

ISLAMIC BANKING EFFICIENCY: A SYSTEMATIC LITERATURE REVIEW

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Abstract: *Efficiency has been measured through many approaches in banking system. For instance, it has been measured through scale efficiency, technical efficiency and pure technical efficiency. However, efficiency is not focusing on the three types of efficiency as mentioned above. Efficiency in banking can be interpreted as the controlling cost of banking while the production and profit are maximised. Efficiency is important in banking operation because it would determine the stability of the banking. However, majority of past researches regarding efficiency only focus on conventional banking. As conventional banking established before Islamic banking, the efficiency of conventional banking is higher compare to Islamic banking. The questioned raised, do the years of establishment is a factor that contributes to efficiency? What are the other factors that may influence efficiency in Islamic banking? Therefore, this study would like to determine efficiency in Islamic banking through systematic literature review. Second objective is to analyse the determinants of efficiency in Islamic banking. The methodology comprises of explanatory research design. Data collection solely based on secondary data. Data obtained through documentation review using systematic literature review. Expected findings of this study includes the reviews and discussion on Islamic banking efficiency. This study would help researchers and Islamic banking to focus on efficiency management and to emphasize the importance of efficiency in Islamic banking.*

Keywords: *Efficiency, Islamic Banking, Bank Efficiency*

Introduction

Banking are in tense condition to maintain their stabilities in order to compete in competitive industries. Banking need to increase their competition and control the cost to earn profit in efficient ways (Spong et. al., 1994). Efficiency is seen as important matter for banking to improve their competitiveness at the same time to achieve the minimisation of cost and maximum of profit. Efficiency in banking will lead to positive impacts on economic growth and financial stability (Hanner & Peiris, 2005). Most of past studies tend to delve into the efficiency of conventional banking. As conventional banking had established before Islamic banking, the efficiency level of conventional banking is higher compare to Islamic banking efficiency. This is accordance to statement by Salami & Adeyemi (2017) that the years of establishment determine level of efficiency in banking. This leads to this study which will focus specifically on efficiency in Islamic banking. This study comprises of few factors that lead to efficiency of Islamic banking. Therefore, the purpose of this study is to evaluate efficiency in Islamic banking. This study is important as Malaysia is considered one of the leading countries in Islamic financial services that complied with Shariah principles. (Islamic Financial Services Board, 2018)

Hence, there are two objectives in this study. The first objective is to determine the efficiency in Islamic banking through systematic literature review. The second objective is to analyse the determinants of efficiency in Islamic banking. To address two objectives of this study, researcher uses systematic literature review.

Methodology

Researcher conducts systematic literature reviews on efficiency of banking in general. The systematic literature review is conducted based on two platforms comprise of Google Scholar and Dimensions databases. Researcher uses both Dimensions and Google Scholar databases is because the quantities of articles found is higher and it spark the curiosity of researcher on whether these databases contain high number of authentic resources. This subtopic would elaborate two steps taken in order to review the efficiency in conventional banking and Islamic bank efficiency respectively. The purpose of the first step is to view the broad ideas regarding efficiency in banking. Second, researcher carry out more in-depth reviews of efficiency specifically on Islamic banking. This will show the discussion of efficiency in three different approaches.

Step 1 – Bank Efficiency

For the first search, researcher use Dimensions and Google Scholar databases between the year 2015 until 2020 that covers the topic of bank efficiency. The search term consists of the phrase ("Bank efficiency" OR "Efficiency in Bank*") and ("bank*"). The time frame within six years is conducted to limit the discussion into current issues. The limitation also includes four research fields that includes economics, applied economics, business and management and banking, financial and investment. There are 1114 publications found regarding bank efficiency through Dimensions database while 9310 results in Google Scholar database. However, these numbers will be reduced in step 2 of the methodology.

In banking system, the factors of efficiency are discussed through many perspectives. Efficiency can be ensured through human resource management, technology, technical efficiency¹, capital, cost, and profit. While other past researches tend to focus on method in

¹ Technical efficiency or pure technical efficiency is measured based on the operation of the banking

measuring efficiency. The methods comprise of Data Envelopment Analysis (DEA) and Stochastic Frontier Analysis (SFA). In addition, based on reviews, past researches on efficiency trend shows the research on comparative efficiency in conventional banking and Islamic banking. Therefore, this will lead to step 2 on reviewing the researches specifically on efficiency in Islamic banking.

Step 2 – Efficiency in Islamic Banking

The second review is conducted to review the efficiency in Islamic banking. The search term comprises of ("Islamic bank efficiency*" OR "Efficiency in Islamic banking") AND ("Islamic Bank*"). The terms are used to identify the publications that specifically addressed efficiency in Islamic banking. The limitation includes six years researches from the year 2015 until 2020. The research fields comprise of economics, applied economics, banking, financing and investment, econometrics and lastly business and management. Based on the search, there are 73 publications (Dimensions database) accordance to efficiency in Islamic banking. In Google scholar database, researcher uses the same phrase searching and it resulted 79 articles regarding Islamic bank efficiency. The total results showed 152 articles found through phrase searching. However, the numbers have been filtered to 37 articles in total where the filter is done based on language limitation and discussion that specifically in efficiency in Islamic banking. Researcher limit the language into two languages which is English language. Where 26 articles found through Dimensions and 10 articles through Google Scholar. The selection of articles is as below.

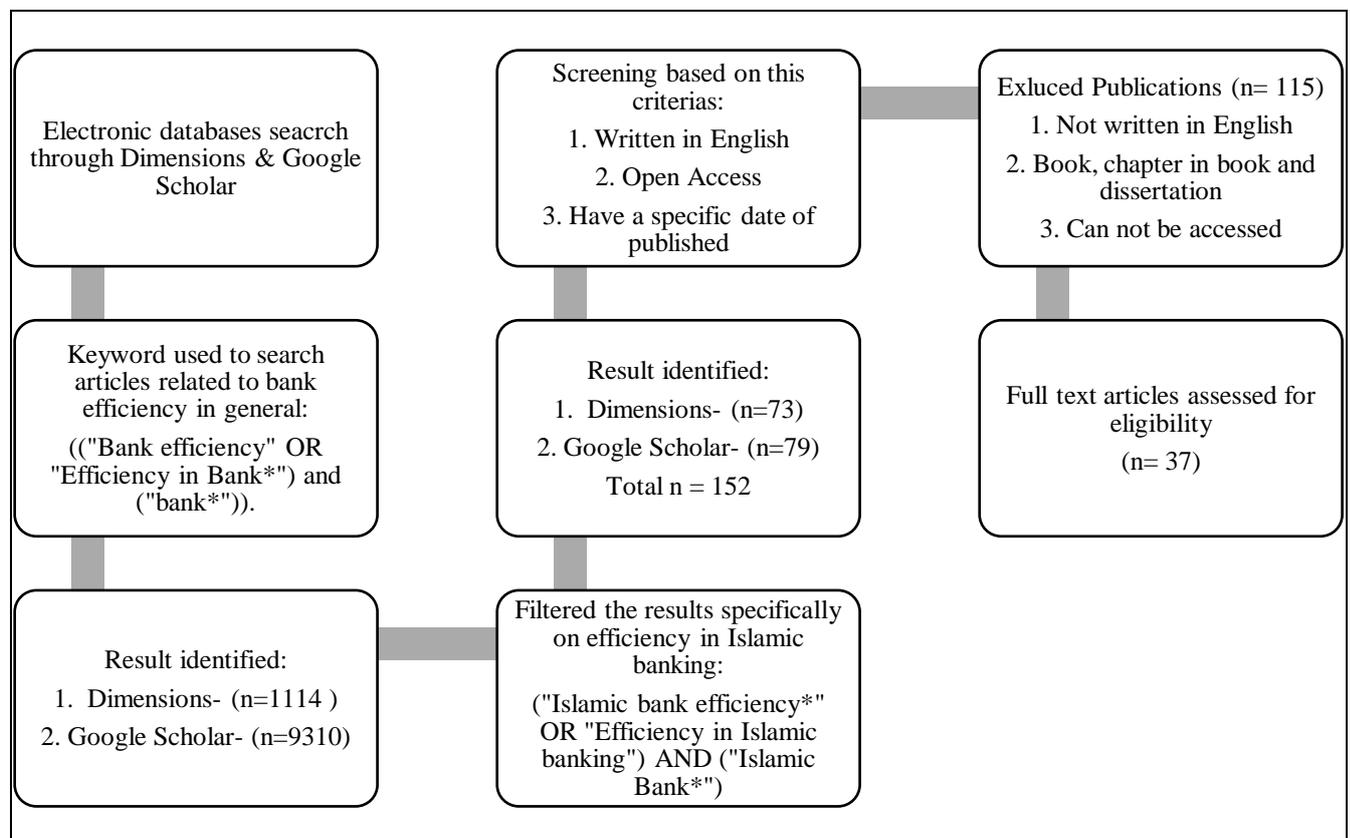


Figure 1: Flow Diagram of PRISMA

Results

Bank Efficiency

Articles on bank efficiency across four types of research fields which comprise of economic, applied economics, business and management and banking, financial and investment. The trend shows that the publications related to bank efficiency is increasing between the year 2015 until 2019. Meanwhile in 2020, there is still room for these publications to grow higher in numbers. Researcher limits the search by choosing article as publication type. As a result, there are 1114 publications there are related to bank efficiency found in Dimensions platform. The search is within the year of 2015 until 2020.

While in Google Scholar database, there 9310 results based on the search. Most relevance studies in regards of bank efficiency fall into economics category. However, there are still other field of researches found in this result. In regards with bank efficiency results, many approaches have been made either through comparison of bank efficiency across countries, measuring bank efficiency in certain area of banking, and investigating the risks factor on banking's performance. Bank efficiency can be measured through many factors such as technology, technical efficiency, bank's management, cost, profit, revenue and scale efficiency² (Karim, 2001; Stanek, 2015; Yin, Yu & Huang, 2019). These factors may give an impact towards banking' performance as it will influence the efficiency of the banking.

Islamic bank efficiency

There are total of 37 articles chosen based on phrase searching on efficiency in Islamic banking in Dimensions and Google Scholar databases. The research has been limited to certain fields consist of economics, applied economics, econometrics and banking, finance and investments. However, most of studies fall into economics and banking and finance research fields. The trend showed the articles on efficiency in Islamic banking are published increasingly from the year 2014 until 2017 but it declines from year 2018 onwards. The 37 articles related to efficiency in Islamic banking is categorized into themes. The themes are divided based on the topics discussed in the articles.

Through searching and reviews of 37 articles, the discussion of past researches divided into different themes. The themes found on Dimensions and Google scholar are explained in Table 1 below:

Table 1: Themes of Islamic banking efficiency based on Dimensions and Google Scholar

Database	Themes	Quantities
Dimensions	Comparative Studies: <ol style="list-style-type: none"> 1. Assessing the domestic and foreign Islamic banking efficiency: Insights from selected Southeast Asian countries 2. Malaysian Islamic Banking' Efficiency: An Intra-Bank Comparative Analysis of Islamic Windows and Full-Fledged Subsidiaries 3. Efficiency versus Maqashid Sharia Index: An Application on Indonesian Islamic Bank 	13

² Scale efficiency is determined based on the size of the banking and size of banking' productions

	<ol style="list-style-type: none"> 4. Panel Financial Ratios Data Underlying The Performance Of Conventional And Islamic Banks Operating In GCC 5. Efficiency Analysis Of Islamic Banks In The Middle East And North Africa Region: A Bootstrap DEA Approach 6. Comparison of Efficiency And Modelling of Islamic Banks And Conventional Banks In Indonesia 7. Efficiency And Stability: A Comparative Study Between Islamic And Conventional Banks In GCC Countries 8. Financial And Social Efficiency on Indonesian Islamic Banks 9. Financial Efficiency Analysis in Islamic Banks: Turkey And Malaysia Models 10. A Comparative Study Of Efficiency And Its Determinants In Islamic, Conventional, And Socially Responsible Banks 11. Islamic Banking Efficiency: Comparative Studies Between Malaysia and Indonesia 12. The Efficiency Of Islamic Banks Versus Conventional Banks: An Empirical Study Of An Emerging Economy 13. Shariah Bank In Facing The Global Financial Crises: A Historical Comparative Toward Efficiency And Productivity Of Shariah Bank In Global Financial Crises 	
	<p>Determinants and factors of efficiency in Islamic banking:</p> <ol style="list-style-type: none"> 1. Determinant of Efficiency of The Islamic Banking in Indonesia 2. Factors Influencing Efficiency Of Islamic Banks In Gcc Region: Evidence From Arab Spring Period 3. The Determinants Of World Islamic Banks Efficiency: Empirical Analysis Using A Non Parametric Approach 4. Determinant Of Efficiency Of The Islamic Banking In Indonesia 5. The Determinant Factors Of Efficiency On Islamic Banking And Conventional Banking In Indonesia 6. Determinants of Sharia Banks' Efficiency in Indonesia: Panel Data Analysis 	6
	<p>Analysis Studies</p> <ol style="list-style-type: none"> 1. Spin-Off Policy And Efficiency In The Indonesian Islamic Banking Industry 2. A Comparative Study On The Financial Performance Of Islamic Banks And Conventional Banks In Kenya 3. Did Global Financial Crisis Impact The Islamic Banking Efficiencies? Evidence From Malaysian Islamic Banks 	6

	<ol style="list-style-type: none"> 4. Total Factor Productivity and Efficiency Analysis on Islamic Banks in Indonesia 5. Impact of financial Liberalization on Islamic Bank's Efficiency in Indonesia 6. Technical Efficiency Level of Islamic Bank in Indonesia 	
	Relationship studies <ol style="list-style-type: none"> 1. The Inter-Temporal Relationship Between Risk, Capital And Efficiency: The Case Of Islamic And Conventional Banks 	1
Google Scholar	Comparative Studies: <ol style="list-style-type: none"> 1. Comparing the Efficiency of Islamic Bank in Indonesia And Malaysia. 2. Efficiency_analysis Of Cost Compare To Assets On Sharia Bank with Office Channeling 	2
	Relationship studies <ol style="list-style-type: none"> 1. Technical And Scale Efficiency Employing Data Envelopment Analysis: Empirical Evidence From Islamic Public Banks In Indonesia 	1
	Analysis on efficiency: <ol style="list-style-type: none"> 1. Technical Efficiency Analysis Of MENA Islamic Banks During And After The Global Financial Crisis 2. Efficiency Analysis of Islamic Banking in Hderabad City Sindh 3. Islamic Banking Efficiency in Indonesia: Two Stage Data Envelopment Analysis Approach 4. Measurement And Sources Of Technical Inefficiency: Some Evidence From The Sudanese Islamic Bank 5. Islamic Banking Efficiency And Inclusive Sustainable Growth: The Role Of Financial Inclusion 	5
	Determinants and factors of efficiency in Islamic banking: <ol style="list-style-type: none"> 1. The Determinants Of Technical Efficiency: Case Of Islamic Banks 2. The Determinants Of World Islamic Banks Efficiency: Empirical Analysis Using A Non Parametric Approach 3. Comparative Bootstrap DEA Technical Efficiencies And Determinant Factors: Evidence From The Islamic Banks Of Bahrain And United Arab Emirates 	3
TOTAL		37

Based on table 1 above, most of past researches tend to focus on comparative studies, relationship studies, analysis on Islamic bank efficiency and determinants of efficiency in Islamic banking. However, comparative studies are dominant results based on the search. Most studies tend to compare efficiency in Islamic banks and conventional banks. While, other studies would focus on differences in countries. based on the results from systematic literature

review process, there are eight determinants found. The determinants are listed in the discussion subtopic below.

Discussion

Based on the results from systematic literature review process, there are eight determinants discussed in the past researches. The determinants are listed in the figure below.

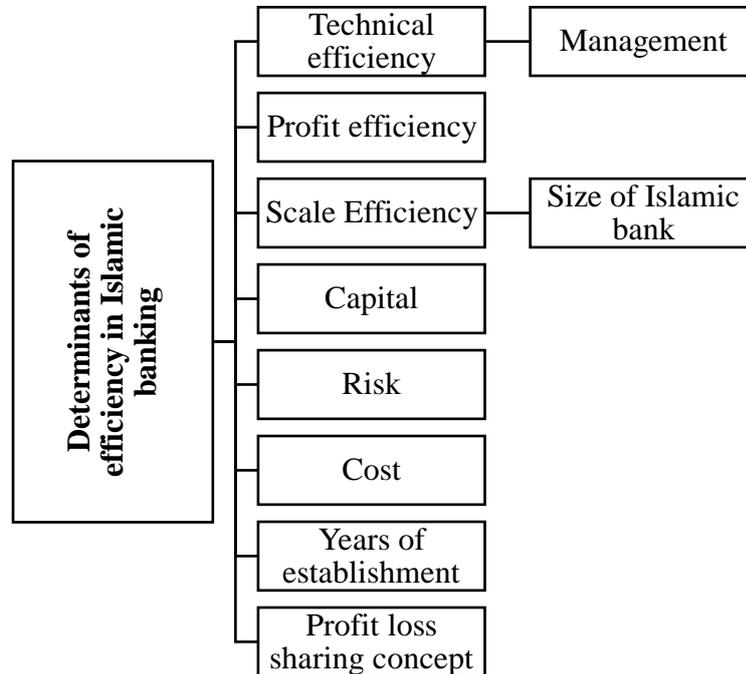


Figure 2: Determinants of Efficiency in Islamic Banking

Figure 1 displays the determinants of efficiency in Islamic banking based on literature review. There are eight determinants that contribute to efficiency in Islamic banking such as technical efficiency, profit efficiency, scale efficiency, capital, risk, cost, years of establishment, and profit lost sharing concept. Other studies addressed on determinants of efficiency in Islamic banking (Pambuko, 2016; Sadiq, Arshed & Ahmad, 2017; Bayunya & Haronb, 2017; Samad, 2019). The determinants of efficiency are not only focus on efficiency generally, it is also focusing on specific types of efficiency such as cost efficiency and profit efficiency.

Efficiency of Islamic banking is measure through material aspects of banking. Past studies relate efficiency with cost, profit, capital, risk, management, technical and scale efficiency. Islamic bank tends to record higher level of efficiency when it is achieved the maximisation of profit while the cost is being minimised. Efficiency is categorised into three types of efficiency where it is measured through different aspect of banking. The types are technical efficiency, pure technical efficiency and scale efficiency. F. Kamarudin et. al. (2017) examine the technical efficiency, pure technical efficiency and scale efficiency of Islamic banking in three countries comprise of Malaysia, Indonesia and Brunei. Based on the findings, domestic Islamic banking exhibited higher technical efficiency, pure technical efficiency and scale efficiency compare to foreign Islamic banking. By improving operations of Islamic banking, efficiency can be obtained through increasing of market share in Islamic banking industry. On the other hand, the years of existence may contribute to efficiency in banking. Salami and Adeyemi

(2017) highlighted that the years of operation in banking would determine the efficiency level of the banking.

Other study focused on comparison between efficiency of Islamic windows and full-fledged Islamic bank. Islamic windows are described efficient than full-fledge Islamic banking (Salami & Adeyemi, 2017). The analysis is conducted by measuring technical and scale efficiency of five Islamic bank in Malaysia. The reasons why Islamic windows tend to be efficient compare to full-fledged Islamic bank is because banking have longer years of operation as Islamic windows while full-fledged Islamic bank is still new during the research (Salami & Adeyemi, 2017). It can summarize that the years of establishment determine the level of efficiency. Despite the years of existence, there are some other factors that influencing efficiency in Islamic banking. The factors include size of bank, loan intensity, return on asset (ROA), foreign ownership, Gross Domestic Product (GDP) and global financial crisis (Alhartini, 2017). Increasing of total asset is seen to be one of the contributors of higher efficiency. Whereas, lending technically provides a support to the banking in maximising the profit. Banking' profit is determined by technical and scale efficiency where these types of efficiency have a significant relationship towards banking' profit. However, foreign ownership and global crisis affected efficiency in Islamic banking negatively.

The reviews on efficiency of Islamic banking in Shariah focusing on determinants of *Maqasid Shariah* based performance of Islamic banking. Profit loss sharing concept adapted by Islamic banking strongly contributes to increases of efficiency in Islamic banking in Indonesia. While, risk taking behaviour may lowered the efficiency level. In addition, cost efficiency does not influence *Maqasid Shariah* based performance of Islamic banking in Indonesia (Amaroh & Masturin, 2018). Despite other factors that may contribute to efficiency in Islamic banking, profit loss sharing concept and risk taking can be put into priority by Islamic banking in order to be more efficient. Other than that, competitiveness of Islamic banking in banking industry can be excelled by emphasizing bank's management to gained high profit but at the same time controlling the cost of production. As economic agent, efficiency plays and important criteria for Islamic banking. As efficient Islamic banking would boost economic growth in the country.

Conclusion

The review of bank efficiency, efficiency in Islamic banking indicate that most of efficiency studies on Islamic banking focused on certain aspect that may contribute to efficiency in Islamic banking. The studies emphasized on certain variables which is profitability, cost and, technical aspects that will increase efficiency level in Islamic banking. The efficiency itself comprise of many factors that will lead to stability of banking and how bank can be more competitive in banking industry. For future studies, research regarding efficiency can be widen in Islamic perspectives. Researchers can address what Shariah principles used by Islamic banking to increase their efficiency. This study can be conduct through qualitative method which includes expert views on relationship between Shariah and efficiency in Islamic banking.

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