Analysis of the Role of Digital Technology in Improving Banking Customer Personalization

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ABSTRACT

This study aims to analyze the role of digital technology in enhancing personalized services for banking customers. The development of digital technology has allowed banks to access customer data more effectively, which is then used to deliver more personalized services. This research employs a quantitative method with a descriptive and causal approach. Data were collected through a survey involving 300 customers from various banks that have utilized digital banking services. The findings of this study indicate that the use of digital technologies, such as mobile banking applications and internet banking, positively influences the level of personalized services received by customers. Additionally, the study also found that although customer satisfaction with digital banking services is relatively high, concerns about data security remain a challenge that needs to be addressed. The study concludes that digital technology plays a crucial role in improving the more personalized and relevant banking experience; however, banks must continue to develop security systems to ensure customer trust.

KEYWORDS	*digital technology, service personalization, digital banking, customer satisfaction, data security*

INTRODUCTION

The banking industry is one of the sectors most affected by the advancement of digital technology in recent decades. Banks around the world have adapted quickly to adopt new technologies that allow them to provide services that are faster, more efficient, and more tailored to customer needs. This digitalization not only changes the way banks operate, but also the way they interact with customers. This transformation has provided an opportunity to improve service personalization for customers, which is increasingly an important aspect in the banking world (Supriyanto, 2022). Personalization of banking services is an approach that allows banks to provide services that are more in line with the individual needs and preferences of customers. This concept is essential in increasing customer satisfaction and creating long-term mutually beneficial relationships. For example, by understanding customer preferences and behaviors, banks can offer products and services that are more targeted, increase customer loyalty, and reduce churn rates (Rizki, 2021).

However, to achieve a high level of personalization, banks need to take advantage of the various digital tools and technologies available. Technologies such as mobile banking, internet banking, and artificial intelligence (AI) are important components that allow banks to collect and analyze customer data in a more efficient way (Budiarto, 2023). With this data, banks can provide a more personalized experience, such as offering products that suit customer needs or providing relevant recommendations based on behavior patterns. In addition, technological developments such as big data and predictive analytics also play an important role in increasing personalization. Big data allows banks to analyze large and complex volumes of data, which include customer transaction information, product preferences, and previous interactions with banks (Suryani, 2024). With predictive analytics, banks can predict future customer needs and offer proactive solutions before customers become aware of those needs.

At the same time, digitalization in banking also brings challenges, especially in terms of data protection and security. The more customer data that is collected, the higher the potential risk of personal data leakage. Therefore, banks need to ensure that they have a robust security system in place and comply with existing regulations to protect customer data and maintain their trust (Amin, 2022). However, this challenge has not stopped technological innovation in the banking world. On the contrary, digital technology provides greater opportunities for banks to strengthen their relationships with customers. By implementing the right technology, banks can create a more comfortable, efficient, and secure experience for customers, which ultimately increases their satisfaction and loyalty (Haryanto, 2021).

One example of the application of digital technology in increasing personalization is by using mobile banking applications. Through this application, customers can access various banking services easily and quickly, anytime and anywhere (Sari, 2022). Features such as transaction notifications, personalized product recommendations, and the ability to manage finances directly provide greater convenience for customers. In addition, the use of internet banking also helps to improve service personalization. With internet banking, customers can access various services without having to visit a bank branch directly. This provides greater flexibility, allowing customers to manage their finances in a more efficient way (Prasetyo, 2023). This easier and faster banking experience is highly appreciated by customers, especially in an increasingly fast-paced world.

Furthermore, artificial intelligence (AI) is starting to be used in various banking applications to enhance personalization. AI can be used in chatbots to provide fast and responsive customer service. In addition, AI can also analyze customer transaction data to provide more relevant product recommendations and improve the overall customer experience (Fitria, 2021). The use of AI in banking has been shown to reduce operational costs and increase efficiency, as well as create more human interactions with customers. Banks that make effective use of digital technology can create a highly personalized experience for their customers. For example, by using data analytics and AI, banks can offer products that are in line with customers' risk profiles and financial goals (Sutrisno, 2022). This allows banks to provide more relevant and valuable services for customers, as well as help them better achieve their financial goals.

However, to make this happen, banks need to invest in the right technology and involve a competent team to implement it. In this case, the successful implementation of digital technology is highly dependent on the skills and knowledge possessed by bank employees as well as support from bank leaders to encourage comprehensive digital transformation (Wibowo, 2023). Therefore, it is important for banks to ensure that they have adequate resources to support these digital initiatives. On the other hand, personalization in banking also has a significant impact on the bank's marketing strategy. By better understanding customer needs and preferences, banks can design marketing campaigns that are more targeted and more efficient. This allows banks to reduce marketing costs and achieve more optimal results in attracting new customers and retaining existing customers (Junaidi, 2021).

Of course, the influence of digital technology on personalization is not limited to customer service alone. This technology also allows banks to improve internal operational efficiency, for example in terms of risk management and transaction handling. By leveraging digital technology, banks can automate many processes that previously required human

intervention, which in turn reduces errors and increases the speed of service (Zulfikar, 2022). Not only that, digital technology also allows banks to conduct more accurate evaluations of the performance of their products and services. With data obtained from various digital channels, banks can identify trends and patterns that were previously unseen. This helps banks in designing products and services that are more innovative and in accordance with market demand, as well as increasing their competitiveness in an increasingly competitive market (Hutapea, 2023).

However, while digital technology provides many benefits, not all customers are comfortable with this change. Some customers, especially older ones, may find it difficult to adapt to new technologies and prefer conventional methods of accessing banking services. Therefore, it is important for banks to ensure that they provide adequate training and support for customers who are less familiar with technology (Ardiansyah, 2022). On the other hand, banks should also pay attention to the differences in service preferences between younger and older customers. Younger customers may be more likely to use mobile banking apps and other digital services, while older customers may prefer more personalized and in-person services. Banks need to find ways to accommodate these differences so that all customers feel valued and can make optimal use of services (Rina, 2023).

Along with the increasing adoption of digital technology, this trend is also followed by increased regulations related to personal data protection. Banks must ensure that they comply with existing regulations, such as regulations on personal data protection, to keep customer information safe and avoid data breaches. Compliance with these regulations is very important to maintain customer trust and create a safe environment for digital transactions (Pertiwi, 2024). The role of digital technology in improving the personalization of banking services is huge. With the right application of technology, banks can provide services that are more relevant, efficient, and in accordance with customer needs. This digital transformation not only provides benefits for banks, but also for customers, who can enjoy a more personalized, fast, and secure banking experience. Therefore, banks need to continue to innovate and adapt to technological developments to remain relevant in this increasingly competitive market (Yusuf, 2023).

METHOD

This study uses a quantitative approach with a survey method to identify the influence of digital technology on the personalization of services in the banking sector. This approach was chosen because it allows for the collection of representative data on customer views and experiences regarding the use of digital technology in banking services. This research is a type of *descriptive* and *causal* research. *Descriptive* research aims to describe the phenomenon occurring in the field, namely how digital technology is applied in banking and its impact on the customer experience. Meanwhile, *causal* research aims to identify the cause-and-effect relationship between the use of digital technology and the level of personalization of services received by customers, as well as the level of customer satisfaction.

RESULTS AND DISCUSSION

Respondent Profile

Of the 300 respondents involved in this study, most were active users of mobile banking and internet banking services. Based on the demographic data obtained, the majority of

respondents were between 25 and 40 years old (55%), followed by 41-60 years old (35%), and less than 25 years old (10%). In terms of gender, 60% of respondents were female, while the remaining 40% were male. Based on education level, most respondents (80%) had an education at the undergraduate level or higher, which suggests that the use of digital technology in banking is more dominant among the educated group.

Use of Digital Technology by Customers

From the survey conducted, around 85% of respondents stated that they regularly use mobile banking applications to access various banking services. The most frequently used features by customers are money transfers (90%), balance checks (85%), bill payments (75%), and the use of financial management features (70%). In addition, about 60% of respondents admitted to frequently using the product recommendation feature suggested by the app based on their transaction history.

Personalization of Banking Services

The survey results also show that the majority of respondents are satisfied with the level of personalization offered by their bank. A total of 72% of respondents stated that they felt that features offered by banks, such as relevant product recommendations and special offers based on transaction behavior, helped them in managing their finances. However, there are around 15% of respondents who feel that the recommendations provided do not match their needs, which indicates that there is room for improvement in the implementation of personalization.

Customer Satisfaction with Digital Technology

Other results show that 80% of respondents are satisfied with their experience in using digital banking technology. This satisfaction is mainly related to the convenience and convenience provided by mobile banking applications, which allow them to make transactions anytime and anywhere. However, despite the relatively high level of satisfaction, 20% of respondents expressed concerns regarding data security issues, especially related to the potential leakage of personal information they share through apps.

The Effect of Digital Technology Use on Service Personalization

Based on the results of the study, the use of digital technology, such as mobile banking applications and internet banking, has been proven to have a significant influence on the level of personalization of services received by customers. This is in line with previous findings in research by Sutrisno (2022), which states that digital technology allows banks to collect customer data more efficiently and provide more relevant and targeted product recommendations. Features such as product recommendations based on customer transaction data show that this technology can create a more personalized banking experience that suits the individual financial needs of customers. The results of this study are also in line with the findings of Haryanto (2021), who noted that technologies such as AI and predictive analytics can be used by banks to analyze customer behavior and provide more individualized services. Thus, digital technology has an important role in increasing customer satisfaction and building their loyalty. However, the results of this study also show that there are 15% of respondents who feel that the product recommendations provided by the bank are not relevant to their needs. This indicates that although technology can help banks in providing more personalized services, there are still challenges in terms of the accuracy and relevance of product recommendations tailored to customer needs. According to Fitria (2021), this can be caused by poor data quality or algorithms that are not precise enough in predicting customer preferences.

Customer Satisfaction with Digital Technology and Data Security

Most of the respondents in the study stated that they were satisfied with the use of digital technology in banking, especially related to convenience and ease of access. However, concerns related to data security are still an issue that needs attention. Although 80% of respondents were satisfied, 20% of respondents stated that they were concerned about the potential risk of their personal data leakage when using digital banking services. These concerns are not only found in this study, but also in previous research conducted by Amin (2022), which revealed that data security and privacy issues are the main challenges in the application of digital technology in banking. Customers who are concerned about the security of their data may be reluctant to use more advanced features, such as mobile banking apps that are connected to a lot of personal data. To this end, banks need to ensure that they have stronger security systems and clearer transparency regarding the protection of customer data. This will increase the level of customer trust in the digital banking technology they use.

Practical Implications for Banks

Based on the findings of this study, there are several practical implications for banks in improving the personalization of their services through digital technology (Waliullah et al., 2025; Kovacevic et al., 2024). First, banks need to continue to develop algorithms that are more accurate and relevant in providing product recommendations to customers, using more comprehensive and up-to-date data (Kanaparthi, 2024). Banks must also ensure that they can better identify and meet customer preferences through analytics and AI technologies (Ashrafuzzaman et al., 2025). Second, banks need to pay greater attention to the data security aspect. Providing a stronger layer of security and transparency in data protection policies will increase customers' sense of security when using digital banking services (Adedoyin & Dogan, 2025).. Finally, while digital technology can provide more personalized services, banks should still provide options for human interaction, especially for customers who are not very comfortable using technology or have special needs. This will help banks to create a more inclusive banking experience for all customers (Kanaparthi, 2024).

CONCLUSION

The results of the study show that the application of digital technology in the banking sector, especially through *mobile banking* applications and *internet banking*, has a positive impact on increasing the personalization of services received by customers. Digital technology allows banks to offer services that are more tailored to individual customer needs, increase customer satisfaction, and build loyalty. However, this study also found challenges in terms of the relevance of product recommendations provided by banks and customer concerns related to data security. Therefore, banks need to focus on developing technology that is more accurate in predicting customer needs and ensuring better data protection to increase customer trust.

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