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## DETERMINANTS OF FINANCIAL EFFICIENCY IN ISLAMIC BANKS: AN INTEGRATED CONCEPTUAL FRAMEWORK

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### Abstract:

Financial efficiency has been witnessed as a key indicator for the long-term success, sustainability, competitiveness, and resilience of Shariah banks operating in increasingly complex economic and institutional settings. Prior literature, regarding the determinants of Islamic banks' efficiency, remains fragmented with inconsistent findings because researchers examined the bank-specific, macroeconomic, and country governance determinants in isolation. To address this gap, the present study proposes an integrated conceptual framework that explains how these three categories of determinants collectively shape the financial efficiency of Islamic banks. Employing a conceptual literature review approach, this paper critically reviews and synthesises the existing literature to investigate the interconnections among bank-specific characteristics, macroeconomic factors, and institutional governance. The proposed integrated framework positions financial efficiency as the outcome of dynamic relationships among bank-specific capabilities, macroeconomic environments, and governance quality (including Shariah governance), offering a more comprehensive explanation for efficiency variations across Islamic banking systems. This study theoretically contributes to the Islamic banking literature by consolidating fragmented evidence into a coherent conceptual framework and provides a foundation for future empirical research. This study is also practically beneficial for bank managers, regulators, and policymakers seeking to strengthen financial efficiency across diverse institutional and economic contexts of different countries and regions.

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Bank-Specific Determinants; Country Governance; Financial Efficiency; Islamic Banks; Integrated Conceptual Framework



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## Introduction

Islamic banking has been recognised as a significant pillar of the global financial system (Ghenimi et al., 2024), especially in those countries where a dual-banking system is working together. Unlike conventional banks, Islamic banks are based on Shariah principles that forbid interest (riba), excessive uncertainty (gharar), and gambling (maysir) by emphasising risk-sharing, asset-backed financing, ethical investment, and social responsibility, which create more resilience to cope with speculative risks (Abiola-Adams et al., 2023; Raza et al., 2024). Due to Shariah doctrines, Islamic banks have a unique distinctiveness by forming more requirements relevant to operations and Shariah governance which may affect financial efficiency (Ouertani et al., 2020; Octrina & Mariam, 2021). Prior empirical findings claimed that Islamic banks' performance (stability and risk management) is better than conventional counterparts, specifically in different crisis periods of the subprime mortgage crisis (Hussien et al., 2019) and COVID-19 pandemic (Butt et al., 2025; Ghenimi et al., 2024). In this regard, Kurniawan et al. (2024) justified the reasons for the above remarkable performance of Islamic banks in the terms of governance mechanisms, specifically the structure and activity of Shariah supervisory boards.

Technically, resilience does not represent efficiency, as it has been claimed by researchers that Islamic banks are more stable, but in spite of this, they showed less cost efficiency as compared with conventional ones, which raises concerns regarding competitiveness and long-term sustainability (Adawiyah et al., 2023; Banna et al., 2023). This phenomenon pinpoints the significance of examining all those determinants that shape efficiency over diverse institutional environments. Thus, as competition between Islamic and conventional banks increases, the performance of Islamic banks, specifically their financial efficiency, has become a central concern to determine their financial success and sustainability in the long term (Nasim et al., 2024). Besides other measures of Islamic banks' financial performance, financial efficiency is considered as the best method regarding the measurement of a bank's financial performance by determining how effectively the bank is managing the resources (input) to convert them into optimal financial performance (output) by providing strategic information to all relevant stakeholders (Mai et al., 2023). Hence, efficiency is an indispensable element of the long-term financial success and sustainability of the banking industry (Nasim et al., 2024), since it is fundamentally significant for any sector of the economy (Ullah et al., 2023). In this regard, the contribution of Farrell (1957) towards the conceptual development of financial efficiency cannot be ignored. Further financial efficiency is segregated into different categories of cost

efficiency, scale efficiency, technical efficiency, allocative efficiency, price efficiency, profit efficiency, and profit efficiency.

Regarding the determinants of financial efficiency in Islamic banks, many significant factors have been found in prior empirical literature. For instance, at the internal level, bank-specific factors have been examined by researchers to understand how effectively Islamic banks transform deposits, capital, labour, and other resources into financing, income, and sustainable returns (Samad, 2024). Prior research found the significant impact of different internal factors such as size of bank (Siyamto, 2023), liquidity (Irianti et al., 2021), age of operations (Firmansyah, 2022), non-performing loans (Khalidah & Zuhroh, 2023), earning assets (Slimen et al., 2022), capital adequacy (Darlis and Utary, 2022), equity buffer (Slimen et al., 2022), etc. Nevertheless, these effects are complicated in nature to understand, yet strong capitalisation can enhance resilience, but excessive capital can decrease the profit efficiency if funds are not productively utilised. Likewise, larger banks can get benefit from economies of scale, but they may also experience bureaucratic inefficiencies if expansion is not matched by managerial capability and cost control (Al-Farisi & Hendrawan, 2012; Rahim et al., 2013).

The foundational roots of internal and external factors' impact on the Islamic banks' efficiency are based on the Structure-Conduct-Performance theory, which was developed by Bain in 1951 (Bain, 1951). So, external factors (macroeconomic conditions) also significantly impact the financial efficiency of Islamic banks (Nguyen et al., 2023). Prior studies found the significant impact of different external factors such as economic growth (Firmansyah, 2022), inflation (Octrina & Mariam, 2021), inflation (Slimen et al., 2022), exchange rate (Nazara et al., 2025), monetary policy or interest rate (Maram, 2024), unemployment (Islam et al., 2022), income level (Mai et al., 2023), economic freedom (Ibrahim & Ismail, 2020), economic policy uncertainty (Nasim et al., 2024), etc. However, it has been observed that the effect of macroeconomic variables is conditional rather than automatic since it depends on country context, banking structure, regulatory environment, crisis exposure, and the internal capability of banks to respond to changing economic conditions. Like, financial efficiency can be improved by elevated economic growth through means of financing opportunities expansion and making strong the borrowers' capability to repay. On the other hand, financial efficiency can be decreased by instability in exchange rates, inflation, and shocks in oil prices via elevating uncertainty, lowering purchasing power, and asset quality deterioration (Al Sharif, 2023; Havidz et al., 2017; Masood & Ashraf, 2012).

Besides above determinants, another important significant determinant is the country governance which is a broader institutional factor and has a major impact on the Islamic banks' financial efficiency (Mortadza et al., 2024). Technically, Islamic banks do not operate in isolation from the institutional environment, so they must comply not only with conventional prudential regulation but also with Shariah governance requirements. Country governance refers to the set of rules, customs, institutions, and procedures that a country uses to wield its authority. It includes the processes by which govern ents are chosen, overseen, and changed; the government's ability to devise and execute effective policies; and the mutual respect between citizens and the state for the institutions that regulate economic and social interactions (Kamarudin et al., 2022). Country governance indicators can influence banking efficiency by shaping contract enforcement, regulatory credibility, transparency, and stakeholder confidence. The different levels of profitability and financial efficiency of Islamic banks across the globe may be due to differences in country governance by either mitigating or exacerbating these

challenges. Thereby, country governance indicators (measured by the rule of law, political stability, government effectiveness, regulatory quality, control of corruption, etc.) might have a direct impact on the operations and financial efficiency of Islamic banks in different regions (Kamarudin et al., 2022). For example, weak rule of law undermines contract enforcement, raising transaction costs, while corruption erodes investor confidence and restricts resource allocation (Hussain et al., 2020). Conversely, strong governance reduces uncertainties, encourages innovation, and fosters efficient banking practices. This relationship aligns with Institutional Theory (DiMaggio & Powell, 1983), which emphasizes that organizations are embedded in institutional environments, and their structures and outcomes are shaped by the quality of those environments. Previous research studies show that country governance can influence Islamic bank revenue efficiency, price efficiency, productivity, risk management, and stability (Ghosh et al., 2024; Kamarudin et al., 2016; Kamarudin et al., 2018; Kamarudin et al., 2022). This suggests that governance should not be treated merely as a background condition rather it is a major determinant of financial efficiency.

Despite the growing literature, existing studies mostly considered the isolated impact of determinants, emphasizing either bank-specific or macroeconomic factors, without incorporating the country's governance into the analysis. Further, most studies focused on examining the impact of internal and external factors on the efficiency of Islamic banks in developed countries as well as conventional banks and ignored the Islamic developing countries. Most importantly, very limited studies have been conducted regarding country governance influence on the financial efficiency of Islamic banks since they considered the other measures of performance (e.g., profitability, stability, productivity, risk management, etc.) instead of efficiency. This creates a fragmented understanding of Islamic bank efficiency; as such, overlooking it leaves a major theoretical as well as practical gap, since efficiency could not be completely understood without considering country governance.

Thus, the problems being faced by Islamic banks are the scarce academic and policy understanding of all determinants' roles, specifically governance in framing these outcomes, leaving regulators with little guidance on how to address structural weaknesses. Any single category of factors cannot determine the financial efficiency in Islamic banks, and studying these determinants in isolation may produce incomplete or inconsistent findings. For instance, a well-capitalized bank may still operate inefficiently if macroeconomic instability weakens asset quality or if governance failures increase operational risk. Similarly, a strong regulatory environment may not improve efficiency if banks lack managerial capability, adequate liquidity management, or effective cost control. If Islamic banks are unable to convert financing demand into high-quality assets, macroeconomic growth may also fail to improve efficiency. So, it can be suggested that financial efficiency emerges from the interaction between internal bank characteristics, external economic indicators, and country governance structures. Addressing these issues (gaps) is necessary not only to safeguard the financial stability of Islamic banks and the financial system but also to support the Islamic banks as engines of growth globally. So, there is a need for a conceptual study to understand the mechanism of determinants' impact on the financial efficiency of Islamic banks.

To address the above issues, the present study aims to develop an integrated conceptual framework for understanding the financial efficiency's determinants in Islamic banks. By synthesising the existing literature on different determinants relevant to bank-specific, macroeconomic, and country governance, this paper elucidates how these three groups of factors mutually frame the efficiency of Islamic banks. Empirical research calculates efficiency

scores or examines specific determinants statistically, while the present study develops a conceptual argument that financial efficiency is best understood as the outcome of interacting internal, external, and institutional factors. This approach is useful because it provides a stronger theoretical foundation for future empirical research, particularly in cross-country studies where Islamic banks operate under different regulatory, economic, and governance environments.

Present study adds a significant contribution to the existing literature. It arranges the fragmented literature on Islamic bank efficiency determinants into three comprehensible categories (i.e., bank-specific, macroeconomic, and country governance). Further, it is also discussed by this paper that the above determinants' impact might be conditional and collectively reinforcing. Although previous studies have examined various determinants of bank efficiency, bank-specific, macroeconomic, and country governance factors are often considered separately, resulting in a fragmented understanding of financial efficiency. Such separation may overlook how efficiency is simultaneously shaped by banks' internal characteristics, prevailing economic conditions, and the broader governance environment. The novelty of this study therefore lies in integrating these three determinant categories within a single conceptual framework, providing a more comprehensive basis for explaining financial efficiency in Islamic banks.

As far as the methodology is concerned, for this conceptual study, a methodology of conceptual literature review has been used that synthesizes prior empirical findings to provide organized insights on financial efficiency's determinants in the contexts of Islamic banks. This approach emphasises on the three categories of determinants (i.e., bank-specific, macroeconomic, and country governance), which are consistently identified in the literature as the most significant determinants. In this regard, Google Scholar has been utilised to find the relevant studies in a systematic way. Duplicates and irrelevant publications were omitted, and only directly relevant research was incorporated. Regarding time frame, there is no specific time frame; rather, most important and relevant studies have been considered. The remaining paper consists of a literature review section, an arguments and analysis section, implications and future research direction section, and conclusion section.

## **Literature Review**

This section discusses the literature review of prior studies regarding the impact of three determinants (bank-specific, macroeconomic, country governance) on the Islamic banks' financial efficiency. Besides the empirical studies review, this section also provides the conceptual foundational understanding of the above impacts in detail.

### ***Bank-Specific Determinants***

Efficiency enhancement is always a key challenge for the banks, by emphasizing that banks' efficiency is usually impacted by many determinants, specifically internal factors. Bank-specific determinants (internal factors) refer to internal characteristics that affect how efficiently Islamic banks transform operational and financial resources into financing activities, income generation, and sustainable returns. It has been established by previous researchers that bank-specific factors have a significant impact on the efficiency of Islamic banks (Samad,

2024). Such determinants are basically within managerial control and therefore constitute the first level of influence on financial efficiency.

Prior literature found significant impact of different bank-specific factors such as size of bank (Siyamto, 2023), age of operations (Firmansyah, 2022), earning assets (Slimen et al., 2022), liquidity (Irianti et al., 2021), capital adequacy (Darlis and Utary, 2022), non-performing loans or asset quality (Khalidah and Zuhroh, 2023), equity buffer (Slimen et al., 2022), etc. But mostly studies found inconsistent analytical findings due to the reason that the impact of bank-specific factors differs with respect to country or region, banks' development stage, and regulator context.

The bank's size has a strong influence on the financial efficiency of Islamic banks (Naseri et al., 2020). It is calculated through total assets or total deposits, which denotes the capacity of the bank's operations (scale) to channel the resources, manage risk, and get maximum cost efficiency. As far as the Islamic banks are concerned, the size and financial efficiency relation has been witnessed to be more complex and context based as compared with conventional counterparts. Technically, Islamic banks are rooted in the principles of Shariah, specifically focusing on the profit-and-loss sharing model, where operation scale enables product diversity, expands market reach, and increases economic shocks' resilience (Slimen et al., 2022). So, Islamic banks always need to comply with both financial and religious regulations at the same time, which makes them more complex.

It has been witnessed by researchers that Islamic banks with high-scale operations can boost their financial efficiency due to economies of scale as they segregate their expenditures over a larger asset base, but some studies found that due to Shariah governance and regulatory compliance, Islamic banks can confront diseconomies of scale (Iqbal & Fikri, 2021; Kullab et al., 2024). So, it cannot be claimed that there is a consistent linear behavior of Islamic banks' size with financial efficiency; rather, it is a dual-word relation since larger banks having strategic benefits can give high efficiency under the strict organizational and religious regulations, while low-scaled institutions frequently may also exhibit agility, customer-focused service delivery, and enhanced local integration (Naseri et al., 2020).

As far as the empirical literature is concerned, some studies found the positive impact of a bank's size on the efficiency of Islamic banks (Saâdaoui & Khalfi, 2024; Slimen et al., 2022; Tan et al., 2024), and some discovered a negative impact (Samad & Chowdhury, 2019; Wulandari & Ryandono, 2020). Further, some researchers did not find any significant impact by justifying that size alone does not determine the financial success of Islamic banks (Firmansyah, 2022; Octrina & Priatmojo, 2023; Wardana & Abdani, 2023). For instance, certain studies indicate that larger Islamic banks demonstrate enhanced operational efficiency regarding cost management and margins of profit, particularly in well-established markets. On the other hand, some argue that efficiency improvements may decline at larger scales, as increased size results in decision-making inefficiencies and reduced adaptability to local market conditions (Putri, 2024). Furthermore, it is also witnessed that the size of a bank can influence the efficacy of governance mechanisms, including the Shariah Supervisory Board, affecting compliance, social responsibility, and risk management performance (Mauluddi et al., 2024).

Another significant internal factor is the age of a bank, which denotes the number of years since its founding and indicates organisational maturation, expertise in financial services, and responsiveness to market changes. Researchers found that the age of a bank has a positive

impact on the financial efficiency of Islamic banks, as mature banks get advantages from experiential learning, accumulated expertise, and refined internal processes and foster resiliency and operational proficiency as time passes (Mai et al., 2023; Nainggolan et al., 2023). While few researchers found negative impacts of old Islamic banks' performance owing to operational inefficiency, antiquated technology, bureaucratic inefficiency, and poorer adaptation to market changes, innovations, and consumer preferences (Chiahti et al., 2021; Malek and Rao, 2022; Marfuah et al., 2022). Further, some researchers could not find any significant relation (Samad, 2024; Siregar et al., 2025).

Asset quality is also the main determinant of financial efficiency, which encompasses all assets possessed by banks to produce anticipated income, with non-performing loans serving as a critical indicator for determining the performance of the bank's operations (Ashraf & Sulehri, 2023; Nazara et al., 2025). In banks, asset quality is typically assessed using the non-performing loans ratio, calculated by dividing non-performing loans by total financing (Ali et al., 2021; Muzammil & Siddiqui, 2020). In Islamic banks, asset quality has greater significance owing to the distinctive attributes of Shariah-compliant contracts like Mudarabah and Musharakah, and empirical research demonstrates a close relationship between asset quality, revenue efficiency, and overall financial performance (Ali et al., 2021; Kusmayadi et al., 2017; Sufian & Kamarudin, 2015). A decline in asset quality (increase in non-performing financing) negatively impacts a bank's operating efficiency by requiring greater provisions, elevating credit risk exposure, and diminishing resources accessible to effective intermediaries. Banks with superior asset quality are more likely to attain elevated levels of technical and cost efficiency, as they experience reduced credit losses and gain from improved reputational capital and risk-adjusted profitability. Some studies found the positive impact of asset quality on the bank efficiency or performance of Islamic banks (Khan et al., 2023; Sukmaningrum et al., 2020), and some found it negative (Ali et al., 2021). Few also found insignificant impact (Ashraf and Sulehri, 2023; Fadlillah & Baihaqi, 2021).

Liquidity management is the primary concern of every bank's management (Muzammil & Siddiqui, 2020), as it is deemed an essential factor for financial success, stability, and operational integrity, indicating a bank's ability to fulfil its short-term obligations without compromising its financial health (Sukmaningrum et al., 2020). The liquidity of a bank is typically computed by dividing its liquid assets by its total assets; a higher ratio indicates a greater proportion of liquidity (Muzammil & Siddiqui, 2020). Due to the prohibition of interest (riba) and the scarcity of Shariah-compliant short-term securities, Islamic banks have increased complexity in liquidity management. Unlike conventional banks, Islamic banks depend on tools like Sukuk or commodity Murabaha, which might not always offer quick access to cash. In previous research, some studies found the positive impact of liquidity on the bank efficiency or performance of Islamic banks (Annisya and Nurbaiti, 2022; Ghifar et al., 2022; Tan et al., 2024), and few found it negative (Darlis and Utary, 2022; Samad, 2024). Some could not find any significant impact (Khan et al., 2023; Fadlillah & Baihaqi, 2021).

Besides the above, researchers also considered a few more internal factors such as capitalisation (Bitar et al., 2018), management quality and operating cost control (Ben Mohamed et al., 2021; Mezzi, 2018; Viverita et al., 2024). Latest research also emphasised governance-related internal factors like Shariah governance, board effectiveness, and income diversification. As the effectiveness of Shariah governance depends on board expertise, independence, and regulatory support (Haridan et al., 2018; Tashkandi, 2023).

### ***Macroeconomic Determinants***

National economic conditions have a strong relation with Islamic banks due to financing demand, investment opportunities, repayment capacity, and funding cost fluctuations with variations in economic activity. Thus, the macroeconomic environment shapes (strengthen or weaken) the performance (efficiency) of Islamic banks, irrespective of how effectively individual banks are managed. Previous studies witnessed that macroeconomic determinants (external factors) also significantly affect the Islamic banks' efficiency and can boost it (Nguyen et al., 2023). Prior literature has identified some significant macroeconomic determinants of Islamic banking efficiency, such as gross domestic product (GDP) or economic growth (Firmansyah, 2022), exchange rate (Nazara et al., 2025), inflation (Slimen et al., 2022), monetary policy or interest rate (Maram, 2024), income level (Mai et al., 2023), economic freedom (Ibrahim & Ismail, 2020), unemployment (Islam et al., 2022), economic policy uncertainty (Nasim et al., 2024), etc. Nevertheless, the direction and magnitude of these relationships remain inconsistent across countries and time periods, suggesting that macroeconomic conditions' effects mostly depend on context with respect to countries.

In macroeconomic variables, economic growth is an important macroeconomic determinant that has a strong impact on the operations and affects bank efficiency variably across different countries. The magnitude of an economy is generally measured by the aggregate output of all finished goods and services produced inside a nation's borders over a specific time, referred to as gross domestic product (Al Sharif, 2023; Muzammil & Siddiqui, 2020). An increase in GDP growth generally increases business expansion, household consumption, asset quality, and financial service demand by creating opportunities for Islamic banks to expand their financing portfolios and enhance operational efficiency (Muzammil & Siddiqui, 2020). Few studies claimed a positive relationship between economic growth and Islamic banks' efficiency (Mai et al., 2023; Pathak, 2023; Samad, 2024). Some studies found the negative impact of economic growth on efficiency as well (Firmansyah, 2022; Ibrahim & Ismail, 2020), and some could not find any relation (Octrina & Priatmojo, 2023).

Another significant determinant is inflation, which generally influences both the operating environment of banks and the financial behaviour of customers (Met et al., 2023). An overall rise in average price is defined as inflation, which is usually measured through the Consumer Price Index (CPI) (Muzammil & Siddiqui, 2020). In this regard, it has been claimed by researchers that moderate inflation boosts nominal financing returns and bank revenues; on the other hand, high or persistent inflation can decrease household purchasing power as well as borrowers' repayment capacity and increase operating expenses (Muzammil & Siddiqui, 2020). Few previous studies found the positive impact of inflation on the financial efficiency or performance of Islamic banks (Al Sharif, 2023; Hasyim et al., 2023), and many found the negative impact (Muzammil & Siddiqui, 2020; Pratama et al., 2020) or insignificant impact (Solikhin, 2024). Keeping in view the above conflicting findings, it is suggested that inflation's influence depends on the banks' ability to adapt their financing strategies, broader economic environment, and regulatory responses.

Further, the interest rate is also considered as a major determinant of financial efficiency by impacting the value, supply, and cost of money in an economy by varying the cost and availability of credit (Nasim et al., 2024). 'Interest rate' refers to the compensation required by the bank and consumers for transactions between them. Technically, Islamic banks do not

utilise interest rates in establishing margins, but interest rates are employed to ascertain the rate of return on the allocated funds (Sukmaningrum et al., 2020). Islamic banks witnessed more resilience during interest rate fluctuations because of asset-backed financing and risk-sharing agreements; nevertheless, their operational efficiency may still be affected by interbank liquidity and pricing mechanisms. Few studies found the positive impact of interest rates on the Islamic banks' efficiency or performance (Manzilah & Suprihadi, 2024; Maram, 2024). Some studies found the negative effect (Muzammil & Siddiqui, 2020), and a few found no effect as well (Ridlwani et al., 2022).

Another significant determinant is exchanging rate, which reflects the value of a country's currency relative to others; this impacts the operational environment of financial institutions and varies, affecting Islamic bank efficiency and performance over different countries (Pratama et al., 2020; Razali et al., 2024). Exchange rate variations impact banks' financial efficiency and performance (Nazara et al., 2025) by altering the cost of capital, profitability, and credit risk exposure, especially for those engaged in international commerce and cross-border finance. Some prior research witnessed the negative impact of exchange rate fluctuation on the efficiency or other measures of the performance of Islamic banks (Solikhin, 2024; Widarjono, 2020).

In summary, keeping in view the above nature of relationships and impact of monetary variables on Islamic banking efficiency, it can be stated that these determinants cannot be ignored even within a Shariah-compliant financial framework.

### ***Country Governance Determinants***

Besides the above two factors' categories (bank-specific and macroeconomic), financial efficiency is also influenced by the country's governance environment wherein Islamic banks operate. 'Country governance' denotes the processes by which governments are chosen, overseen, and changed; quality of public institutions; regulatory effectiveness; legal enforcement; political stability; and accountability mechanisms that influence financial market development and economic and social interactions (Kamarudin et al., 2022). Country governance has a significant effect on the financial efficiency of financial institutions by affecting institutional frameworks, regulatory effectiveness, political stability, and the enforcement of legal systems (Ghosh et al., 2024; Mortadza et al., 2024). So, good governance improves banking efficiency, and weak governance reduces it.

Although Islamic banking around the world is based upon shariah-compliant ethical principles, national governance differs with respect to country and region (Hussain et al., 2020). Thus, Islamic banks work within national legal and regulatory systems. Different frameworks of country governance can directly affect their capability to allocate resources efficiently, manage risks, enforce contracts, and maintain stakeholder confidence. The World Governance Indicators (WGI) has six dimensions of country governance that influence the institutional conditions under which financial institutions operate (i.e., regulatory quality, rule of law, control of corruption, voice and accountability, political stability and absence of violence, and government effectiveness).

In the perspective of the governance dimensions, rule of law and regulatory quality are also fundamental to the efficient operation of Islamic banks. A high-quality rule of law and regulatory quality promote financial stability and enforcement of contracts and mitigate

corruption, thereby diminishing operational risks and augmenting banking efficiency (Athari & Bahreini, 2021). In the perspective of Islamic banks, they guarantee adherence to both civil and Shariah regulations, thereby enhancing governance and performance (Kamarudin et al., 2022). Previous studies suggest that countries with stronger regulatory frameworks and legal institutions tend to provide a more supportive environment for efficient Islamic banking operations and have a positive impact on their financial efficiency (Athari & Bahreini, 2021; Hussain et al., 2020; Ibrahim & Ismail, 2020). On the other hand, it is also established that rule of law and regulatory quality alone do not guarantee efficiency; rather, sometimes it negatively affects the efficacy or performance of Islamic banks (Kamarudin et al., 2022).

Further, voice and accountability, as well as corruption control, represent additional governance dimensions that significantly impact financial efficiency. Voice and accountability represent the degree to which a nation's population can engage in the selection of their government and exercise freedoms of expression and association. In Islamic banking, high voice and accountability may boost transparency and institutional trust of stakeholders and ensure regulatory compliance, hence improving operational performance. In prior empirical literature, studies found a positive impact of the voice and accountability on the efficiency or performance of Islamic banks (Hussain et al., 2020; Kamarudin et al., 2022). Similarly, regarding corruption, robust anti-corruption tools enhance operational efficiency, especially in Islamic banking systems that prioritise ethical governance (Kamarudin et al., 2022). Some studies claimed the positive impact of corruption control on Islamic banks' efficiency (Athari and Bahreini, 2021), and some claimed the negative impact (Kamarudin et al., 2022). Moreover, government effectiveness and political instability have also been recognised as significant determinants of the financial efficiency of Islamic banks.

Besides these, another very important indicator of governance in the context of Islamic banks is recognised, as is Shariah governance, which significantly discriminates Islamic banks from conventional ones. As compared to institutional settings of country governance, Shariah governance imposes another religious oversight to comply with Shariah doctrines by boosting transparency, institutional credibility, accountability, and stakeholder confidence. In this regard, Hariden et al. (2018) and Tashkandi (2023) claimed that a strong Shariah governance mechanism has a positive effect on the financial performance and stability of Islamic banks. Technically, country governance and Shariah governance are interconnected, as those countries wherein stronger legal systems, regulatory quality, and supervisory capacity are strong also have strong mechanisms of Shariah governance.

It can be summarised that despite growing empirical literature regarding different determinants of financial efficiency of Islamic banks, existing literature remains fragmented. Mostly studies focussed on the separate impact of each category of determinants (e.g., bank-specific, macroeconomic, and country governance) rather than a comprehensive study by considering all the determinants with inclusive and inconsistent findings. Most studies examine governance indicators as a control variable rather than a central determinant of financial efficiency. Further, researchers mainly focused on developed countries and overlooked the developing countries' Islamic banks. Moreover, most of them considered the other measures of performance (e.g., profitability, stability, productivity, risk management, etc.) instead of efficiency specifically in country governance dimensions. In a nutshell, the prior studies give only a partial understanding of the determinants of Islamic banking efficiency. Therefore, there is a strong need for a comprehensive integrated conceptual perspective in which bank-specific determinants, macroeconomic conditions, and country governance are investigated.

## Arguments and Analysis

It has been witnessed that a lot of prior empirical literature is done regarding Islamic banks' financial efficiency and its determinants, but still, it remains conceptually fragmented, and findings are inconsistent and inconclusive. As most studies have investigated the isolated impact of bank-specific, macroeconomic, and governance determinants rather than integrated impact into one coherent framework (Kamarudin et al., 2016; Kamarudin et al., 2018; Rahim et al., 2013). So, the impact was varied with respect to different countries and regions (MENA, ASEAN, GCC, etc.).

In three observed categories of financial efficiency's determinants in the context of Islamic banks, some most prominent bank-specific factors have been found that have significant impact by showing the internal capability of Islamic banks (i.e., bank size, bank age, asset quality, liquidity, capitalization, operating cost control, management quality, and income diversification influence) (Chowdhury & Rasid, 2015; Masood & Ashraf, 2012; Sufian & Noor, 2009). In this regard, some studies found a positive impact, some found a negative impact, and some could find no significant impact. So, keeping in view the above inconsistent findings, it can be stated that internal factors do not automatically improve efficiency rather their effect depends on managerial capability, resource allocation, market structure, and the broader operating environment.

Further, macroeconomic determinants also significantly impact the financial efficiency of Islamic banks, being a national economic environment wherein banks operate. In this regard, some of the most prominent macroeconomic factors have been witnessed, which have significant impact (positive, negative, or insignificant) on the financial efficiency of Islamic banks (i.e., economic growth, inflation, interest rates, exchange rates). It has been statistically found by researchers that the macroeconomic environment impacts the financial efficiency of Islamic banks with respect to their region and country due to their contextual circumstances (e.g., ASEAN, GCC, MENA, etc.) (Alqahtani et al., 2016; Alqahtani et al., 2017; Esmaeil et al., 2020; Jreisat & Al-Mohamad, 2022). Such differences show that macroeconomic determinants cannot be separated from regional context, and a pooled model can hide meaningful differences if it assumes that Islamic banks across countries respond similarly to economic changes.

Further, most importantly, the impact of country governance's dimensions has been observed in existing literature (rule of law, regulatory quality, government effectiveness, control of corruption, political stability, and voice and accountability), which directly impacts contract enforcement, regulatory credibility, transparency, and stakeholder confidence (Kamarudin et al., 2016; Kamarudin et al., 2018; Mortadza et al., 2024). It can be claimed that a strong mechanism of governance enhances financial efficiency by decreasing risk and supporting better financial intermediation. On the other hand, weak mechanisms of governance can boost compliance costs and distort credit allocation by decreasing the market discipline. In this regard, Islamic banks must comply with both national banking regulations and Shariah governance requirements. Prior studies claimed that country governance has a significant impact on Islamic bank efficiency, productivity, risk management, and stability, but its influence varies country-wise and region-wise (GCC, MENA, ASEAN, etc.) depending on the institutional settings therein (Elamer et al., 2020; Kamarudin et al., 2022). For instance, it is possible that the ASEAN region may face low efficiency of Islamic banks due to weaker governance indicators, such as regulatory quality and control of corruption, whilst the GCC

region may have higher efficiency of Islamic banks due to a stronger regulatory framework and institutional framework of rule enforcement and compliance that ensured a stable environment for Islamic banks to produce consistent returns.

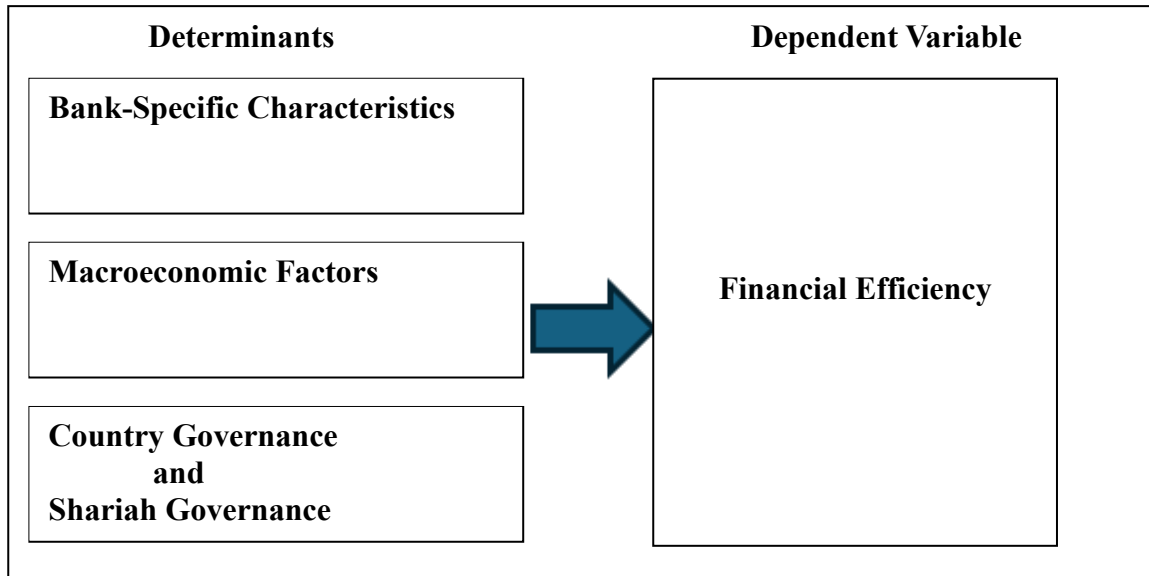
In this respect, it is pertinent to mention here that Islamic banks are also bound to operate under Shariah governance. By relying on Shariah supervisory boards, Islamic banks ensure compliance, decrease reputational risk, and improve stakeholder trust since board expertise, independence, competence, and monitoring quality can influence financial performance and efficiency level (Hamza, 2013; Nomran & Haron, 2019; Safiullah, 2021; Srairi et al., 2022). Technically, Shariah governance does not work as an isolated system; rather, its effectiveness is mainly dependent on national regulatory quality, legal enforcement, disclosure rules, and supervisory capacity. Further, centralized Shariah governance systems can increase consistency and accountability, on the other hand, decentralized systems can create variation in standards and enforcement (Alam, 2022; Grassa & Matoussi, 2014). These are the reasons that governance should be regarded as both a country-level and bank-level mechanism.

This conceptual study has observed that the major issue is not the absence of determinants; rather, it is the separation of determinants. Technically, bank-specific factors (internal ability), macroeconomic factors (external environment), and country governance dimensions (institutional setting) have a collective significant collective impact on financial efficiency of Islamic banks. Suppose an Islamic bank has strong capitalisation, but it can show inefficiency at the same time because of the impact of inflation when it can lower the ability of borrowers' repayment, or non-performing loans can be increased due to a weak legal enforcement system. Importantly, it is claimed by researchers that with respect to country or region, the impact of financial efficiency's determinants has been changing depending upon the macroeconomic and governance environments (e.g., GCC, ASEAN, MENA, etc.). So, due to the above justification, prior studies mostly showed inconsistent findings. By reviewing the literature, another research problem is observed: most of the studies focused on the financial efficiency of Islamic banks rather than developing banks.

It is also argued by reviewing the prior literature that researchers have usually employed Data Envelopment Analysis (DEA), Stochastic Frontier Analysis (SFA), two-stage DEA-regression approaches, and pool regression (Octrina & Mariam, 2021; Rusydiana & Marlina, 2019). Researchers may employ advanced approaches to cope with limitations in previous methods, including bootstrapped regression, Malmquist productivity analysis, multivariate adaptive regression splines, and hybrid frontier models by dealing with heterogeneity, nonlinear effects, and dynamic relationships in a robust way (Akdeniz et al., 2024; Iddouch et al., 2023; Mai et al., 2023; Saâdaoui & Khalfi, 2024).

So, due to the observed research issues, present study proposes a novel conceptual framework (see Figure 1) that extends the traditional approach of positioning determinants of Islamic banks' efficiency by an interconnected framework of bank-specific, macroeconomic, and country governance determinants, including a Shariah governance dimension rather than their sperate impact. This will maintain the dual expectations of Islamic banks as they must remain financially efficient while maintaining Shariah compliance, ethical legitimacy, and stakeholder trust. Based on the reviewed literature, the proposed conceptual framework positions financial efficiency as the outcome associated with three determinant domains: bank-specific, macroeconomic, and country governance determinants. Bank-specific determinants capture internal bank characteristics, macroeconomic determinants represent external economic

conditions, while country governance determinants reflect the broader institutional environment. Accordingly, each determinant domain is conceptually linked to the financial efficiency of Islamic banks, as illustrated in Figure 1.



**Figure 1. Integrated Conceptual Framework of Determinants to the Financial Efficiency of Islamic Banks**

### Implications and Analysis

The present study is very significant and has implications in both perspectives: theoretical and practical. From a theoretical perspective, this study provides a more comprehensive conceptual explanation of financial efficiency's determinants in Islamic banks instead of fragmented and inconsistent findings in prior literature. Present research gives a new framework of Islamic banks' efficiency determinants by integrating all bank-specific, macroeconomic, and governance determinants (including Shariah governance) in one study rather than their isolated role. Further, present study opens a new domain for academicians and researchers by adding the governance factor to the determinants list, as it is quite possible that different countries or regions (GCC, ASEAN, etc.) have different institutional settings and contexts that affect the Islamic banks' efficiency (Kamarudin et al., 2016; Kamarudin et al., 2022; Sufian & Noor, 2009).

Regarding practical implications, this study and new framework will be very beneficial for bank managers, regulators, and policymakers in order to strengthen the internal financial indicators and long-term efficiency strategies by working within the context of dynamic macroeconomic conditions and high governance environments (Chowdhury & Rasid, 2015; Masood & Ashraf, 2012). Consequently, broader governance quality, legal enforcement, and regulatory effectiveness will also be enhanced to improve banking efficiency (Aslam & Haron, 2020; Elamer et al., 2020).

Further, present study proposes significant avenues for future empirical research. Firstly, there is a need to conduct a comprehensive study to examine the combined effect of bank-specific, macroeconomic, and country governance factors on Islamic banks' financial efficiency

specifically in different countries or regions where different levels of institutional development are expected (Kamarudin et al., 2018). Islamic banks operate under diverse legal systems, regulatory frameworks, and economic structures, making cross-country comparisons particularly valuable. So, researchers may conduct a comparative analysis between ASEAN and GCC regions, which may provide deeper insights into how differences in governance quality, financial development, and macroeconomic stability influence banking efficiency by generalizing the prior findings (Adawiyah et al., 2023; Alqahtani et al., 2017).

Moreover, the latest analytical methods regarding Islamic banks' efficiency and its determinants may also be employed (e.g., bootstrapped DEA, network DEA, meta-frontier analysis, machine learning approaches, and fuzzy DEA) by incorporating the nonlinear relationships, dynamic efficiency fluctuations, and technological heterogeneity (Akdeniz et al., 2024; Iddouch et al., 2023; Mai et al., 2023; Saâdaoui & Khalfi, 2024). Most importantly, the importance of Shariah governance towards Islamic banks' efficiency cannot be neglected. So, the examination of Shariah governance's impact, including conventional country governance factors, needs immediate attention by future researchers. Another important domain of research which requires novel investigation is the relation of Islamic banks' efficiency with artificial intelligence, financial technology, sustainability, environmental and social factors (Alam et al., 2022; Banna et al., 2023; Tashkandi, 2023).

At the end, this study acknowledges some limitations: although the proposed novel framework may give a comprehensive conceptual understanding of Islamic banks' financial efficiency to practitioners and researchers, present study could not empirically validate the proposed framework. This study also could not explore more determinants, such as human behaviours, emotions, weather factors, digitalisation, etc. So, researchers can take these limitations as avenues for future empirical research regarding testing and refining the proposed framework using different efficiency estimation techniques, regional settings, and longitudinal data.

## Conclusion

It has been concluded that financial efficiency is a very important factor for the long-term financial success, sustainability, competitiveness, and resilience of Islamic banks. Prior literature regarding the Islamic banks' financial efficiency and its determinants is based on the examination of the isolated impact of each determinant independently (i.e., bank-specific, macroeconomic, and country governance, including Shariah governance). So, the present study provides a new integrated, comprehensive conceptual framework by considering all three categories of determinants of Islamic banks' efficiency in one study to avoid the fragmented and inconsistent findings observed in prior literature. Collectively, these determinants influence the ability of Islamic banks to allocate resources efficiently, respond to economic changes, and achieve sustainable performance within an institutional setting of different regions. Therefore, this integrated conceptual framework provides a more comprehensive explanation of why financial efficiency varies across Islamic banking systems with respect to different countries (GCC, ASEAN, etc.).

This study shows its theoretical and practical implications for researchers, academicians, practitioners, regulators, bank managers, and other stakeholders. Present study has some limitations and provides avenues for future research. At the end, this study is of the conclusion that as Islamic banks continue to expand over countries or regions of different governance and

economic environments, the adoption of a more comprehensive and integrated framework of efficiency determinants may give better understanding of Islamic banks' financial efficiency by encouraging more effective regulatory policies, managerial practices, and future empirical investigations.

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**Ethics Statement:** This study did not involve any human participants, animals, or sensitive data requiring ethical approval. The authors confirm that the research was conducted in accordance with accepted academic integrity and ethical publishing standards.

**Author Contribution Statement:** Muhammad Shehryar has conceptualised the main idea and wrote the original draft. Nurazilah Zainal closely supervised, reviewed, and edited the entire paper. Farah Aida Ahmad Nadzri also took part in reviewing process specifically validation. All authors read and approved the final version of the manuscript prior to submission.

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## References

- Abiola-Adams, O., Azubuike, C., Sule, A. K., & Okon, R. (2023). Risk management and hedging techniques in Islamic finance: Addressing market volatility without conventional derivatives. *Int J Risk Finance*.
- Adawiyah, R. A., Suhel, A. S., & Syathiri, A. (2023). The Efficiency of Islamic Banks in the Middle East and Southeast Asia: Stochastic Frontier Approach. *EQUILIBRIUM*, 11(2), 241-264.
- Akdeniz, Ö. O., Abdou, H. A., Hayek, A. I., Nwachukwu, J. C., Elamer, A. A., & Pyke, C. (2024). Correction: Technical efficiency in banks: a review of methods, recent innovations and future research agenda. *Review of Managerial Science*, 18(11), 3457-3458.
- Al-Farisi, A. S., & Hendrawan, R. (2012). Effect of capital structure on banks performance: a profit efficiency approach Islamic and conventional banks case in Indonesia. *International Research Journal of Finance and Economics*, 86(6), 1-14.
- Alqahtani, F., Mayes, D. G., & Brown, K. (2017). Reprint of economic turmoil and Islamic banking: evidence from the Gulf cooperation council. *Pacific-basin finance journal*, 42, 113-125.
- Alqahtani, F., Mayes, D. G., & Brown, K. (2017). Islamic bank efficiency compared to conventional banks during the global crisis in the GCC region. *Journal of International Financial Markets, Institutions and Money*, 51, 58-74.
- Ali, M. A., Shuib, M. S., & Nor, A. M. (2021). Protection of bank's wealth: How is islamic banks's financial performance affected by asset quality and operational efficiency. *Universal Journal of Accounting and Finance*, 9(4), 745-756.
- Al Sharif, B. M. M. (2023). The impact of macroeconomic variables on the performance of Islamic banks: an empirical study. *International Journal of Professional Business Review: Int. J. Prof. Bus. Rev.*, 8(4), 22.
- Alam, M. K. (2022). A proposed centralized Shariah governance framework for Islamic banks in Bangladesh. *Journal of Islamic Accounting and Business Research*, 13(2), 364-389.
- Annisya, T., & Nurbaiti, N. (2022). Efficiency Analysis of Islamic Commercial Banks Using a Two-Stage Data Analysis Method. *Tazkia Islamic Finance and Business Review*, 16(1).
- Ashraf, M. S., & Sulehri, F. A. (2023). Impact of Asset Quality on Financial Stability of Islamic Banks in Pakistan: A Moderating Role of Corporate Image. *Bulletin of Business and Economics (BBE)*, 12(3), 268-277.
- Athari, S. A., Saliba, C., Khalife, D., & Salameh-Ayanian, M. (2023). The role of country governance in achieving the banking sector's sustainability in vulnerable environments: New insight from emerging economies. *Sustainability*, 15(13), 10538.
- Bain, J. S. (1951). Relation of profit rate to industry concentration: American manufacturing, 1936–1940. *The Quarterly Journal of Economics*, 65(3), 293-324.
- Banna, H., Hassan, M. K., & Bataineh, H. (2023). Bank efficiency and fintech-based inclusive finance: Evidence from dual banking system. *Journal of Islamic Monetary Economics and Finance*, 9(1), 1-16.
- Ben Mohamed, E., Meshabet, N., & Jarraya, B. (2021). Determinants of technical efficiency of Islamic banks in GCC countries. *Journal of Islamic Accounting and Business Research*, 12(2), 218-238.
- Bitar, M., Pukthuanthong, K., & Walker, T. (2020). Efficiency in Islamic vs. conventional banking: The role of capital and liquidity. *Global Finance Journal*, 46, 100487.

- Bitar, M., Hassan, M. K., Pukthuanthong, K., & Walker, T. J. (2018). The performance of Islamic vs. conventional banks: Evidence on the suitability of the Basel capital ratios. *Forthcoming Open Economic Review*.
- Butt, U., & Chamberlain, T. (2025). Performance of Islamic Banks During the COVID-19 Pandemic: An Empirical Analysis and Comparison with Conventional Banking. *Journal of Risk and Financial Management*, 18(6), 308.
- Chiahti, M. F., Shokat, W., Alvi, A. K., Afzal, A., Afzal, M., Irum, S., ... & Kaur, P. (2021). Factors Affecting Bank-specific and Macroeconomic profitability Determinants of Islamic and Conventional Banks in Pakistan. *Global Business & Management Research*, 13(2).
- Chowdhury, M. A. F., & Rasid, M. E. S. M. (2015). The determinants of the profitability of Islamic banks: a cross-sectional study from Asia and Africa. *International Journal of Business and Globalisation*, 15(3), 375-388.
- Darlis, V., & Utary, T. (2022). Determinan Efisiensi Bank Umum Syariah di Indonesia dengan Profitabilitas sebagai Pemoderasi. *Akuntansi dan Manajemen*, 17(1), 20-39.
- DiMaggio, P. J., & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American sociological review*, 48(2), 147-160.
- Elamer, A. A., Ntim, C. G., & Abdou, H. A. (2020). Islamic governance, national governance, and bank risk management and disclosure in MENA countries. *Business & Society*, 59(5), 914-955.
- Fadlillah, Z., & Baihaqi, J. (2021). ANALISIS FAKTOR PERMODALAN, KUALITAS ASET, LIKUIDITAS, EFISIENSI OPERASIONAL DAN PROFITABILITAS PADA BANK SYARIAH DI INDONESIA. *FINANSIA: Jurnal Akuntansi dan Perbankan Syariah*, 4(2), 115-130.
- Farrell, M. J. (1957). The measurement of productive efficiency. *Journal of the royal statistical society series a: statistics in society*, 120(3), 253-281.
- Firmansyah, I. (2022). Improving The Islamic Banks Competitiveness Through Efficiency: Two-Stages DEA Analysis. *Islamic Economics Methodology*, 1(1).
- Ghenimi, A., Chaibi, H., & Omri, M. A. (2024). Risk and performance of Islamic and conventional banks under COVID-19 pandemic: Evidence from MENA region. *Arab Gulf Journal of Scientific Research*, 42(4), 1788-1804.
- Ghifar, A. D., Zakariyya, M., & Trisianto, E. M. (2022). DOES CORPORATE GOVERNANCE, LIQUIDITY, AND BANK SIZE AFFECT THE EFFICIENCY OF SHARIA BANKS IN INDONESIA?. *Jurnal Ekonomi dan Bisnis Airlangga*, 33(1).
- Ghosh, P., KHARUDDIN, S. B., & Kamarudin, F. (2024). Country governance nexus with the financial stability of banks: The moderating effect of country's income level. *Eurasian Journal of Business and Economics*, 17(34), 141-165.
- Grassa, R. (2018). Deposits structure, ownership concentration and corporate governance disclosure in GCC Islamic banks Empirical evidence. *Journal of Islamic Accounting and Business Research*, 9(4), 587-606.
- Hamza, H. (2013). Sharia governance in Islamic banks: effectiveness and supervision model. *International Journal of Islamic and Middle Eastern Finance and Management*, 6(3), 226-237.
- Haridan, N. M., Hassan, A. F., & Karbhari, Y. (2018). Governance, religious assurance and Islamic banks: Do Shariah boards effectively serve?. *Journal of Management and Governance*, 22(4), 1015-1043.

- Havidz, S. A. H., Jianmu, Y., Aima, M. H., & Ali, H. (2017). Do bank specifics and macroeconomics determine banks' efficiency? Evidence from selected Asian Islamic Banks. *International Journal of Economic Research*, 14(9), 425-439.
- Hussain, H. I., Kamarudin, F., Mohamad Anwar, N. A., Nassir, A. M., Sufian, F., & Tan, K. M. (2020). IMPACT OF COUNTRY'S GOVERNANCE DIMENSIONS ON BANK REVENUE EFFICIENCY: OVERVIEW ON MIDDLE EAST, SOUTHEAST ASIA, AND SOUTH ASIA COUNTRIES. *Transformations in Business & Economics*, 19(1).
- Hussien, M. E., Alam, M. M., Murad, M. W., & Wahid, A. N. (2019). The performance of Islamic banks during the 2008 global financial crisis: Evidence from the Gulf Cooperation Council countries. *Journal of Islamic Accounting and Business Research*, 10(3), 407-420.
- Ibrahim, W. H. W., & Ismail, A. G. (2020). Do regulation, Maqasid Shariah and institutional parameter improve Islamic Bank efficiency?. *Journal of Islamic Monetary Economics and Finance*, 6(1), 135-162.
- Iqbal, M. S., & Fikri, S. M. (2023). Credit risk impact on Islamic banks listed in the Karachi Stock Exchange in Pakistan. *Journal of Tourism, Hospitality, and Services Industries Research (JTHS)*, 3(01), 120-141.
- Iddouch, K., El Badraoui, K., & Ouenniche, J. (2023). Landscape of research on the efficiency profiles of Islamic banks using DEA: survey, classification and critical analysis of the literature. *International Journal of Business*, 28(3), 1-46.
- Irianti, F., Febrian, E., & Faisal, Y. A. (2021). Study of Efficiency of Islamic Commercial Banks in Indonesia through the Role of Capital and Liquidity: Two-Stage Data Envelopment Analysis. *Budapest International Research and Critics Institute-Journal (BIRCI-Journal)*, 4(3), 5347-5361.
- Islam, H., Islam, M. S., Soumia, L., Apon, T. A., & Tarin, T. I. (2022). Impact of macroeconomic factors on bank performance in Bangladesh.
- Jreisat, A., & Al-Mohamad, S. (2022). Bank efficiency and oil price volatility: a view from the GCC countries. *Emerging Science Journal*, 6(3), 519-529.
- Kamarudin, F., Sufian, F., Nassir, A. M., Anwar, N. A. M., Ramli, N. A., Tan, K. M., & Hussain, H. I. (2018). Price efficiency on Islamic banks vs. conventional banks in Bahrain, UAE, Kuwait, Oman, Qatar and Saudi Arabia: impact of country governance. *International Journal of Monetary Economics and Finance*, 11(4), 363-383.
- Kamarudin, F., Sufian, F., & Md. Nassir, A. (2016). Does country governance foster revenue efficiency of Islamic and conventional banks in GCC countries?. *EuroMed Journal of Business*, 11(2), 181-211.
- Kamarudin, F., Mohamad Anwar, N. A., Md. Nassir, A., Sufian, F., Tan, K. M., & Iqbal Hussain, H. (2022). Does country governance and bank productivity Nexus matters?. *Journal of Islamic Marketing*, 13(2), 329-380.
- Khalidah, N. D., & Zuhroh, I. (2023). ANALISIS EFISIENSI PERBANKAN SYARIAH DUNIA. *Journal of Financial Economics & Investment*, 3(3), 132-139.
- Khan, S., Polat, A., & Bashir, U. (2023a). Factors Affecting the Financial Performance of Islamic Banks in Pakistan. *FWU Journal of Social Sciences*.
- Kullab, Y., Sahyouni, A., & Shehada, M. (2024). The Scale Dilemma: Investigating the Non-Monotonic Relationship Between Bank Size and Market Value in Emerging Middle East and North Africa (MENA) Economies. *Journal of Corporate Accounting & Finance*.
- Kurniawan, F., Hanggraeni, D., & Purnomo, G. (2024). Risk Governance Unlocks Islamic Banks' Dual Performance Goals: Tata Kelola Risiko Mengungkap Tujuan Kinerja

- Ganda Bank Syariah. *JBMP (Jurnal Bisnis, Manajemen dan Perbankan)*, 10(2), 199-223.
- Kusmayadi, D., Badruzaman, J., & Firmansyah, I. (2017). Efficiency and profitability of Islamic banks in Indonesia. *Advanced Science Letters*, 23(9), 8807-8812.
- Masood, O., & Ashraf, M. (2012). Bank-specific and macroeconomic profitability determinants of Islamic banks: The case of different countries. *Qualitative Research in Financial Markets*, 4(2-3), 255-268.
- Mai, X. T. T., Nguyen, H. T. N., Ngo, T., Le, T. D., & Nguyen, L. P. (2023). Efficiency of the Islamic banking sector: evidence from two-stage DEA double frontiers analysis. *International Journal of Financial Studies*, 11(1), 32.
- Malek, M. A., & Rao, G. V. (2022). Profitability of Islamic Banking—A Study of Select Islamic Banks from Asia. *International Journal of Islamic Economics and Finance Studies*, 8(1), 57-77.
- Manzilah, A., & Supriyadi, S. (2024). ANALISIS DINAMIKA BAGI HASIL DEPOSITO MUDHARABAH, SUKU BUNGA DAN INFLASI TERHADAP JUMLAH DEPOSITO MUDHARABAH PADA PT. BANK MUAMALAT INDONESIA (2018-2023). *RISTANSI: Riset Akuntansi*, 5(2), 109-120.
- Maram, M. A. (2024). Measuring the Impact of Monetary Policy on the Efficiency of Sudanese Islamic Banks. *International Journal on Recent Trends in Business and Tourism (IJRTBT)*, 8(1), 41-53.
- Mauluddi, H. A., Kristianingsih, K., & Setiawan, S. (2024). Peran Dewan Pengawas Syariah dalam Meningkatkan Tanggung Jawab Sosial Islam: Apakah Ukuran Bank Memiliki Efek Moderasi?. *Jurnal Maps (Manajemen Perbankan Syariah)*, 8(1), 26-35.
- Marfuah, M., Ismail, P. H., & Salsabilla, S. (2022). Determinan Kinerja Bank Umum Syariah yang Diukur dengan Maqashid Syariah Index. *Telaah Bisnis*, 23(1), 21-39.
- Mezzi, N. (2018). Efficiency of Islamic banks and role of governance: empirical evidence. *Managerial Finance*, 44(5), 590-603.
- Mortadza, N. S., Purwaningsih, Y. U. N. A. S. T. I. T. I., Trinugroho, I. R. W. A. N., Mulyaningsih, T., & Hakim, L. U. K. M. A. N. (2024). Interplay of Institutional Quality, Efficiency, and Stability in The Islamic Banking Sector of Malaysia. *International Journal of Economics & Management*, 18(1), 73-90.
- Muzammil, M., & Siddiqui, D. A. (2020). Effect of interest rates and bank size on profitability of Islamic Banks in an Interactive Model. *Available at SSRN 3641634*.
- Nainggolan, Y. A., Prahmila, D. I., & Syaputri, A. R. (2023). Do board characteristics affect bank risk-taking and performance? Evidence from Indonesian and Malaysian Islamic banks. *Journal of Management and Governance*, 27(4), 1115-1145.
- Naseri, M., Bacha, O., & Masih, M. (2020). Too Small to Succeed versus Too Big to Fail: How Much Does Size Matter in Banking?. *Emerging Markets Finance and Trade*, 56, 164 - 187.
- Nasim, A., Nasir, M. A., & Downing, G. (2024). Determinants of bank efficiency in developed (G7) and developing (E7) countries: role of regulatory and economic environment. *Review of Quantitative Finance and Accounting*, 1-38.
- Nazara, D. S., Hertina, D., Mulatsih, L. S., & Judijanto, L. (2025). The Role of Exchange Rate As a Moderating Variable in CAR, NPF and BOPO Influencing Profitability. *Jurnal Aplikasi Bisnis dan Manajemen (JABM)*, 11(1), 99-99.
- Nguyen, L. H., Le, T. D., & Ngo, T. (2023). Efficiency and performance of Islamic banks amid COVID-19. *Journal of Islamic Accounting and Business Research*.
- Nomran, N. M., & Haron, R. (2019). Dual board governance structure and multi-bank performance: a comparative analysis between Islamic banks in Southeast Asia and GCC

- countries. *Corporate Governance: The International Journal of Business in Society*, 19(6), 1377-1402.
- Ouertani, M. N., Hamdani, H., & Bashir, M. S. (2020). Estimating Islamic banks' technical and allocative inefficiencies: A shadow cost approach. *The Journal of Muamalat and Islamic Finance Research*, 14-32.
- Octrina, F., & Mariam, A. G. S. (2021). Islamic bank efficiency in Indonesia: Stochastic frontier analysis. *The Journal of Asian Finance, Economics and Business*, 8(1), 751-758.
- Octrina, F., & Priatmojo, H. E. (2023). Islamic bank efficiency: an efficiency method with SFA. *Jurnal Perspektif Pembiayaan Dan Pembangunan Daerah*, 10(6), 379-394.
- Pathak, H. P. (2023). Unveiling the Nexus between Bank-Specific Factors, Macroeconomic Indicators, and Commercial Bank Performance. *PYC Nepal Journal of Management*, 16(1), 15-34.
- Pratama, L. G. B., Kusnendi, K., & Utami, S. A. (2020). The Influence of Inflation, Exchange Rates, CAR and NPF to Stability of Islamic Banks in Indonesia Period 2015-2019. *IQTISHODUNA: Jurnal Ekonomi Islam*, 9(1), 29-54.
- Putri, F. I. (2024). Islamic Bank Efficiency: Research Path from Scopus Database. *Economics and Sustainability*, 1(1).
- Rahim, A., Rahman, A., & Rosman, R. (2013). Efficiency of Islamic Banks: A Comparative Analysis of MENA and Asian Countries. *Journal of Economic Cooperation & Development*, 34(1).
- Raza, H., Riaz, N., Rasool, F., & Riaz, A. (2024). Islamic Banking and Finance: A Systematic Literature Review And Bibliometric Analysis. *Journal of Accounting and Finance in Emerging Economies*, 10(2), 73-86.
- Razali, R., Haryono, S., Abdou, O. S., Jailani, M. R., & Imamuddin, I. (2024). Revisiting the Nexus among Bank Specific Factors, Macroeconomic Factors, and Islamic Banking Performance: Three Measurement Models. *Shirkah: Journal of Economics and Business*, 10(1), 78-96.
- Ridlwan, A. A., & Kumala, F. O. N. (2022). Effect of Bank Indonesia Rate on Total Financing of The Islamic Banks for The 2014-2020 Period with Third-Party Funds as a Moderating Variable. *IQTISHODUNA: Jurnal Ekonomi Islam*, 11(2), 169-182.
- Rusydiana, A. S. (2019). Financial and social efficiency on Indonesian Islamic banks. *Journal of Islamic Monetary Economics and Finance*.
- Saâdaoui, F., & Khalfi, M. (2024). Revisiting Islamic banking efficiency using multivariate adaptive regression splines. *Annals of Operations Research*, 334(1), 287-315.
- Safiullah, M. (2021). Stability efficiency in Islamic banks: does board governance matter?. *Journal of Behavioral and Experimental Finance*, 29, 100442.
- Samad, A. (2024). Islamic Banks' Bootstrap Efficiency and Its Determinants: Cross Country Evidence from Nine South and Southeast Asian Countries. *Journal of Accounting & Finance* (2158-3625), 24(5).
- Samad, A., & Chowdhury, M. A. (2019). Comparative bootstrap DEA technical efficiencies and determinant factors: Evidence from the Islamic banks of Bahrain and United Arab Emirates. *Research in World Economy*, 10(3), 291-298.
- Siregar, M., Nidar, S., Anwar, M., & Herwan, A. (2025). Determinants of financial performance and Islamic social reporting: Evidence from Indonesian Islamic banks. *Uncertain Supply Chain Management*.
- Siyamto, Y. (2023). Bank performance in achieving Islamic bank stability conditions: Evidence from Islamic Banks in Indonesia. *Kompartemen: Jurnal Ilmiah Akuntansi*, 21(2), 306-317.

- Slimen, R. B., Belhaj, F., Hadriche, M., & Ghroubi, M. (2022). Banking Efficiency: A comparative study between Islamic and conventional banks in GCC Countries. *Copernican Journal of Finance & Accounting*, 11(1), 89-106.
- Solikhin, M. (2024). ANALYSIS OF MACROECONOMIC VARIABLE CHANGES TO THE RESILIENCE OF ISLAMIC BANKING IN INDONESIA. *Airlangga International Journal of Islamic Economics & Finance*, 7(2).
- Srairi, S., Bourkhis, K., & Houcine, A. (2022). Does bank governance affect risk and efficiency? Evidence from Islamic banks in GCC countries. *International Journal of Islamic and Middle Eastern Finance and Management*, 15(3), 644-663.
- Sufian, F., & Akbar Noor Mohamad Noor, M. (2009). The determinants of Islamic banks' efficiency changes: Empirical evidence from the MENA and Asian banking sectors. *International Journal of Islamic and Middle Eastern Finance and Management*, 2(2), 120-138.
- Sufian, F., & Kamarudin, F. (2015). Determinants of revenue efficiency of Islamic banks: Empirical evidence from the Southeast Asian countries. *International Journal of Islamic and Middle Eastern Finance and Management*, 8(1), 36-63.
- Sukmaningrum, P. S., Pirezada, K., Rusmita, S. A., Hasib, F. F., Widiastuti, T., & Hendratmi, A. (2020). Determinants of Islamic Bank Profitability: Evidence from Indonesia. *Journal of Finance and Banking Review*, 01-13.
- Tan, Y., Azad, M., De Medeiros, A., & Wanke, P. (2024). The proposal and application of a 2-Dimensional Fuzzy Monte Carlo Frontier analysis for estimating Islamic bank efficiency. *Review of Quantitative Finance and Accounting*.
- Tashkandi, A. A. (2023). Analyzing Sharia supervision effects on the performance of Islamic banks: evidence from the GCC countries. In *International Conference on Business and Technology* (pp. 924-935). Cham: Springer International Publishing.
- Ullah, S., Majeed, A., & Popp, J. (2023). Determinants of bank's efficiency in an emerging economy: A data envelopment analysis approach. *Plos one*, 18(3), e0281663.
- Viverita, V., Danarsari, D. N., Bustaman, Y., & Septianto, F. (2024). The effect of banks' cost efficiency and competition on liquidity creation. *Banks and Bank Systems*, 19(1), 48.
- Wardana, G. K., & Abdani, F. (2023). Bukti Efisiensi Bank Syariah di Indonesia dan Malaysia: ROA, Bank Size dan NPF. *Jurnal Ilmiah Bisnis dan Ekonomi Asia*, 17(1), 30-41.
- Widarjono, A. (2020). Does the Volatility of Macroeconomic Variables Depress The Profitability of Islamic Banking?. *JEJAK: Jurnal Ekonomi dan Kebijakan*, 13(1), 30-42.
- Wulandari, S. F., & Ryandono, M. N. H. (2020). Determinan Efisiensi Perbankan Di Indonesia (Studi Empiris Pada Bank Umum Syariah Di Indonesia Periode 2012-2018). *Jurnal Ekonomi Syariah Teori Dan Terapan*, 7(12), 2436-2452.