

TRANSFORMING BUSINESS: THE IMPACT OF DIGITAL INNOVATION ON MSME's IN THE RIAU ISLANDS

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Abstract

The rapid advancement of Information and Communication Technology (ICT) has paved the way for the Fourth Industrial Revolution, fostering economic and industrial development in the Riau Islands Province. The MSME sector is one that must adapt to technological advancements to ensure business sustainability, particularly due to the increasing number of competitors compelling entrepreneurs to innovate in order to succeed in this digital era. Furthermore, the Covid-19 pandemic has forced many MSMEs to transition from offline to online business models. This research aims to identify the responses and impacts of utilizing e-payment and e-commerce technologies on the performance of MSMEs in the Riau Islands Province. The study employs a descriptive methodology with quantitative analysis and sample selection is conducted using purposive sampling techniques. The findings reveal that the adoption of e-payment and e-commerce technologies plays a crucial role in enhancing the performance of MSMEs in the Riau Islands. This is reflected in the high percentage of MSMEs reporting increased revenue and various benefits after utilizing these platforms, such as the ability to conduct remote transactions with customers and broaden their marketing reach. However, several challenges persist, including issues with internet connectivity and a lack of knowledge regarding how to use and register on these platforms.

Keywords: MSME's, E-Payment, E-Commerce

Abstrak

Perkembangan pesat Teknologi Informasi dan Komunikasi (TIK) telah membuka jalan bagi Revolusi Industri Keempat, yang secara signifikan berkontribusi pada perkembangan ekonomi dan industri di Provinsi Kepulauan Riau. Sektor UMKM harus beradaptasi dengan kemajuan teknologi ini untuk memastikan keberlanjutan bisnis, terutama mengingat semakin meningkatnya kompetisi yang mendorong para pengusaha untuk berinovasi agar dapat bertahan dalam lanskap digital ini. Selain itu, pandemi Covid-19 telah memaksa banyak UMKM untuk beralih dari model bisnis offline ke online. Penelitian ini bertujuan untuk mengidentifikasi tanggapan dan dampak dari pemanfaatan teknologi e-payment dan e-commerce terhadap kinerja UMKM di Provinsi Kepulauan Riau. Penelitian ini menggunakan metode deskriptif yang dilengkapi dengan analisis kualitatif, dengan pemilihan sampel dilakukan melalui teknik purposive sampling. Hasil penelitian menunjukkan bahwa adopsi teknologi e-payment dan e-commerce sangat penting untuk meningkatkan kinerja UMKM di Kepulauan Riau. Hal ini terlihat dari tingginya persentase UMKM yang melaporkan peningkatan pendapatan dan berbagai manfaat setelah menerapkan platform ini, seperti kemampuan untuk melakukan transaksi jarak jauh dengan pelanggan dan memperluas jangkauan pemasaran mereka. Namun, beberapa tantangan masih ada, termasuk masalah dengan konektivitas internet dan kurangnya pengetahuan mengenai cara menggunakan dan mendaftar di platform ini.

Kata Kunci: UMKM, E-Payment, E-Commerce

INTRODUCTION

Digital technology is currently developing very rapidly, marked by the emergence of technologies such as the Internet of Things, Big Data, Artificial Intelligence, Human-Machine Interface, Robotic and Sensor Technology, and more. These various technologies are changing societal behavior in conducting economic activities, particularly in transactions. The utilization of digital technology has become a necessity for MSMEs (Micro, Small, and Medium Enterprises) to reach consumers from a distance and to remain competitive in the increasingly competitive era of digital marketing. Currently, it is recorded that 18.5 million MSME actors have already utilized digital technology. The use of digital technology is also considered to open opportunities for MSMEs to develop their businesses and upgrade their status (Soleh & Adinugraha, 2022).

In addition to the development of digital technology, government policies related to restrictions on outdoor activities due to the Covid-19 pandemic have also encouraged people to adapt. Data from the Central Statistics Agency (BPS) shows that 78.18% of households in Indonesia were using the internet in 2020. This figure represents an increase of 4.43% compared to the previous year, which was only 73.75%. The high penetration of the internet among the public has opened opportunities for MSMEs to engage in digital marketing. Therefore, MSMEs require appropriate marketing communication strategies and transaction methods, one of which is the utilization of e-payment and e-commerce technology (Febriyantoro & Arisandi, 2018). The aim of this research is to understand the responses and impacts of utilizing e-payment and e-commerce technology on

the performance of MSMEs in the Riau Island Province. Digital transformation presents both new opportunities and challenges in business management, distinguishing itself from traditional methods. MSMEs can leverage various technologies to manage and optimize their sales, including digital marketing platforms like e-commerce, digital accounting applications, e-payment systems, cloud storage solutions, and more. This approach creates challenges as well as opportunities for improving marketing strategies, compelling MSMEs to enhance their competitiveness in the marketplace. The impact of digital technology utilization in this study refers specifically to the effects of e-payment and e-commerce technologies on the performance of MSMEs in the Riau Islands Province.

LITERATURE REVIEW

Digital Economy

The digital economy refers to the behaviors of individuals in their choices to satisfy unlimited needs, primarily through the use of their fingertips. This definition indicates that people no longer need to visit markets to acquire goods and services; instead, they can simply use their smartphones to have products delivered to their homes (Permana & Puspitaningsih, 2021).

The rapid advancement of Industry 4.0 is characterized by the increasing adoption of technologies such as the Internet of Things, Big Data, Artificial Intelligence, Human-Machine Interfaces, Robotics, and Sensor Technology in everyday life. These technological advancements positively impact economic transactions by facilitating industrialization and enhancing productivity. Digitalization has introduced new breakthroughs in the economic

landscape, particularly in business-to-business, business-to-consumer, and consumer-to-consumer models. Digital technology represents a significant innovation that can drive a country's economic growth (Harahap, 2019).

MSME's

MSMEs have a crucial and strategic role in national economic development. According to Bank Indonesia, the significance of MSMEs in the national economy is reflected in their large numbers across various economic sectors, their substantial potential for job creation, and their notable contribution to GDP, accounting for 56% of the total (Kurniaty & Dewantara, 2021).

The rapid advancement of information technology has posed new challenges for MSMEs, compounded by the Covid-19 pandemic, which has led to a decline in consumer purchasing power due to physical distancing policies. Digital transformation is one effective strategy that MSMEs can adopt to navigate an increasingly open and competitive market environment. A key factor in the success of MSMEs is the availability of clear markets for their products (Kurniaty & Dewantara, 2021).

E-Payment

The rapid advancement of technology has significantly influenced the evolution of payment systems in business transactions. Payment systems, which serve as a crucial pillar supporting the stability of the financial system, have transformed from traditional cash-based methods to e-payment solutions.

E-payment refers to payment methods that utilize technological mediums such as SMS, mobile banking, internet banking, e-wallets, QRIS, and more. The progress in payment technology has shifted the role of cash as a payment instrument towards non-cash payment methods that are more

efficient and economical (Tarantang et al., 2019).

E-Commerce

E-commerce, or electronic commerce, refers to the process of buying and selling products, services, and information through information networks, including the internet. It is a subset of e-business, which not only utilizes network technologies but also incorporates database systems, email, and other non-computer technologies, such as shipping systems and payment methods (Rakanita, 2019). E-commerce has created vast market opportunities for MSMEs, providing a significant platform for enhancing sales productivity.

The Covid-19 pandemic and the advancements of Industry 4.0 have compelled MSMEs to transition from offline to online transaction methods. The utilization of e-commerce can also bolster the competitiveness of MSMEs against other market players (Kala'lembang, 2020).

METHODOLOGY

The method used in this research is quantitative descriptive research with excel diagram layout. Quantitative research is intended to gather information regarding the state of a phenomenon as it actually exists at the time the research is conducted. Therefore, quantitative research is capable of uncovering phenomena related to a subject that is to be studied in depth.

Research Subject

The subjects in this study consist of MSME samples from various regencies/cities in the Riau Island Province, using purposive sampling techniques. The criteria for MSMEs in the Riau Island Province

included as samples in this research are as follows:

1. MSME actors located in various regencies/cities in the Riau Island Province.
2. MSME actors supported by Bank Indonesia in the Riau Island Province.
3. MSME actors who are willing to be respondents.

Below is a table of the data obtained from 70 MSME samples in the Riau Island Province, along with their percentages based on regional origin:

Table 1.
MSME respondents from the regions in Riau Island Province

No	City Origin	Total	Percentage
1	Anambas	5	7,1%
2	Batam	33	47,1%
3	Bintan	9	12,8%
4	Karimun	4	5,7%
5	Natuna	5	7,1%
6	Tanjung Pinang	14	20%
Total		70	100,00%

Source: Data processed by the author (2025)

Data Collection Method

In this research, data collection involved in-depth interviews and questionnaires distributed directly to MSMEs supported by Bank Indonesia in the Riau Island Province. The analysis employed a qualitative approach to offer a thorough understanding of the subjects without testing hypotheses. Researchers compared data from questionnaires and interviews to formulate conclusions. This methodology allowed for rich, detailed insights into the experiences and challenges faced by MSMEs, providing a comprehensive view of the impact of e-payment adoption.

RESULT AND DISCUSSION

RESULT

In this research, data was obtained on MSMEs in the Riau Island Province distributed across various districts/cities, such as Anambas, Batam, Bintan, Karimun, Natuna, and Tanjung Pinang.

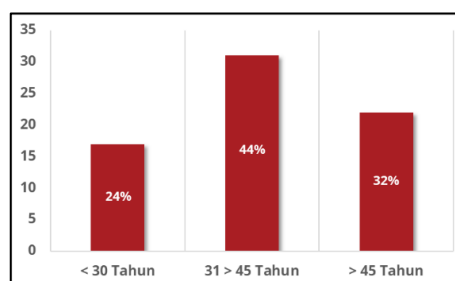


Figure 1. Average Age of MSME Actors

Source: Data processed by the author (2025)

Figure 4.1 shows that 44% of MSME actors in the Riau Island Province are from the age group of 31 to 45 years, predominantly representing Generation Y.

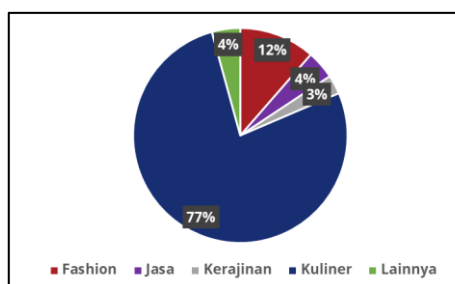


Figure 2. Type MSMEs

Source: Data processed by the author (2025)

Furthermore, Figure 4.2 indicates that the most dominant type of MSME is the culinary sector, with a percentage of 77%. According to the Central Statistics Agency (BPS), the culinary sector is the largest contributor to the Gross Domestic Product (GDP) of the non-oil and gas industry in Indonesia, accounting for 34%.

Responses of MSMEs in the Riau Island Province to the Utilization of E-Payment

According to previous research conducted by Lidya Namira (2022), e-payment services provide numerous benefits, are reliable, secure, easy to master, convenient to use, and offer reasonable prices. Below is the percentage of e-payment utilization by MSMEs in the Riau Island Province.

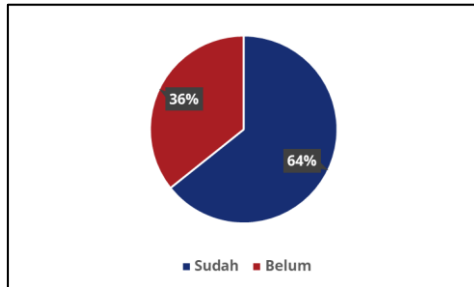


Figure 3. Percentage Utilization e-payment

Source: Data processed by the author (2025)

The Riau Island Province has already utilized e-payment for their businesses description from figure 3. This indicates that the penetration of e-payment utilization by MSMEs in the Riau Island Province is becoming dominant. Below are the cashless platforms used by MSMEs in the Riau Island Province.

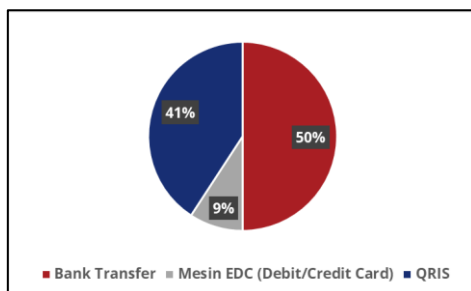


Figure 4. Cashless Method Used Platform

Source: Data processed by the author (2025)

Most MSMEs in the Riau Island Province prefer to utilize Bank Transfer methods (50%) and QRIS (41%) for transactions. The author obtained information from one of the MSME actors through an interview, explaining that Bank Transfer is often used for transactions with distant consumers.

On the other hand, for face-to-face transactions, the use of QRIS is more favored than the use of EDC machines (debit/credit cards) or cash. This information indicates that the utilization of cashless platforms is tailored to customer needs. Below is a comparison of the number of platforms used and the names of the e-payment platforms utilized by MSMEs in the Riau Island Province.

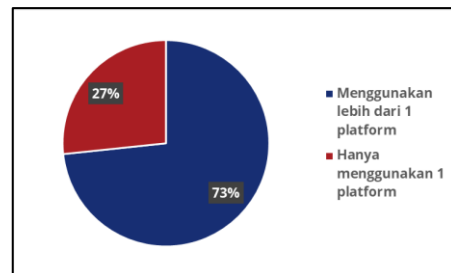


Figure 5. Comparison of the number of e-payment platforms used

Source: Data processed by the author (2025)

As many as 73% of MSMEs in the Riau Island Province utilize more than one type of e-payment platform for their businesses (Figure 5).

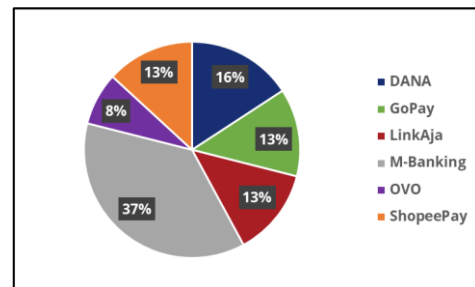


Figure 6. E-payment platforms used

Source: Data processed by the author (2025)

Figure 6 shows that the percentage of mobile banking utilization is more dominant compared to other e-wallet platforms such as OVO, GoPay, LinkAja, and others.

The variety of platforms used reflects the flexibility and adaptability of MSMEs in leveraging technology to enhance their

financial transactions and improve customer engagement. Furthermore, this multi-platform approach allows businesses to cater to different consumer preferences, ultimately driving sales and fostering growth in a competitive digital landscape.

Responses from MSMEs in the Riau Island Province that Have Utilized E-Payment

Below are the reasons for utilization, the benefits obtained, and the challenges faced by MSMEs in the Riau Island Province while using e-payment platforms:

1. Reasons for Utilizing E-Payment

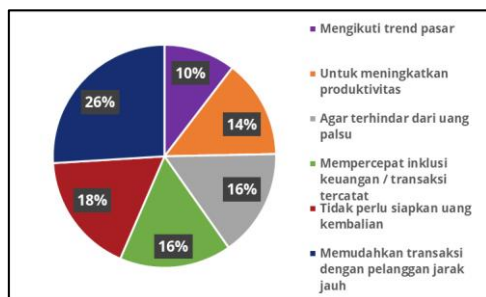


Figure 7. Reasons for Utilizing e-payment

Source: Data processed by the author (2025)

To facilitate transactions with distant customers. According to previous research conducted by Firmansyah (2009), by using e-payment, the parties involved in the transaction process can transfer and receive money from others anytime and anywhere.

2. Benefits of E-Payment in Supporting Performance

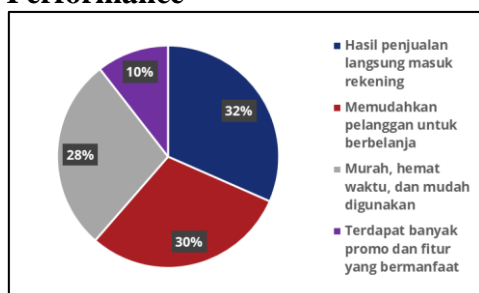


Figure 8. Benefits of E-Payment in Supporting Performance

Source: Data processed by the author (2025)

Various benefits have been gained by MSMEs in the Riau Island Province after utilizing e-payment platforms. One of the key advantages is that sales revenue is directly deposited into their accounts, providing immediate access to funds.

This not only streamlines the financial management process for these businesses but also enhances cash flow, allowing for quicker reinvestment into their operations. The convenience of digital payments encourages more consumers to make purchases, which can lead to increased sales volumes for MSMEs.

3. Challenges Faced While Utilizing E-Payment

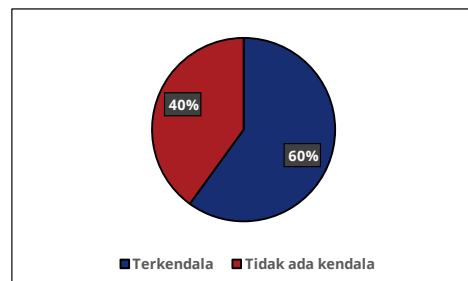


Figure 9. Comparison of MSMEs

Source: Data processed by the author (2025)

Approximately 60% of MSMEs in the Riau Island Province still encounter challenges while utilizing e-payment systems.

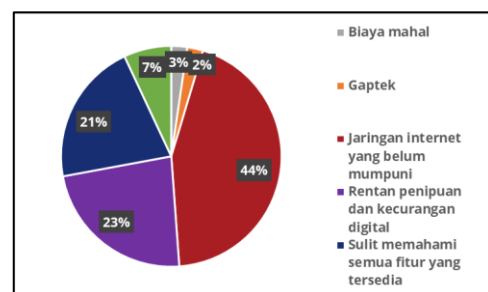


Figure 10. Challenge while utilizing e-payment

Source: Data processed by the author (2025)

The largest obstacle identified is the inadequate internet connectivity. Currently,

out of 417 sub-districts and villages in the Riau Island Province, 131 are still facing issues with internet access.

This lack of reliable internet service significantly hampers the ability of these businesses to fully leverage e-payment platforms, affecting their operational efficiency and customer reach.

4. Expectations Regarding QRIS for the Future

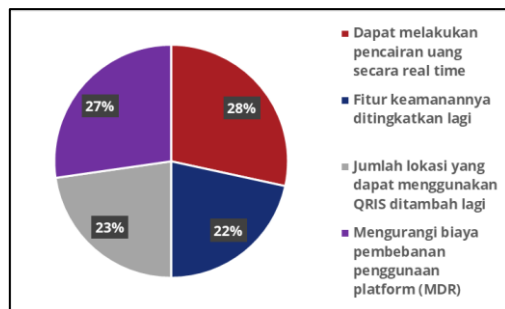


Figure 11. Expectations Regarding QRIS

Source: Data processed by the author (2025)

There are still challenges faced by MSMEs in the Riau Island Province while utilizing QRIS, leading them to have several hopes and suggestions for the future development of QRIS.

The most significant expectation is that all fintech platforms used should be able to facilitate real-time fund disbursement. Currently, not all platforms offer the capability for same-day disbursement and many MSMEs have yet to adopt platforms that provide this feature. Additionally, there is a strong desire to reduce the Merchant Discount Rate (MDR), as it is still considered a considerable burden for some MSMEs in the Riau Island Province. Lowering these costs would enhance profitability for these businesses, making it easier for them to thrive in an increasingly digital marketplace.

Impact of E-Payment & E-Commerce Utilization on MSMEs'

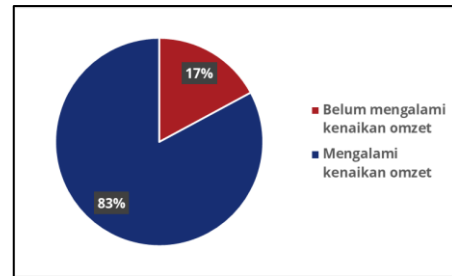


Figure 12. Expectations Regarding QRIS

Source: Data processed by the author (2025)

There are 83% of MSMEs in the Riau Island Province that have experienced an increase in revenue after utilizing e-payment and e-commerce. This is attributed to several factors mentioned earlier, such as the ability to transact with distant customers, expanding marketing reach, enhancing product recognition and trust, and the low cost of using these platforms, which are both economical and easy to use.

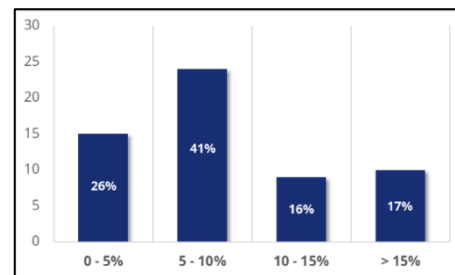


Figure 13. Percentage Increase in Revenue of MSMEs in the Riau Island Province After Utilizing E-Payment & E-Commerce

Source: Data processed by the author (2025)

In Figure 13, it is shown that 41% of MSMEs in the Riau Island Province experienced a revenue increase in the range of 5-10% after utilizing e-payment and e-commerce. This indicates that the utilization of e-payment and e-commerce is already considered to have a positive impact and can support the performance and revenue growth of the majority of MSMEs in the Riau Island Province.

DISCUSSION

The utilization of e-payment and e-commerce technology has provided various positive impacts for MSMEs in the Riau Island Province. These benefits include direct sales deposits into accounts, making it easier to monitor finances, facilitating customer shopping both online and offline, and enhancing product recognition and trust, among others. Additionally, another impact observed in MSMEs in the Riau Island Province is an increase in revenue; 41% of MSMEs in the province experienced a revenue increase of 0-5% after adopting these two platforms. Despite the positive impacts, there are still several challenges faced by MSMEs in the Riau Island Province while utilizing e-payment and e-commerce, such as concerns about similar ideas and products emerging, inadequate internet connectivity, vulnerability to fraud and digital scams, and so on.

This indicates that most challenges encountered by MSMEs that have utilized these platforms stem from external factors rather than technical issues, such as difficulties in operating applications. It is shown that the main reasons MSMEs in the Riau Island Province have not utilized these platforms are that they do not feel the need yet, are unaware of how to use them, and do not know how to register. This indicates that some MSMEs still face technical barriers and require further assistance regarding utilization. However, most MSMEs in the Riau Island Province that have yet to adopt these platforms are interested in using them in the future, motivated by the desire to facilitate transactions and financial management, accelerate financial inclusion, expand marketing reach, keep up with market trends, and meet customer demands. There are several hopes from MSMEs in the Riau

Island Province for the future development of QRIS, including the ability to conduct real-time fund disbursement, enhanced security features, increased locations that can utilize QRIS, and reduced costs associated with platform usage (MDR).

CONCLUSION

Based on research conducted with MSME respondents in the Riau Islands Province, several conclusions can be drawn. Most respondents have adopted e-payment methods, predominantly utilizing bank transfers and QRIS. They have reported benefits such as immediate sales deposits and enhanced consumer shopping experiences. However, challenges remain, including inadequate internet connectivity and vulnerability to digital fraud. Many respondents who have not yet adopted e-payment expressed interest in doing so in the future, citing the ease of transactions, better financial management, and the need to keep pace with market trends. Respondents specifically highlighted a desire for QRIS to enable real-time fund disbursement and lower transaction fees. The utilization of e-commerce among respondents appears balanced. Those who engage in e-commerce primarily do so to expand their market reach and promote their products. Benefits include improved consumer shopping convenience and increased brand recognition. However, concerns over potential idea and product plagiarism, along with insufficient internet infrastructure, persist. Many respondents who have yet to embrace e-commerce are also interested in future adoption, motivated by the desire to broaden their market reach and align with market trends. This indicates that the number of respondents utilizing e-commerce has significant growth potential.

Both e-payment and e-commerce are seen as beneficial in enhancing business performance, as evidenced by a notable increase in revenue reported by many respondents, with some experiencing growth exceeding 15% after implementing these technologies.

RECOMMENDATION

To support MSMEs in the Riau Islands Province, it is essential to provide education and outreach on the positive impacts of utilizing e-payment and e-commerce platforms. This includes informing them about steps to avoid cyber fraud and the potential of various e-commerce platforms, such as Facebook Marketplace, Instagram, WhatsApp, and delivery services like GoFood and GrabFood, to help reach local markets. Additionally, training and support should be offered on how to register for and effectively use these applications. Collaboration with local governments and telecommunications providers is also crucial to expand internet access across different districts. Furthermore, providing guidance on applying for copyright protection can alleviate concerns about idea and product plagiarism. Lastly, conducting further studies to understand the reasons behind the reluctance of some MSMEs to adopt these technologies will be important, along with encouraging the expansion and enhancement of QRIS security and innovation.

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