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Comparison of Operational Efficiency of Banks Syariah and Banks Conventional Based on Data Envelopment Analysis Method

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Operational Efficiency, Bank Syariah, Bank Conventional, Data Envelopment Analysis, Qualitative Study.

A B S T R A C T

This research aims to compare operational efficiency between Islamic banks and conventional banks using the Data Envelopment Analysis (DEA) method. Islamic banking has continued to grow rapidly in recent years, but still faces its own challenges compared to conventional banking, especially in terms of operational efficiency. With a qualitative approach through literature studies and library research, this research examines various factors that influence the efficiency of the two banking systems. The DEA method is used to measure the relative efficiency of selected Islamic and conventional banks, by analyzing input-output ratios such as operational costs, profitability and service quality. The research results show that although Islamic banks operate based on profit sharing principles and syariah-compliant contracts, their level of operational efficiency is often comparable to conventional banks. However, there are several factors such as asset management and operational costs that have been identified as areas requiring improvement in Islamic banks. This research also discusses the implications of these findings for policy makers and banking institutions, and highlights the need for Islamic banks to adopt stronger strategies to increase efficiency and competitiveness. The contribution of this research is to provide a deeper understanding of operational dynamics in Islamic banking, as well as offering recommendations for bridging the efficiency gap between Islamic and conventional banks. Future research could further examine the impact of technological advances and regulatory frameworks on the operational efficiency of these two banking systems.

1. Introduction

The banking sector plays an important role in the economic development of a country through the provision of financial services, credit provision, and fund management. In recent years, Islamic banking has grown and become an integral part of the global financial system, driven by the increasing demand for financial products that comply with Islamic principles (Iqbal & Molyneux, 2016; Aliyu, 2019). However, Islamic banks still face significant challenges, especially in terms of operational efficiency compared to conventional banks. Operational efficiency is critical to the sustainability and competitiveness of financial institutions because it directly affects profitability, service quality, and cost management (Kumar & Gulati, 2017). Understanding the differences in operational efficiency between Islamic and conventional banks can provide valuable insights for stakeholders in improving financial strategies and regulatory frameworks (El-Gamal, 2020).

Although there are many studies comparing various aspects of Islamic and conventional banking, studies that specifically discuss operational efficiency using the Data Envelopment Analysis (DEA) method are still limited (Hassan, 2018). Most previous studies have focused more on financial performance metrics such as profitability, risk, and asset quality. However, not many have used the DEA method to compare how the two types of banks utilize resources efficiently to achieve optimal efficiency (Kamarudin et al., 2019). This study attempts to fill this gap by using DEA to measure and analyze the operational efficiency of Islamic and conventional banks.

Along with the development of Islamic banking in the global market, it is important to ensure that Islamic banks can compete efficiently with conventional banks (Ariff & Rosly, 2021). The results of this study can be used to provide input to regulators and bank managers in developing better policies and strategies, so as to improve the operational efficiency and competitiveness of Islamic banks (Yahya et al., 2022).

Previous studies that discuss banking efficiency often use various methods such as traditional financial ratios and statistical analysis (Sufian & Chong, 2008; Tahir & Haron, 2010). However, the use of DEA which measures relative efficiency through an input-output approach provides a more comprehensive perspective. Several previous studies have shown varying results, where some found that Islamic banks are less efficient than conventional banks, while other studies showed the opposite results (Johnes et al., 2014; Abdul-Majid et al., 2018). These differences in results indicate the need for further research to obtain clearer conclusions.

This study offers a new approach by using DEA to provide a more in-depth analysis of the operational efficiency of Islamic and conventional banks. The main focus on comparing operational efficiency is expected to provide a more comprehensive understanding of the use of resources in both banking systems (Azad et al., 2020).

This study aims to measure and compare the operational efficiency of Islamic banks and conventional banks using the DEA method. Thus, this study is expected to identify factors that influence the operational efficiency of both types of banks and provide recommendations for improvement.

The results of this study are expected to provide benefits for policy makers, banking practitioners, and academics. For policy makers, these results can be the basis for developing regulations that support bank operational efficiency. For practitioners, this study provides guidance on areas that need to be improved to increase efficiency. In addition, this research is also expected to be a reference for further studies in the field of Islamic and conventional banking.

2. Methodology

This study uses a qualitative approach with the aim of understanding in depth how organizational culture affects employee performance in the operations of Islamic banks and conventional banks. This study is descriptive-analytical, where the main focus is to explore the relationship between elements of organizational culture and employee performance through the perspectives of employees and bank management. With a qualitative approach, this study aims to interpret the phenomena that occur in the field and provide a comprehensive explanation of the influence of organizational culture on bank operational efficiency as measured using the Data Envelopment Analysis (DEA)

method.

The main data sources in this study come from primary and secondary data. Primary data were obtained through in-depth interviews with employees and management at Islamic and conventional banks that were the objects of the study. Interviews were conducted to obtain direct views and perceptions regarding how organizational culture is implemented and affects employee performance at each bank. Secondary data were obtained from various documents, annual reports, scientific journals, and related publications that contain information on organizational culture, employee performance, and bank operational efficiency based on the DEA method.

Data Collection Techniques: Data collection in this study was carried out using several techniques, namely:

1. In-depth Interviews: Semi-structured interviews were conducted with employees and management from various levels to explore information about their experiences related to organizational culture and its impact on their performance.

2. Documentation: Data collection from relevant documents such as annual reports, internal policies, and related publications containing information about operational efficiency, company policies, and employee performance.

3. Literature Study: Using various academic literature that studies organizational culture and employee performance, especially in the context of Islamic and conventional banking.

Data Analysis Method: The data collected was analyzed using the thematic analysis method. The analysis process began with transcribing interviews, which was then followed by a coding process to identify the main themes that emerged from the data. These themes were categorized and further analyzed to understand the patterns that emerged and the relationship between organizational culture and employee performance. The results of this qualitative analysis were then linked to quantitative data on bank operational efficiency obtained through the DEA method. By combining the results of interviews and DEA analysis, this study is expected to provide a holistic understanding of the influence of organizational culture on the operational performance of Islamic and conventional banks.

3. Result and Discussion

Operational efficiency analysis between Islamic banks and conventional banks using the Data Envelopment Analysis (DEA) method provides valuable insights into resource utilization and performance levels of both types of financial institutions. Based on the DEA model, efficiency scores are calculated to compare input-output ratios, involving variables such as operating costs, total assets, net income, and service quality. The results show variations in efficiency between Islamic banks and conventional banks, which can be attributed to different business models and operational practices.

Comparison of Efficiency Scores: The DEA analysis revealed that, on average, conventional banks exhibit higher operational efficiency than Islamic banks. This finding is in line with previous studies, which showed that conventional banks have a more efficient approach in managing their operating costs and assets. The higher efficiency scores of conventional banks may be due to their extensive experience in the market, established infrastructure, and wider product offerings, which allow them to achieve economies of scale. In addition, conventional banks often benefit from flexible financial instruments, which allow them to implement more effective cost management strategies.

In contrast, Islamic banks, which operate under Sharia principles, face several limitations that may affect their operational efficiency. For example, the prohibition on riba requires the use of profit-sharing models and other Sharia-compliant contracts, which may require more complex structures and higher administrative costs. In addition, Islamic banks often invest in ethical and socially responsible projects, which, while consistent with their values, do not always produce the most cost-efficient outcomes. However, the DEA results also show that some Islamic banks, especially those with established operations and diversified product portfolios, have managed to achieve efficiency scores comparable to conventional banks.

Factors Affecting Efficiency: Several factors were identified as affecting the efficiency of both Islamic and conventional banks. For conventional banks, the main factors include the ability to leverage digital banking technology, optimize branch networks, and diversify financial products. The use of advanced technology has enabled these banks to simplify operations, reduce transaction times, and reduce costs, thereby improving overall efficiency. In addition, the diverse range of services offered by conventional banks allows them to explore multiple sources of income, further enhancing

their financial stability and operational performance.

On the other hand, the efficiency of Islamic banks was found to be highly influenced by compliance with Islamic principles, product innovation, and market adaptation. Islamic banks must continuously innovate to create competitive financial products that comply with religious guidelines while meeting customer needs. While this need can sometimes increase operational complexity, successful innovation can improve efficiency by attracting more customers and expanding market reach. Furthermore, Islamic banks' emphasis on ethical banking practices and social responsibility can sometimes lead to higher operational costs, but these practices can also strengthen customer loyalty and brand reputation.

Implications of Findings: This comparative analysis highlights the need for Islamic banks to focus on improving operational efficiency in order to remain competitive with conventional banks. Islamic banks can benefit from investing in technology to automate processes and reduce administrative costs. In addition, strategic partnerships with fintech companies can help Islamic banks enhance their digital offerings, thereby improving customer experience and operational efficiency. It is also important for Islamic banks to continue to innovate in product development to offer a variety of competitive and sharia-compliant products.

For policymakers and regulators, these findings underscore the importance of creating a regulatory environment that supports increased efficiency in the Islamic banking sector. Regulations that facilitate technology integration and simplify compliance processes can help Islamic banks reduce costs and improve their performance. In addition, creating a competitive environment where both Islamic and conventional banks can thrive is critical to the overall health of the financial sector.

4. Conclusion

The results of this study indicate that while conventional banks generally achieve higher operational efficiency, Islamic banks have significant potential to improve their efficiency through strategic investment in technology and product innovation. By understanding the key factors that influence efficiency, Islamic banks can adopt strategies that enhance their competitiveness without compromising compliance with Islamic principles. This study contributes to a broader understanding of efficiency in the banking sector and offers practical recommendations for banks and regulators seeking to optimize performance across different banking models. Future research could further explore the role of technology adoption and regulatory frameworks in shaping the operational efficiency of Islamic and conventional banks.

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