

THE IMPACT OF DIGITAL TRANSFORMATION ON THE FINANCIAL PERFORMANCE OF COOPERATIVES IN SURABAYA

Siti Syamsiah¹, Bisma Ariyanto², Yuli Kurnia Firdausia³, Fiorella Seven⁴

Faculty of Economics, PGRI Adi Buana University, Surabaya

Email: sitisyamsiah@unipasby.ac.id¹, yulikurnia@unipasby.ac.id², bismaariyanto@unipasby.ac.id³

Abstract: The digitalization of cooperative services provides convenience, speed of service, comfort, and security, which are the main goals for cooperative members when transacting with the cooperative. Improved financial performance reflects a good level of financial health. When a process is evaluated and monitored over time, its results reflect its performance. The main objective of this study is to understand how digitalization of services affects the financial performance of cooperatives in Surabaya. This research uses a descriptive research strategy with a quantitative method. The research sample consists of 46 cooperatives registered with the Cooperative and SME Office, and 276 financial statements. Data collection techniques include literature study and documentation. This research is limited to the Surabaya geographical area, so the results may not be generalized to cooperatives in other locations. The research findings show that the digitalization of services has a positive and significant impact on ROA, ROE, and NIM.

Keywords: *Accounting, Digitalization, Financial Performance, Cooperatives, Services.*

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1. Introduction

The role of digitalization in cooperatives involves the use of technology to enhance various operational and service aspects of the cooperative. Digitalization in cooperatives can be implemented in various forms, such as the use of applications for financial transactions, member data management systems, online lending platforms, and digital-based financial reporting systems. Here are some roles of digitalization in cooperatives:

- 1) Improved Member Services: Digitalization enables cooperatives to provide faster, more efficient, and more convenient services to members. For example, members can access cooperative services online, perform transactions such as deposits and loans, and monitor their balances and financial reports through applications.
- 2) Automation of Internal Processes: Digitalization helps cooperatives automate various internal processes, such as transaction recording, financial reporting, and inventory management. This reduces human errors, improves operational efficiency, and saves time.
- 3) Better Financial Management: With digital-based financial systems, cooperatives can monitor cash flow and financial performance in real-time. This allows for better management of cooperative funds, including more accurate financial planning.

- 4) Improved Access to Financing: Through online lending platforms or other digital financial services, cooperatives can provide broader access for members to obtain loans with faster and more transparent processes.
- 5) Transparency and Accountability: Digitalization allows cooperatives to be more transparent in financial management. Members can easily access financial reports and monitor the use of cooperative funds, thereby enhancing accountability and trust among members.

Impact on Cooperative Financial Performance:

- 1) Increased Profitability: By improving operational efficiency and speeding up transaction processes, cooperatives can reduce operational costs and increase revenue, ultimately contributing to higher profitability.
- 2) Improved Liquidity: Digitalization allows cooperatives to monitor cash flow more effectively, which aids in liquidity management and ensures that the cooperative has enough funds to meet its financial obligations.
- 3) Better Risk Management: With the right technology, cooperatives can monitor and analyze risks more effectively, such as credit risk on members or market risks. This can reduce potential losses that may impact the cooperative's finances.
- 4) Improved Market Access and New Members: Through digital platforms, cooperatives can expand their reach, attract new members, and increase member participation in cooperative activities, which in turn can increase revenue and member contributions.

Overall, digitalization can have a significant positive impact on the financial performance of cooperatives by improving efficiency, transparency, and accessibility, which ultimately leads to more stable and healthy growth for the cooperative.

Research GAP

The literature review does not explicitly identify a specific research gap, but it highlights the need for further exploration of the mechanisms through which digital transformation impacts financial performance metrics such as profitability, revenue growth, and return on investment (ROI). It suggests that while empirical evidence exists, a deeper understanding of these mechanisms is still required.

This review aims to provide valuable implications for scholars and practitioners, implying that there may be a lack of practical frameworks or guidelines that can be derived from existing research. This gap emphasizes the need for studies that bridge theoretical insights on digital transformation with actionable strategies for organizations navigating the digital landscape.

The sentence refers to the importance of this research in providing an additional contribution to the existing understanding in the literature related to digitalization and financial performance in cooperatives or MSMEs (Micro, Small, and Medium Enterprises). This research is expected to enrich the existing knowledge about how the digitalization process in cooperatives or MSMEs affects their financial performance aspects.

More specifically, the contributions could include the following:

- 1) Adding a New Perspective: This research may offer a new viewpoint or additional information regarding the impact of digitalization on the financial performance of cooperatives or MSMEs, which has not been extensively discussed in the existing literature. For example, the researcher might explore how the use of digital technologies,

such as financial management apps or online lending platforms, impacts profitability, cost efficiency, or cash management in cooperatives.

- 2) Exploring Deeper Mechanisms: This research might delve deeper into the specific mechanisms that occur when cooperatives or MSMEs adopt digital technologies. For instance, how digitalization affects financial decision-making, risk management, or access to financing, which in turn influences their financial performance.
- 3) Bridging the Research Gap: For example, if the existing literature focuses only on the technical aspects of digitalization without directly linking it to financial performance, this research could fill that gap by examining the direct relationship between the adoption of digital technology and its impact on financial metrics such as profitability, revenue growth, or return on investment (ROI) in cooperatives or MSMEs.
- 4) Geographical or Industry Context Relevance: This research could also contribute by focusing on cooperatives or MSMEs in a specific region (e.g., Surabaya) or industry sector. This would provide more contextual insights into how local or sectoral factors influence the impact of digitalization on financial performance.
- 5) Practical and Actionable Guidelines: Another contribution could be practical recommendations for cooperatives or MSMEs on how to effectively implement digitalization to improve their financial performance. These could include frameworks or actionable guidelines that can be applied in real-world contexts by practitioners or decision-makers in cooperatives and MSMEs.

Overall, this research contributes to the existing literature by enhancing the knowledge of how digitalization impacts the financial performance of cooperatives and MSMEs, as well as offering new insights that can be used for the development of theory and practice in this field. The implementation of financial technology in the financial industry has facilitated access for cooperative members and MSME actors to financial services (Muzdalifa et al., 2018). Improved financial performance reflects good financial health. Performance is the result measured based on guidelines or standards established within a specific period. According to Tanjung et al. (2021), performance also includes the ability of employees to complete tasks well, both in quantity and quality, according to the responsibilities assigned. According to Lusiana et al. (2021), successful innovations that change markets or systems can offer various benefits such as convenience, affordability, accessibility, and practicality (Kalil & Aenurohman, 2020). Currently, these innovations have evolved to include aggregators, credit assessments, financial advisors, and money management services. Online lending became the dominant sector in the second quarter of 2024, followed by innovations in digital finance, digital payments, and money management services, which play a role in financing capital (Mahayati et al., 2021). This study aims to examine the impact of service digitalization on the financial performance of cooperatives in Surabaya.

The goal of this research is to determine the impact of service digitalization on the financial performance of cooperatives in Surabaya for the period 2020-2023. It is expected that the results of this study can provide input for cooperatives in developing digital services, particularly through financial technology, to improve services and convenience for their members. Additionally, this research is expected to contribute to the literature on microeconomics, particularly regarding the impact of service digitalization on cooperatives and MSME actors in Surabaya.

2. Literature Review

Financial performance is a measure of the achievements attained by a company in reflecting its financial condition during a specific period. The financial performance of a company can be assessed based on its financial statements. Financial statements are the result of the accounting process, which can be used as a tool for communication with parties directly involved with the company in analyzing the company's condition, whether good or bad. (Nainggolan & Abdulla, 2022)

2.1. Return On Asset (ROA)

ROA is a financial ratio used to measure a company's effectiveness in generating profits and utilizing its assets, as well as improving overall efficiency. (Alfa Salsabila Maimunah, 2019)

2.2. Return On Equity (ROE)

ROE is a profitability ratio used to calculate net profit after taxes using equity capital. (Alfa Salsabila Maimunah, 2019)

2.3. Net Interest Margin (NIM)

Is a ratio used to measure how well a financial institution (such as a bank or cooperative) can generate profit from the difference between the income earned from interest-generating assets (such as loans) and the costs incurred from paying interest on liabilities (such as customer deposits). NIM is often used as an indicator of the operational efficiency of a financial institution in generating profit from the interest margin.

2.4. Net Interest Margin (NIM) Formula

$$\text{NIM} = \frac{\text{Net Interest Income}}{\text{Average Earning Assets}} \times 100\%$$

Net Interest Income. The income earned from interest-generating assets (such as loans) minus the interest expenses paid on liabilities (such as deposits). Average Earning Assets: The average amount of interest-generating assets over a given period. Saunders, A. & Allen, L. (2010).

2.5. Cooperative

The term "cooperative" is derived from the Latin word "cooperate," which in English is referred to as cooperation. "Co" means together, and "operation" means working, so cooperation means working or striving together. (Hudiyanto, 2022:47)

2.6. Digitalization of Cooperatives

Digital technology is a breakthrough for cooperatives and MSMEs (Micro, Small, and Medium Enterprises) to win the competition in the Indonesian market. The digitalization of cooperatives and MSMEs has always been promoted by the government, even before the COVID-19 pandemic. This innovation is highly needed because the number of cooperatives and MSMEs in Indonesia is very large, with the hope that if cooperatives and MSMEs can win the competition, economic growth in Indonesia will continue to increase, making cooperatives and MSMEs contribute the most compared to other sectors. (Fadilah Haris, 2023)

3. Research Method

Several reasons could justify the selection of this period:

- a. **Technological Advancements:** The period from 2020 to 2023 coincided with rapid technological advancements, particularly in digitalization. During these years, many cooperatives began or increasingly introduced digital solutions for their services, such as mobile applications, online lending platforms, or cloud-based financial management systems. Research focused on this period could demonstrate how technology adoption has impacted cooperative performance.
- b. **COVID-19 Pandemic:** This period also encompasses the COVID-19 pandemic, which forced many businesses, including cooperatives, to adopt digital technologies in order to survive. Social distancing measures and the need for remote services made digitalization even more critical, so this research could examine the direct impact of the pandemic on digital transformation in cooperatives.
- c. **Global Digital Transformation:** Between 2020 and 2023, there was a global push to accelerate digital transformation across various sectors, including cooperatives. Governments and financial institutions may have started providing more significant support for the digitalization of cooperatives and MSMEs, making this period particularly relevant for research.

By explaining the reasons for selecting this period, readers can better understand the temporal context of the study and how factors such as technological advancements or relevant socio-economic conditions have influenced the development of digitalization in cooperatives during this time frame.

The data used in this study is secondary data obtained through interviews and written records. Documentation techniques were used to collect information, especially financial report documents. Interviews were conducted to obtain data related to the use of digital services. The data used in this study was taken from the Annual Financial Reports of Cooperatives in Surabaya for the period 2020-2023, using financial performance ratios such as Return on Assets (ROA), Return on Equity (ROE), Net Interest, and service digitalization. This study applies a quantitative method to understand the relationship and contribution of digitalization to the financial performance of cooperatives. The dependent variable in this study is service digitalization (Y), while the independent variables are financial performance measured through ROA (X1), ROE (X2), and NIM (X3).

4. Results and Discussion

4.1. Results

In the descriptive test, the variables of service digitalization and the financial performance of cooperatives were analyzed. Service digitalization is measured by indicators such as mobile payments, internet banking, accounting information systems, and web-based services, with an average (mean) value of 3.85 and a standard deviation of 0.625. The financial performance of cooperatives shows the highest average value for NIM, at 0.645.

Impact of Digitalization on ROA

The regression results indicate that service digitalization has a positive impact on ROA with a significance value of $0.000 \leq 0.05$. Digitalization affects ROA by 83.5%, while the remaining portion is influenced by other factors not explained in this study.

If digitalization of services affects ROA by 83.5%, it means that the cooperative experiences a significant improvement in financial performance due to the implementation of

digital services. Digitalization not only enhances operational efficiency but also has the potential to improve member satisfaction and attract more transactions, which ultimately has a positive impact on profits and the utilization of the cooperative's assets.

Impact on ROE

Service digitalization also has a positive impact on ROE with a significance of $0.012 \leq 0.05$. Digitalization affects ROE by 58.3%, while the remaining portion is influenced by other factors.

The figure of 58.3% indicates that digitalization of services has a significant contribution to the cooperative's profitability by improving operational efficiency and revenue, which is reflected in the increased ROE. However, 41.7% of ROE is still influenced by other factors that the cooperative needs to consider in its efforts to improve financial performance.

Impact of Digitalization on NIM

The regression results show that service digitalization has a positive impact on NIM with a significance of $0.004 \leq 0.05$. Digitalization affects NIM by 59.8%, and the remaining portion is influenced by other factors not explained in this study.

The figure of 59.8% indicates that service digitalization makes a significant contribution to the increase in the cooperative's NIM, reflecting higher income generated from the cooperative's productive assets after accounting for interest expenses. Digitalization improves operational efficiency and asset management, which ultimately contributes to better financial performance, particularly in terms of enhancing the net interest margin. However, 40.2% of the NIM is still influenced by other factors that the cooperative needs to consider in its ongoing efforts to improve its financial performance

4.2. Discussion

Specific Aspects of Digitalization:

Service digitalization can encompass various aspects or technologies. A more detailed explanation of the digitalization aspects that have the greatest impact on financial metrics could help provide deeper insights. Some examples that can be explained are:

- a. **Mobile Payments:** Payments via mobile apps that make it easier for members to transact quickly and efficiently can increase transaction volumes, potentially increasing interest income and profits. This can improve ROA and ROE, as well as affect NIM.
- b. **Digital Accounting Systems:** The use of digital accounting systems can help cooperatives manage and track transactions more effectively, reduce errors and operational costs, and improve transparency and efficiency. This will improve ROA by optimizing asset usage and increasing profits.
- c. **Cloud-Based Services:** Cloud-based services allow cooperatives to speed up transaction processes and reduce data storage costs. The speed and operational efficiency contribute to better financial performance.

Cumulative Effect of All Digital Services:

Service digitalization may involve various types of technologies working together to enhance the efficiency of the cooperative. For example, it's not just one technology or digital service affecting performance, but a combination of various digital services such as online payment systems, cloud-based data management, and digital financial reporting tools collectively making a significant impact on ROA, ROE, and NIM. Therefore, the cumulative

effect of all these elements might contribute more than the impact of a single digitalization aspect alone.

Improvement in Services and Member Satisfaction:

Digitalization also enhances the member experience. For instance, with easily accessible mobile apps or digital platforms, cooperative members can transact more frequently, make payments or withdrawals, and utilize other services. This improvement in experience can lead to increased transactions and deposit volumes, which ultimately boosts income and profits generated from the cooperative's assets.

Further explanation on how specific aspects of digitalization such as mobile payment systems, digital accounting systems, or cloud-based services contribute to changes in financial performance metrics is crucial. Additionally, understanding whether the impact is the result of one particular technology or the cumulative effect of various digital services applied simultaneously can provide a clearer picture of the relationship between digitalization and improved financial performance in cooperatives.

5. Conclusion

Conclusion this research are an explanation regarding the importance of the conclusion in a research or analysis, particularly for cooperative managers or stakeholders. Here is a detailed explanation:

1. A conclusion that includes direct recommendations: The author suggests that the conclusion section should not only summarize the key findings but also provide specific and applicable recommendations. In this case, the recommendations are intended for cooperative managers or other stakeholders.
2. Example of a recommendation: The author gives a concrete example regarding cooperatives in Surabaya. The suggestion is how cooperatives can utilize digitalization, or the use of digital technology, to improve their financial performance.
3. Providing added value: By providing practical and implementable recommendations, this research will offer additional benefits to practitioners reading it, such as cooperative managers or stakeholders who can directly use the information to improve the condition of their cooperatives.
4. Overall, encourages making research conclusions more useful by offering concrete and applicable suggestions, rather than merely summarizing the research findings.

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