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Empirical Study of the Use of Mobile Indonesian Sharia Bank in the MSME Digitalization Process

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A B S T R A K

Objektif: Kajian ini bertujuan untuk meneroka integrasi aplikasi Bank Syariah Indonesia (BSI) Mobile dalam kalangan Perusahaan Mikro, Kecil, dan Sederhana (PMKS) di Wilayah Khas Yogyakarta, dengan memberi tumpuan kepada kesannya terhadap kecekapan operasi serta faktor-faktor yang mempengaruhi penerimaannya. Metodologi: Kajian ini menggunakan pendekatan kualitatif, dengan menganalisis tema-tema daripada wawancara mendalam bersama tujuh pemilik PMKS yang dipilih secara purposif untuk memahami integrasi dan penggunaan aplikasi BSI Mobile. Penemuan: Kajian ini mengenal pasti potensi besar aplikasi BSI Mobile dalam meningkatkan kecekapan pengurusan transaksi dalam kalangan PMKS. Walau bagaimanapun, cabaran seperti integrasi sistem dan keperluan latihan yang komprehensif timbul sebagai faktor penting yang mempengaruhi kejayaan penerimaan teknologi ini. Sumbangan Teoretis dan/atau Metodologi: Kajian ini menyumbang secara empirikal dengan mencadangkan model untuk integrasi aplikasi BSI Mobile dalam digitalisasi PMKS, memberikan pandangan mengenai bagaimana teknologi ini boleh diintegrasikan dengan lebih baik ke dalam operasi perniagaan kecil. Implikasi Penyelidikan/Praktikal: Kajian ini menawarkan cadangan praktikal, termasuk keperluan untuk meningkatkan integrasi teknologi, menyediakan latihan pengguna lanjutan, dan memastikan sokongan peraturan untuk memudahkan penerimaan teknologi yang lebih meluas dalam kalangan PMKS. Selain itu, penemuan ini mencadangkan penyelidikan dan pembangunan dasar lanjut untuk mengoptimumkan transformasi digital perniagaan kecil.

Abstract

Objective: This study aims to explore the integration of the Bank Syariah Indonesia (BSI) Mobile application among Micro, Small, and Medium Enterprises (MSMEs) in the Yogyakarta Special Region, focusing on its impact on operational efficiency and the factors influencing its adoption. Methodology: The research adopts a qualitative approach, utilizing thematic analysis of in-depth interviews with seven purposively selected MSME owners to understand the integration and usage of the BSI Mobile application. Findings: The study identifies the substantial potential of the BSI Mobile application in improving transaction management efficiency among MSMEs. However, challenges such as system integration and the need for comprehensive training emerge as critical factors influencing the successful adoption of the technology. Theoretical and/or

Methodological contributions: The study contributes by empirically proposing a model for the integration of the BSI Mobile application in MSME digitalization, offering insights into how such technologies can be better integrated into small business operations. Research/ Practical Implications: The research offers practical recommendations, including the need for enhancing technological integration, providing advanced user training, and ensuring regulatory support to facilitate broader technology adoption among MSMEs. Additionally, the findings suggest future research and policy development to further optimize the digital transformation of small businesses

1. Introduction

Digital transformation is one of the main challenges faced by Micro, Small, and Medium Enterprises (MSMEs) in this era of globalization (Rosihana et al., 2024). Amid rapid technological developments, MSMEs must keep up with changes to remain relevant and competitive in the market (Hariyanti & Kristanti, 2024). The digitalization process offers various opportunities for MSMEs to increase productivity (Hendrawan et al., 2024), reduce operational costs (Kilay et al., 2022), and expand business networks (Hervé et al., 2021). Without the adoption of digital technology, MSMEs risk being left behind and losing significant market share (Bagale et al., 2021). Therefore, the digitalization of MSMEs is an urgent need to encourage the growth and sustainability of their businesses (Alfarizi et al., 2023).

Advances in information technology have opened various opportunities for MSMEs to increase operational efficiency. (Behl et al., 2022). With digital technology, MSMEs can automate their business processes, reduce manual errors, and speed up response times to market demand. (Koumas et al., 2021). Technology also allows MSMEs to utilize analytical data to identify market trends and customer needs. (Supriadi et al., 2023). Digitalization is not only about technology adoption but also about cultural transformation and business processes that are more efficient and innovative (Rais et al., 2023; Saputri et al., 2025). Therefore, the ability of MSMEs to adapt to these changes will greatly determine their success in the future. One of the main challenges in digitalizing MSMEs is access to technology and financial support. This is where the role of financial institutions becomes very important. Bank Syariah Indonesia (BSI), one of the leading financial institutions in Indonesia, has taken the initiative to support the digitalization process of MSMEs through the development of the BSI Mobile application. (Kunaifi et al., 2022). This application is designed to provide various banking services that are easily accessible to MSMEs, including financial management, digital transactions, and access to other banking products. MSMEs can use BSI Mobile to manage their finances more efficiently and optimize their business operations (Jamaludin et al., 2023; Miftahurrahmah et al., 2023).

Previous research by Nugroho & Nugraha (2020) Shows that using digital banking technology in the MSME sector can increase efficiency and expand the market. Other studies also highlight the benefits of technology adoption in various aspects of MSME businesses, including financial management, marketing, and operations (Lestari et al., 2022). However, research that specifically examines the impact of using banking applications such as BSI Mobile in the digitalization process of MSMEs is still very limited. This research seeks to fill this gap by exploring how BSI Mobile can support the digitalization of MSMEs and identifying the factors that influence its success.

BSI Mobile offers various features specifically designed to meet the needs of MSMEs. These features include digital payment services, real-time transaction monitoring, and easy access to various banking products such as loans and investments. This application also provides financial management features that help MSMEs manage cash flow, create budgets, and monitor economic performance. With BSI Mobile, MSMEs can run their business operations more efficiently and focus on developing their business (Abdulloh, 2023). However, although there are many potential benefits from using BSI Mobile, there is still limited research regarding the effectiveness and challenges MSMEs face in adopting this technology. The use of new technology is always accompanied by challenges, starting from varying levels of digital literacy among MSME players to the readiness of supporting infrastructure. Apart from that, external factors such as regulations and government policies can influence the adoption of digital technology by MSMEs. Therefore, comprehensive research is needed to identify the factors that affect the success of BSI Mobile implementation among MSMEs.

An empirical study is needed to identify the extent to which the use of BSI Mobile can support the digitalization of MSMEs, as well as the factors that influence the success of its implementation. This study will provide a clearer picture of the real benefits MSMEs feel from using BSI Mobile and the challenges they face. This research is important to bridge existing knowledge gaps and provide recommendations for developing more effective policies. Thus, it is hoped that the results of this research can encourage the adoption of digital technology by MSMEs and support inclusive economic growth in Indonesia.

This article is structured with the following structure: (1) Introduction, which discusses the background, research objectives, and importance of this study; (2) Literature Review, which reviews related literature regarding the digitalization of MSMEs and the use of digital banking technology; (2) Methodology which explains the methods used to collect and analyze data; (4) Results and Discussion that present research findings and analysis; (5) Conclusions and Suggestions which are a summary of the main research findings, practical implications, and recommendations for further research and policy.

2. Methodology

This research method is qualitative research using a thematic approach. The research informants consisted of 7 MSME actors in the Special Region of Yogyakarta who were selected purposively based on inclusion criteria, namely MSME actors who had used BSI Mobile for at least six months and had a business that had been running for at least one year. Research procedures were carried out through in-depth interviews with informants and direct observation. This research refers to four main aspects: (1) Experience of using BSI Mobile; (2) Factors influencing the adoption and use of BSI Mobile; (3) The expected impact of using BSI Mobile. Next, from the conclusions of the interview results, the researcher will present a model for implementing BSI Mobile in digitalizing MSMEs. Data analysis was done using the Narrative Analysis method to explore findings based on themes from interviews and observations

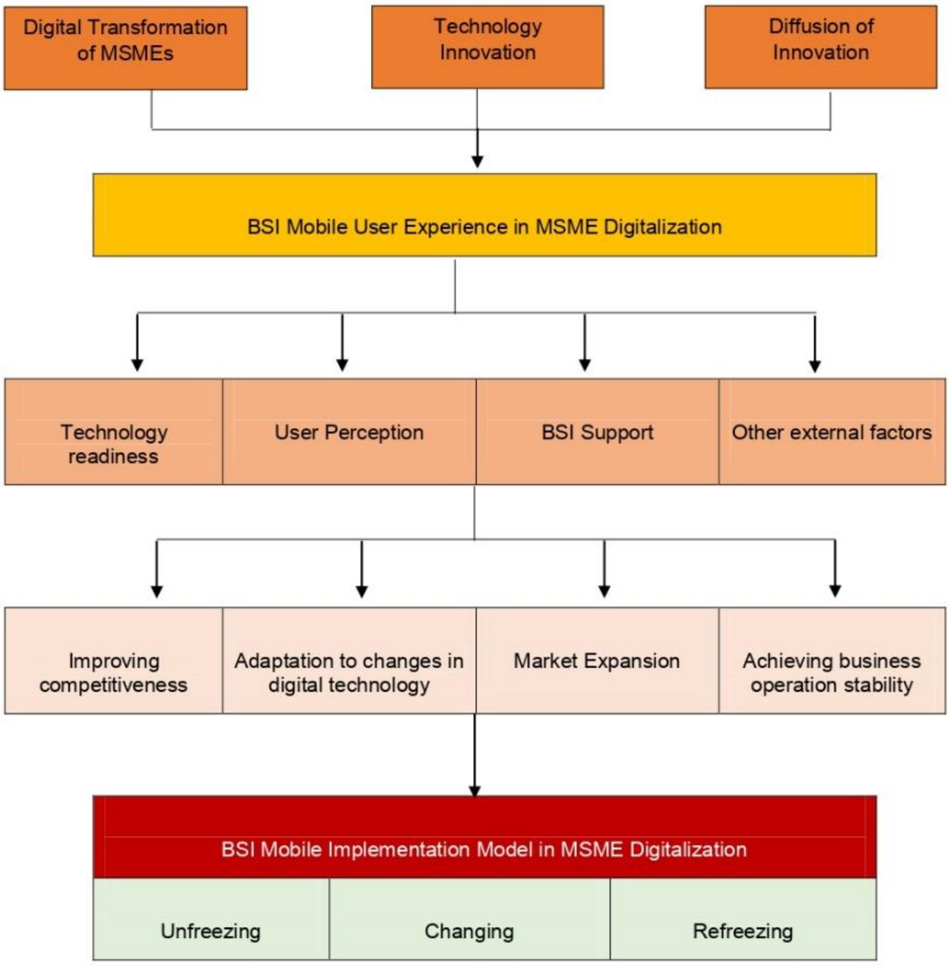

Figure 1. Research Framework (Source, 2022)

3. Results and Discussion

This research method is qualitative research using a thematic approach. The research informants consisted of 7 MSME actors in the Special Region of Yogyakarta who were selected purposively based on inclusion criteria, namely MSME actors who had used BSI Mobile for at least six months and had a business that had been running for at least one year. Research procedures were carried out through in-depth interviews with informants and direct observation. This research refers to four main aspects: (1) Experience of using BSI Mobile; (2) Factors influencing the adoption and use of BSI Mobile; (3) The expected impact of using BSI Mobile. Next, from the conclusions of the interview results, the researcher will present a model for implementing BSI Mobile in digitalizing MSMEs. Data analysis was done using the Narrative Analysis method to explore findings based on themes from interviews and observations

3.1. Informant Demographic Profile

The informants come from various business sectors, including trade (40%), services (30%), and manufacturing (30%). They represent a broad spectrum of small and medium businesses in Yogyakarta, ranging from retail shops, cafes, workshops, and handicraft producers. This diversity provides a comprehensive picture of how BSI Mobile is adopted and used in various business contexts.

In terms of education, these MSME actors have varied backgrounds, ranging from high school graduates (50%) to bachelor's degrees (50%), which shows different levels of literacy and technological competence. In addition, informants were also divided into various age groups: 18-25 years (20%), 26-35 years (40%), 36-45 years (25%), and over 45 years (15%).

The diversity of business sectors and educational backgrounds of MSME players aligns with the diffusion of innovation theory put forward by Rogers (2003). This theory states that various factors, including relative advantage, compatibility, and complexity, influence the adoption of new technology. In this context, the trade sector, which dominates with 40% of business actors, reflects the need for digital solutions to improve operational efficiency and transaction management. Meanwhile, the service and manufacturing sectors accounted for 30%, indicating that BSI Mobile is also used to improve customer service and production management.

The varied educational backgrounds of MSME players also indicate that the level of digital literacy plays an important role in technology adoption. Bachelor graduates, who account for 50% of the informants, likely have higher technological competence, making adopting and utilizing BSI Mobile features easier. In contrast, high school graduates, who also make up 50%, may need more support and training to achieve the same level of adoption.

The age group also influences technology adoption. The 26-35-year-old age group, which accounts for 40% of the informants, may be more adaptive to new technology than the age group over 45, which is only 15%. The 18-25-year-old (20%) and 36-45-year-old (25%) age groups also show variations in their acceptance and use of technology, with younger generations tending to be quicker in adopting new technology.

Overall, this demographic profile provides in-depth insight into BSI Mobile's influence on the digitalization of MSMEs in Yogyakarta and supports an understanding of how various factors such as business sector, educational background, and age influence technology adoption in small and medium businesses.

3.2. Experience using BSI Mobil

Informants from various business sectors, such as trade, services, and manufacturing, gave varied descriptions of their experiences using BSI Mobile. Although this application is generally found to be very helpful in transaction management and financial reporting, some users experience challenges that reflect gaps in theories related to technology adoption.

One of the interview results shows that the BSI Mobile application makes it easy to manage daily finances, but a manufacturing entrepreneur complained about the inability to integrate transaction data directly into their accounting system.

"...We often experience difficulties because BSI Mobile cannot automatically synchronize transaction data with our accounting system. This causes us to have to perform double data entry, which is inefficient and can lead to errors..." - IM1

This refers to the concept of compatibility in the diffusion of innovation theory (Rogers & Rahim, 2021), where less-than-perfect integration with existing infrastructure can hinder the adoption of new technology. The pattern of findings from other interviews highlights the need for better technical support, consistent with theories of technological innovation that emphasize the importance of technical support in increasing technology adoption. (Barney et al., 2021). A service business owner stated:

"... Although this application is easy for daily transactions, I feel more training is needed to utilize advanced features such as more complex financial reports. More in-depth training support could be very helpful in maximizing the benefits of BSI Mobile... " – IB1

This gap between expectations and user experience reflects common challenges in adopting new technology in business environments, where compatibility with existing infrastructure and adequate training support are often the keys to success (Rogers & Rahim, 2021). Overall, although BSI Mobile provides many benefits in improving operational efficiency and adapting to an increasingly digital business environment, there is still room for improvement in terms of system integration, training support, and technical reliability to meet the full potential of this application, as found in theory- technology adoption theory and previous research.

3.3. Factors influencing the adoption and use of BSI Mobile

Factors influencing the adoption and use of BSI Mobile can be seen from various points of view of users from different business sectors. BSI Mobile was found to provide significant benefits in transaction management and financial reporting. However, several factors influence the optimal use of this application.

One factor that emerged from the interview results was technology compatibility. An MSME owner in the trade sector said:

"...We faced challenges integrating BSI Mobile with our existing management information system. While the app was great for daily transactions, we still had to do some manual data entry into our existing system..." – ID1

This illustrates the gap with technology adoption theories as explained by (Rogers & Rahim, 2021), where successful adoption depends on the fit or compatibility of the new technology with existing infrastructure. Apart from that, training support factors also play a crucial role. A manufacturing business owner stated:

"...Training support to understand the advanced features of BSI Mobile is critical. We need more training to optimize more complex financial reports..." ¬IM2

The above findings are based on technological innovation theories, indicating that adequate training support can increase the level of adoption and utilization of new technology in the business environment. (Barney et al., 2021). In conclusion, although BSI Mobile has great potential to improve operational efficiency and adapt to an increasingly digital business environment, factors like compatibility with existing infrastructure and adequate training support still need further attention. Improvements in system integration and better training support can help maximize the benefits of these applications, which align with technology adoption theories and previous research.

3.4. Expected impact of using BSI Mobile

This application is generally expected to increase efficiency in transaction management and financial reports. However, several aspects reflect challenges and gaps with related theories. One of the expected impacts is improved operational efficiency. A business actor from the trade sector stated:

"...BSI Mobile is very helpful in managing our daily transactions. We can make bill payments and fund transfers more quickly and easily..." – ID2

This aligns with technological innovation theories, emphasizing that adopting new technology can increase operational efficiency (Rogers & Rahim, 2021). However, challenges regarding technology integration also need to be overcome. A service entrepreneur stated:

"...We had difficulty integrating BSI Mobile with our existing financial management system. This resulted in us having to do some double data entry, which was time-consuming and error-prone..." – IB1

The emphasis on seamless systems integration in innovation diffusion theory suggests that compatibility with existing infrastructure is a key factor in successfully adopting new technologies (Barney et al., 2021). Another expected impact is increased accessibility of financial information and real-time monitoring. Technology adoption theories show that the accessibility and usability of applications such as BSI Mobile can increase transparency and control in company financial management.

Although BSI Mobile has great potential to positively impact operational efficiency and accessibility of financial information, challenges related to system integration and the need for better technical support still need to be addressed. According to technology adoption theories and previous research findings, improvements in these areas can help maximize the benefits of these applications.

3.5. BSI Mobile implementation model in digitalizing MSMEs

The model for implementing BSI Mobile in digitalizing MSMEs is a proposal based on research results on technology adoption in the small and medium business sector. By integrating BSI Mobile, MSMEs can be expected to increase operational efficiency through more effective daily transaction management, structured financial management, and easier access to banking services. The research results show that these applications facilitate daily business processes and expand the scope of MSMEs in the digital ecosystem, enabling them to compete better in an increasingly globally connected market. In this context, this model proposes an integrated approach to support the growth and sustainability of MSMEs through technology optimization and strategic adaptation to rapid digital developments.

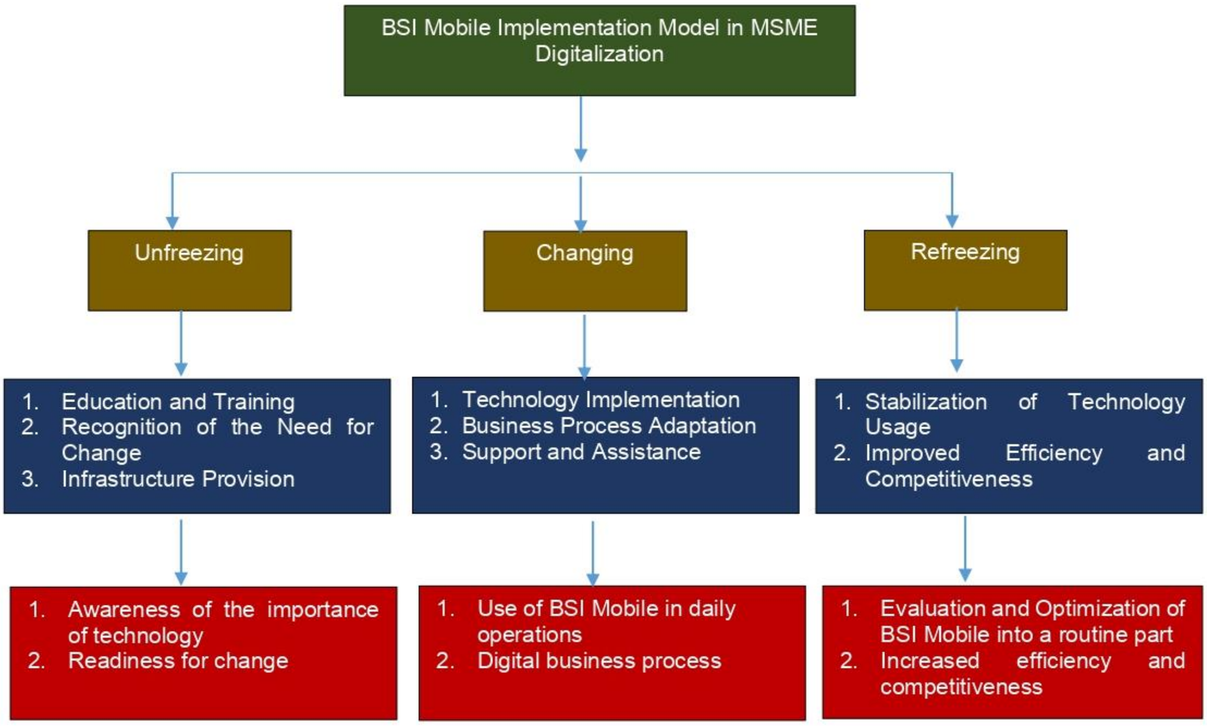

Figure 3. BSI Mobile implementation model in digitalizing MSMEs

The BSI Mobile application model in digitalizing MSMEs in detail includes three main aspects as follows:

1. Unfreezing Stage

The Unfreezing stage in the BSI Mobile implementation model for digitalizing MSMEs begins with education and training organized by BSI and the local government. This training program aims to increase MSME players' understanding of the benefits of digitalization, how to use the BSI Mobile application, and how technology can help them manage their business more effectively. These educational sessions teach MSMEs about various application features, functions, and strategies for integrating digital technology into their daily operations. This approach ensures that MSMEs have sufficient knowledge to use technology optimally and overcome challenges that may arise during the adoption process.

Next, the unfreezing stage also involves recognizing the need for change and providing the necessary infrastructure. At this stage, MSME players begin to realize the importance of digital technology in increasing the efficiency and competitiveness of their business. This realization motivated them to switch from traditional to digital methods. BSI provides the necessary infrastructure to support this transition, such as hardware (smartphones or tablets) and internet access. This infrastructure support ensures that MSMEs have adequate tools to access and use BSI Mobile effectively to run their businesses more smoothly and efficiently in the digital era.

2. Changing Stage

The Changing stage in the BSI Mobile implementation model for digitalizing MSMEs involves concrete technology implementation steps. MSME players integrate BSI Mobile into their daily business operations at this stage. This implementation includes using BSI Mobile for various banking transactions, digital payments, financial management, and access to other banking services. MSME players are also taking advantage of the BSI Mobile application's features, such as inventory management, sales tracking, and business data analysis, to make better decisions and increase operational efficiency. This move marks a shift from traditional methods to digital technology in every aspect of their business.

Besides implementing technology, the changing stage also involves adapting business processes and providing ongoing support and assistance from BSI. MSME players need to change and adapt their business processes to suit the use of digital technology. For example, they may have to adjust how they manage inventory, track sales, and analyze business data using BSI Mobile application features. BSI provides technical support and ongoing assistance to ensure the adaptation process runs smoothly. This includes assisting in overcoming technical obstacles that may arise and giving advice on maximizing the application's use. With this support, MSME players can optimize the use of BSI Mobile and achieve the full benefits of digitalization in their business operations.

3. Refreezing Stage

The Refreezing stage in the BSI Mobile implementation model for digitalizing MSMEs is where technology has become a routine part of business operations. At this stage, MSME players are accustomed to using the BSI Mobile application and consistently utilize the various features available. The stabilization of the use of this technology shows that MSMEs are comfortable and proficient in using applications for banking transactions, financial management, and other digital services. Digitalization processes have become integral to their business, enabling more effective and efficient operations.

With full adoption of BSI Mobile, MSMEs experience various significant benefits, including increased operational efficiency, expanded market reach, and increased competitiveness. Apart from that, the refreezing stage also involves a process of evaluating and optimizing the use of technology. MSME players and BSI regularly assess the use of applications to identify areas that can be improved. This includes analyzing how technology is used in daily activities and looking for ways to optimize application functionality further to achieve greater business benefits. In this way, MSMEs can continue to adapt and develop in the digital era, utilizing technology to achieve long-term success.

With this implementation model, it is hoped that MSMEs can maximize the benefits of digitalization through the use of BSI Mobile, ultimately increasing their competitiveness in an increasingly competitive market

4. Conclusion

Based on research results, the integration of BSI Mobile in MSMEs shows great potential in increasing operational efficiency through more effective transaction management. However, challenges regarding system integration with existing infrastructure and more in-depth training still need to be addressed. These findings underscore the importance of technology compatibility and adequate training support in ensuring successful technology adoption among MSMEs. Practical recommendations include increasing technology integration with existing systems, providing further training for users, and regulatory support to facilitate wider adoption of this technology among MSMEs. In addition, follow-up studies are expected to develop more effective strategies to overcome these obstacles and evaluate the long-term impact of digitalization using BSI Mobile in the context of small and medium businesses

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