonomi Islam*, 11, 54–64.
- Februari, B. (2024a). Pengaruh Pelatihan Soft Skill, Pelatihan Hard Skill, dan Tingkat Pendidikan terhadap Kualitas Sumber Daya Manusia di UMKM TOMIMASE UIN Sumatera Utara. *Jurnal Ilmiah Ekonomi Dan Manajemen*, 2(6). <https://doi.org/10.61722/jiem.v2i6.1706>
- Februari, B. (2024b). Strategi Pemasaran PT Bank Syariah Indonesia KCP Cemara Asri dalam Menawarkan Produk Pembiayaan Pra Pensiun Guna Menarik Minat Nasabah. *Eksis: Jurnal Ilmiah Ekonomi Dan Bisnis*, 15(1), 54–61.
- Februari, B., Lathief, M., & Nasution, I. (2024). Communication Skill Analysis in Marketing of iB Hijrah Savings. *Jurnal Ekonomi Syariah Dan Bisnis Islam*, 11(1), 83–92.
- Khotima, H., Dewi, D. C., Anantha, S., Tjahja, D., Madura, U. T., Bangkalan, K., & Timur, J. (2026). Pengenalan qris sebagai strategi digitalisasi sistem pembayaran pada umkm desa batah barat. *Jurnal Media Akademik (JMA)*, 4(1).
- Muchtar, E. H., Trianto, B., Maulana, I., Nurul, M., Marasabessy, R. H., Hidayat, W., &

- Junaedi, E. (2024). Quick response code Indonesia standard ( QRIS ) E- payment adoption : customers perspective. *Cogent Business & Management*, 11(1). <https://doi.org/10.1080/23311975.2024.2316044>
- Najiyah, C. J. (2025). Kendala dan Strategi Penerapan Qris Pada Umkm : Warung Bakso Mas Timbul. *Jurnal Sains Student Research*, 3(5). <https://doi.org/10.61722/jssr.v3i5.5421>.
- Nur, R., Ridwan, M., & Syahriza, R. (2025). The Influence Of Marketing Strategy And The Use Of E-Commerce Technology On Improving Business Performance From A Sharia Perspective: A Case Study Culinary Industry (Umkm) In Medan City. *JHSS (Journal of Humanities and Social Studies)*, 09(03), 1739–1742.
- Putri, S. (2022). Peluang dan Tantangan Financial Technology (Fintech) dalam Sistem Pembayaran Berbasis QRIS Pada UMKM di Kecamatan Medan Kota. *Aghniya: Jurnal Ekonomi Islam*, 4(2).
- Rahman, M. A. (2025). Analisis persepsi pelanggan pada penggunaan qris sebagai alat transaksi umkm di kota probolinggo. *Jurnal Tabarru' : Islamic Banking and Finance*, 8.
- Rahmani, n. a. (2022). metedologi penelitian kualitatif dan kuantitatif
- Sari, D. A. N. (2024). Implementasi Metode Pembayaran Digital Melalui Quick Response Code Indonesian Standard (Qris) Untuk Menunjang Efektivitas Penjualan: Studi Kasus Pelaku Umkm Di Kebumen. *Universitas Islam Indonesia*.
- Sebayang, N. I. T. B. (2023). Pengaruh persepsi kepercayaan dan persepsi keamanan terhadap minat penggunaan qris sebagai alat pembayaran digital umkm halal kota medan. *Jurnal Tabarru' : Islamic Banking and Finance*, 6(November).
- Simalungun, b. p. (2024). kecamatan bandar masilam dalam angka. pematang siantar : BPS Kabupaten Simalungun/BPS-Statistics Simalungun Regency.
- Simalungun, b. p. (2025). kecamatan bandar masilam dalam angka . siantar : bps kabupaten simalungun.
- Zainarti. (2025). OPTIMALISASI PEMBAYARAN DIGITAL MELALUI QUICK RESPONSE CODE INDONESIAN STANDARD(QRIS) PADA UMKM KOTA MEDAN. SURPLUS: JURNAL EKONOMIDANBISNIS, 457.