

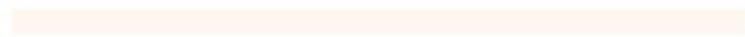
APPENDIX 1: COVER

**RESEARCH TITLE**  
**THE EFFICIENCY OF ISLAMIC BANKING:**  
**BIBLIOMETRIC ANALYSIS**

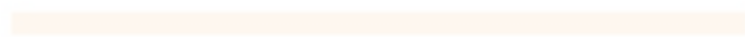
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<b>Date</b>	20 JANUARY 2022



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APPENDIX 2: TITLE PAGE



**Research Title**

**The Efficiency Of Islamic Banking: Bibliometric Analysis**

**by**

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<b>Date</b>	20 January 2022

A thesis submitted in fulfillment of the requirements for the degree of Business Administration (Islamic Banking and Finance) With Honours

**Faculty of Entrepreneurship and Business**  
**UNIVERSITI MALAYSIA KELANTAN**  
**2022**

APPENDIX 3: THESIS DECLARATION

THESIS DECLARATION

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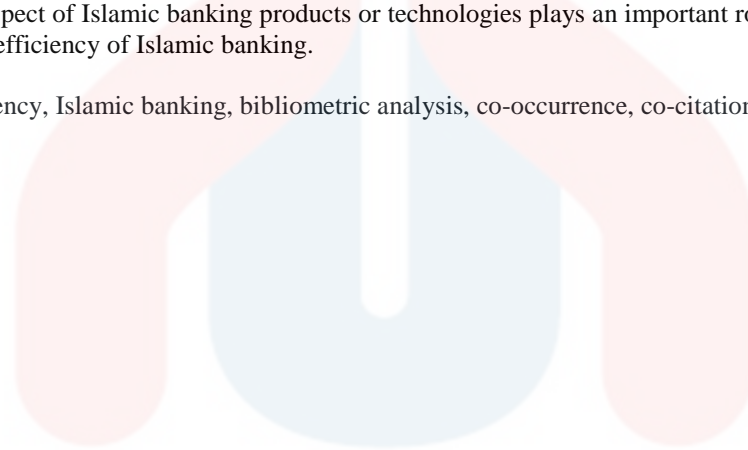
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**Abstract**

Because interest-free financing is so important in Islamic banking, practitioners have created an innovative environment in which an alternative to interest is expected. As a result, the title of this study is bibliometric analysis of the efficiency Islamic banking, and the method used for this study is bibliometric analysis. The main reason for choosing this phrase is that it is relevant to the current study topic of Islamic banking and finance. There are several research objectives that have been identified that have led to this research, which are to investigate the current trend and structure of research on efficiency in the Islamic banking industry, to identify the most studied themes within the Islamic banking efficiency literature, and to determine how far prior research has discovered about the level of efficiency in the Islamic banking industry worldwide. This analysis employs the method of document analysis by gathering data from previous studies that are bibliometric. Because we conduct bibliometric research, the framework of methods used to obtain the article is included among the research questions, research objectives, and analysis techniques. We used Scopus, a multidisciplinary database suitable for information systems (IS) researchers, to find past research articles on the efficiency of Islamic banking. We chose two citations: co-occurrence and co-citation. Researchers use co-occurrence to find the most frequently used keywords in articles about the efficiency of Islamic banking, and o-citation is the frequency of using articles about the efficiency of Islamic banking in the top 16 countries. The innovation aspect of Islamic banking products or technologies plays an important role in improving the efficiency of Islamic banking.

**Keywords:** Efficiency, Islamic banking, bibliometric analysis, co-occurrence, co-citation, Scopus, VOSviewer



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CHAPTER 1

INTRODUCTION

**1.1 Background of the Study**

Recently, financial institutions have met a dynamic, unpredictable and competitive worldwide atmosphere. One of the fastest increasing areas is Islamic banking, which has drawn the attention of conventional and Islamic economists both surprises. There are more than 160 Islamic financial institutions throughout the world, according to a recent survey (Dar and Presley, 2003). Even though the bulk of Islamic banks are based in emerging economies and/or the Middle East, the widespread need for Muslim financial products is being recognized by an increasing number of international banks in developed countries.

The primary distinction between Islamic and conventional banks is that, while the latter charge interest, the former operates on an interest-free basis based on profit and loss sharing (PLS) (Ariff, 1998). Numerous Islamic economics papers have extensively examined the justification for the interest prohibition (Chapra, 2000) and the critical role of PLS in Islamic banking (Dar and Presley, 2000). Additionally, Islamic PLS establishes a relationship of financial trust and collaboration between borrower, lender, and intermediary. Due to the importance of interest-free financing in Islamic banking, practitioners have established an innovative environment in which an alternative to interest is anticipated. Dar and Presley (2003) categorized funding as follows: investment-based, sale-based, rent-based, and service-based

The study in Islamic banking and finance focused on conceptual foundations for interest-free funding, such as the feasibility or ability of Islamic banks to mobilize money, pool risks and speed up transactions (Ahmed, 1981; Karsen, 1982). Few studies have investigated the policy implications of a free financial system (Khan, 1986; Khan and Mirakhor, 1987). It

is notable that there has been so little empirical study of the performance of Islamic banks. The lack of complete data hindered a thorough study of the events of the past three decades. Empirical study on this topic has so far generated inconclusive results (Bashir et al., 1993; Bashir, 1999)

The title of this study is hence the bibliometric analysis of Islamic Banking Efficiency and the technique employed for this study is bibliometric analysis. The main reason for selecting this phrase is because it fits to the current study topic, Islamic banking and finance. We choose to carry out this study based on the results of our research, which show that there are still relatively few studies and research on Islamic banking efficiency using bibliometric analysis.

## **1.2 Problem Statement**

Numerous Islamic banks lack the product diversification necessary to meet their clients expanding needs. It cannot be overstated how critical it is to use appropriate sophisticated technology to improve a product's acceptance and application diversity. Given the promise of sophisticated technology, Islamic banks must adapt to fast technological development, restructure their management and decision-making structures, and most importantly, implement contemporary technology into their operations. Another issue is that many Islamic banks are lacking in R&D expertise and institutional ability, which are critical in today's competitive market, sophisticated markets, and well-informed public. Without creative and continuous programs, Islamic banking would inevitably stagnate and perish. Furthermore, Islamic banks have historically made ineffective use of the media. Even Muslims are generally unaware of the existence of Islamic banking. Islamic banks have never utilized an effective public relations strategy to promote their activities. Islamic bank authorities should address these concerns immediately. This will bring a huge impact on the Islamic banking efficiency since the lack of technology usage will slow down the expansion Islamic banking industry.

This means that a large number of Islamic banks lack the ability to bridge liquidity shortages or manage surplus liquidity through the use of treasury bills and other marketable instruments. This challenge is exacerbated by the fact that many Islamic banks operate under operational rules that differ from those of central banks that resulting incompatibility precludes central banks from controlling or assisting Islamic banks in the case of a liquidity gap. As a result, the problem of liquidity management must be actively discussed and highlighted by the Islamic banking authorities in order to improve the level of Islamic banking efficiency to the next level. If the liquidity tools problem is not been taken care of very effective and swiftly, the customer will start to shifting toward the conventional bank which indicates the Islamic banking is not very efficient compared to conventional banking.

Islamic banks and monetary regulators have a complicated relationship. The central bank has power over Islamic banks in accordance with legislation and regulations designed to regulate and oversee both regular and Islamic banks. Whatever their objectives and purposes, Islamic banks emerged in an environment where the laws, institutions, training, and mentality are all geared toward serving an interest-based economy. Islamic banks operate on a profit and loss share (PLS) structure, which does not completely comply with existing rules. If disagreements arise, courts are insufficiently familiar with the reason behind Islamic Banking activities. Concerning depositor safety, Islamic banks are obligated to inform authorities of the distinction between funds deposited in current accounts and funds deposited in investment accounts. In non-Muslim nations, defined as those with less than 50% Muslim population, central banks are extremely strict in providing licenses to Islamic banks. Islamic banks must also fulfil extra standards imposed by various government and non-government authorities in order to be founded in such nations. Apart from legal limits, there are economic obstacles that make it difficult for Islamic banks to operate in the non-Muslim world. They also suffer economic constraints in Muslim nations.

### 1.3 Research Questions

There are several questions that has been constructed in order to find out the level of efficiency in the Islamic banking industry.

1. What is the current trend and structure of research on efficiency in Islamic banking industry?
2. What are the most studied themes within the Islamic banking efficiency literature?
3. Did the previous research has found out accurately about the efficiency of Islamic banking worldwide?

### 1.4 Research Objectives

There several research objectives that has been identified that lead to this research which are:

1. To investigate the current trend and structure of research on efficiency in Islamic banking industry.
2. To identify the most studied themes within the Islamic banking efficiency literature
3. To identify how far research before has found out about the level of efficiency in Islamic banking industry worldwide.

### 1.5 Scope of Study

The study is mainly about the efficiency in Islamic banking that will be conducted in Bibliometric style analysis. The use of bibliometric analysis (Aria and Cuccurullo, 2017) is offered to analyze the study on Islamic banking's efficiency. The study's purpose is to conduct a bibliometric analysis of all papers on SCOPUS that discuss the efficiency of Islamic banking

This paper can also give deep understanding to the academic section in the field of banking and finance about how efficient is the Islamic banking industry in the world currently. Therefore, the researchers hope that this paper will be used as the reference in the study about the efficiency of Islamic banking in the future.

### 1.6 Definition of Terms

1. Efficiency

The good use of time and energy in a way that does not waste any of them.

2. Islamic banking

Refer as Islamic finance or shariah-compliant finance that refers to finance or banking activities that adhere to shariah (Islamic law).

3. Bibliometric

A statistical evaluation of published scientific articles, books, or the chapters of a book, and it is an effectual way to measure the influence of publication in the scientific community.

4. Exacerbated

Make (a problem, bad situation, or negative feeling) worse.

### 1.7 Organization of the Proposal

This study uses bibliometric analysis to accomplish it, in which we evaluate articles and other publications to determine the efficacy of Islamic banking or to find papers that have had a significant influence on this field of study. This approach is useful because it offers a clear indicator of the Islamic banking industry's efficiency on a global scale, as it incorporates data from prior research. We selected to conduct this study based on the findings of our research since only a few studies have been conducted using bibliometric analysis to

examine the efficiency of Islamic banking. Bibliometric analyses quantify scientific communication by establishing a framework for a field of study, identifying fundamental themes and existing linkages, for example, through the use of clusters and networks (Sanchez-Riofrio et al., 2015). In this regard, a comprehensive examination of the evolution of research will aid in the meticulous analysis of the many facets of the scientific panorama inherent in Islamic finance's efficiency. Among the characteristics considered are the document type (article) and the language of publishing (English). Additionally, it analyses the author, publication models, theme category distribution, author keyword distribution, country of publishing, and the most often referenced publications. The various rankings serve as a reminder that bibliometric assessment of scientific impact is a multidimensional concept. However, bibliometric analysis does not occur in a vacuum in terms of institutional and political context. The institutional environment for evaluating the quality of public and private research increasingly dictates the criteria used, which has a direct impact on performance evaluation.

However, there are few studies examining the efficiency of Islamic banks, notably in Malaysia. Numerous researches devoted to evaluating Islamic bank performance have mainly explored the link between profitability and banking features. Bashir (1999) and Bashir (2001) conducted regression studies on bank-level data in the Middle East to ascertain the fundamental factors of Islamic bank performance. His term financing, and non-interest producing assets. Additionally, Bashir (2001) asserted that because deposits in Islamic banks are viewed as shares, bank reserves have a detrimental effect on the amount of money available for investment by limiting the amount of money available for investment. Samad and Hassan (2000) investigated the performance of a Malaysian Islamic bank from 1984 to 1997 using

financial ratio analysis. Their findings indicated that, on average, management's lack of awareness was the primary cause for the sluggish expansion of profit-sharing loans. Despite this, the bank outperformed its traditional peers in terms of liquidity and risk management (lower risks).

### **1.8 Significance of Study**

This paper is mainly for spreading deep understanding concerning the efficiency of Islamic banking in the world. Through this paper, people will gain comprehension about the differences of efficiency levels in Islamic bank that located in Muslim territories and non-Muslim territories. People will understand that the low efficiency level in Islamic bank that located in non-Muslim territories is not because the Islamic bank not performing well but due to other outside factors that prevent Islamic bank to compete against the conventional bank in efficiency aspect. This paper can also demonstrate the level of efficiency in Islamic banking that will give more inspirational to all the Islamic banks in the world to keep up their performances even if they are not in favorable situation or location.



CHAPTER 2

LITERATURE REVIEW

**2.1 Background of Islamic Banking**

There are many terms used to describe Islamic banking, including "Islamic finance," "Shariah-compliant finance," and "Shariah-compliant banking." Islamic banking emphasizes the sharing of profits and losses, as well as a restriction on interest collection and payment by lenders and investors. Such as Islamic banks, instead of paying interest, they make money by requiring borrowers to give the bank a percentage of their profits. Whilesome of traditional banks have designated Islamic banking windows or divisions where consumers can obtain certain Islamic banking services.

When it comes to commercial transactions, the teachings and practises of the Islamic religion are used as the basis for Islamic banking. Since the Qur'an is Islam's major religious scripture, Islamic banking practises are based on its teachings. Islam's judicial system, Shariah, is founded on the Qur'an and all transactions in Islamic banking must adhere to Shariah. Commercial transactions in Islamic banking are governed by the Fiqh al-Muamalat, which is Arabic for Islamic law. Islamic bankers are expected to adhere to the fundamental principles of the Qur'an while performing their commercial activities. Islamic bankers contact trained professionals or depend on their own reasoning based on scholarship and customary practises when further information or direction is needed.

Usury and speculation are prohibited in Islamic banking, which is one of the most major contrasts between Islamic and conventional financial systems. In the Shariah, speculating or gambling, known as maisir, is completely forbidden, as is any type of gaming or speculation. Shariah prohibits interest on loans as well. Any ventures that include the use of alcoholic beverages, gambling, or pork are also banned by the Qur'an. In this regard, Islamic banking is a culturally different type of ethical investment.

It is typical practise in the banking sector for Islamic banks to employ equity participation plans in order to make money without collecting interest. If a bank loans money to a business, the business agrees to pay back the loan in full, plus a portion of its future earnings to the bank. If the company defaults or fails to produce a profit, the bank loses nothing. On the whole, in their investment strategy, Islamic financial institutions are more risk averse. There are two types of Islamic banks: those that operate entirely on Islamic principles and those that provide Islamic-based services to customers of other banks. A number of commercial banks have designated Islamic banking areas or departments.

Islamic banking has its roots in the financial dealings of Middle Eastern merchants with European merchants throughout the Middle Ages. When it came to financial regulations, Middle Eastern corporations initially followed the same guidelines as those in Europe. Although commerce networks expanded and European nations started opening local branches of their banks throughout the Middle East, some of these institutions embraced local conventions, such as no-interest banking systems based on profit and loss sharing. It's possible that similar methods might also help European banks meet the needs of local Muslim entrepreneurs.

First introduced in the 1960s, interest-free Islamic banks have been springing up since 1975. Even though most Islamic banks were created in Muslim nations, they started to operate in Western Europe as early as the 1980s. In addition, the governments of Iran, Sudan, and, to a lesser degree, Pakistan, have developed national interest-free banking institutions.

## **2.2 The Importance of Islamic Banking**

The magnitude of the benefits and importance of Islamic banking has been witnessed by the entire world today. In fact, Islamic financing is becoming more popular in countries where the bulk of the population is not Muslim. Islamic banking, often known as Islamic

finance or Shariah-compliant finance, is a type of Islamic banking. It is banking or financing that abides by the rules of Islamic law (Syariah). This means that Islamic banking does not engage in any illegal activities, which are forbidden in Islam. Alcohol, pork, gambling, pornography, and profit-driven businesses are some examples.

One of the primary reasons for Islamic banking's current popularity is that it is the most accurate expression of the concept of financial justice. All parties involved in the transaction are protected by Islamic banking. The conventional banking system, on the other hand, is a component of capitalism that is solely concerned with profiting from interest while feeling no guilt. It completely unfairly transfers all risk to the recipient.

Fast improvements in Islamic finance and banking, together with the rapid expansion of the Islamic banking system in the state, have become more important to fulfil the changing demands of the economy. The Islamic financial system in Malaysia, for example, comprises the Islamic banking system, the Islamic interbank money market, Islamic insurance or Takaful, Islamic capital markets, and financial organisations that specialise in alternative financing sources. It is possible for the Islamic financial system to mobilise resources and redirect money to productive economic activity because of these intertwined linkages between the primary components. This structure of the Islamic banking system also strengthens the resilience and security of the Islamic financial system in times of financial crises and its contribution to the overall stability of the Islamic financial system.

As a foundation for the Islamic financial system, the Islamic banking system aids in the mobilisation of deposits and the distribution of financial resources for economic development. It is possible to get a broad variety of financial services and goods via Islamic banks. Deposit products, such as savings, current, and investment deposits, as well as product financing, such as property finance, working capital financing, project financing, plant and equipment financing, rental financing, and purchase financing, are all examples of financing products

trade. Non-Muslims as well as Muslims alike have been enticed by Islamic banking firms' ability to build and provide products with attractive and unique features, at a price comparable with standard banking goods.

Various Islamic financial services are available. The economic sector is also improved as a result of Islamic banking products are available through a comprehensive distribution network that covers half of the completely Islamic banking branches and Islamic banking counters and is backed by an efficient, secure payment system. Another essential component of the Islamic financial system is a vibrant Islamic interbank money market. With the availability of a variety of short-term and long-term Islamic financial instruments, Islamic banking institutions will be able to meet their investment and liquidity demands more easily. The issuance of Islamic private debt securities in the Islamic capital market can help reduce reliance on the Islamic banking system for long-term financing and assist Islamic banking institutions in mitigating some of the risks associated with asset-liability mismatches, which can help reduce reliance on the Islamic banking system for long-term financing and assist Islamic banking institutions in mitigating some of the risks associated with asset-liability mismatches.

Islamic capital markets play an essential role in reducing the variables that can undermine the stability of the financial system while also increasing the resilience and resilience of the Islamic financial system for the benefit of financial system stability. Additionally, Islamic financial institutions act as go-betweens for customers in need of financial assistance by making it easier for them to manage their cash flow and supplying them with the short-term liquidity they require through a variety of services provided by most financial institutions, including deposits, financing, investment, and wealth distribution. Islamic financial institutions place a high focus on shariah compliance in every procedure they carry out as well as the products they sell. Its administration and transactions are strictly regulated, either internally or

by applicable regulatory bodies.

In terms of real economic development, the Islamic finance business helps to create job possibilities for skilled individuals. It is simple to help to raising the living standards of individuals concerned. Organizing the programmer to raise awareness of Islamic finance also resulted in the progress of other associated businesses, as its organisation necessitates the use of support services such as building leasing and halls, transportation, printing, lodging, and other important features.

### **2.3 Previous Studies**

At least three explanations exist for why the study of the effectiveness of Islamic banks is critical. To begin with, increased cost efficiency means bigger profits and a better chance of surviving in deregulated and competitive markets. This is especially true for Islamic banks, which compete with traditional banks in a number of sectors. Second, people want to know about bank service prices and quality, as well as any new services that banks may offer. The total efficiency of a bank's operations would have an impact on this. Third, understanding efficiency aspects is critical in assisting policymakers in developing future regulations that would affect the banking industry as a whole.

No	Tittle Sources	Pages
1	Efficiency measures of Islamic banks using data envelopment analysis frontier: Evidence from Malaysia	7
2	Impact of Operational Efficiency and Customer Satisfaction on Banking Performance: Empirical Examination on UAE Islamic Banking	6
3	A Technical Recitation on Efficiency of Islamic and Traditional Banking System in Kingdom of Bahrain	8
4	Comparison of the efficiency measurement of the conventional and Islamic banks	30
5	Internal control, risk and Shariah non-compliant income in Islamic financial institutions	17
6	Efficiency convergence in Islamic and conventional banks	24
7	Investigating the Efficiency of GCC Banking Sector: An Empirical Comparison of Islamic and Conventional Banks	16
8	Islamic Banks in Indonesia: Analysis of Efficiency	6
9	Efficiency and client satisfaction of Islamic and conventional banks: A bilateral effect	18
10	Investigating the effect of non-performing loans on technical efficiency in Malaysian banking sector	9

Table 1: List of Sources Articles Related to the Efficiency of Islamic Banking

Based on the sources of the articles found in the table above are efficiency in the banking sector is critical for economic growth and the development of the financial industry. It serves as the foundation for profits, financial market funds, and constructive investment. The concepts of efficiency and productivity have received a lot of attention in a variety of industries. According to Cooper et al., efficiency and productivity share a similar concept and are associated with one another. In simple terms, efficiency is a company's evaluation of execution. If the notions of input and output are employed, efficiency is defined as the distance between the input and output quality, or the frontier. Productivity is defined as the ratio of output to input. As a result, efficiency is the most important consideration for any type of organisation. Efficiency is a key notion in most companies, including the banking industry. The goal of assessing efficiency is to get the most out of the available resources or to make more money with less investment. A well-functioning banking system is thought to aid development capital and the implementation of a country's financial strategy.

The bank's tactical planning to maintain a strong balance between costs, income, and productivity is referred to as operational efficiency. It is stated that efficient banks can keep their market share and survive in a competitive market, but inefficient banks will eventually be phased out. One of the most important variables in explaining strong banking performance is effective expense control. The research found that expense management efficiency is a primary driver of bank profitability, and that banks can enhance their performance by focusing on adequate cost controls and operating efficiency. The performance of Islamic banking is influenced by operational efficiency. In short, the most important criteria in evaluating organisations, their activities, and the surroundings in which they function is the organization's performance. Despite all of the facts and significant advances in Islamic banking, the literature shows a lack of focus on the efficiency of Islamic banks. Since it has been established that the bulk of studies and researches focus on the presentation of two types of banks, Islamic financial intermediaries and conventional banks, in terms of the relationship between the banks' qualities

and profitability.

There are two categories of banking efficiency research, according to the studies evaluated. The first consists of studies that analyzed banking sector efficiency at certain points in time, with a second stage analysis perhaps examining the efficiency determinants. The studies in the second category are more focused on the factors that support efficiency convergence, since they examine at the existence and speed of efficiency convergence. Because Islamic and conventional banks coexist, there is every reason to anticipate that the two types of banks will undergo efficiency convergence dynamics that are similar. This is worth investigating because, notwithstanding what has been written previously, a similar trend would suggest that the two business models are linked.

The existence of proof that two entities are separate is substantiated by different conversion patterns. In the context of competitive advantage, efficiency dynamics are extremely important. According to resource-based theory, disparities in efficiency correspond with relative profitability performance. Variations in efficiency could be due to differences in technology, experience, or company model. Efficiency gaps should not remain if rivals can mimic efficient production practices. Where differences do persist, it could suggest a failure to recognize or a refusal to duplicate rivals' operations. "Uncertain imitability" is the term used.

To begin with, there may be inconsistencies between what is theoretically planned and what is really experienced. Equity financing, for example, is a cornerstone of Islamic banking, with profits and losses shared among the contracting parties in a predefined ratio. However, equity financing may only account for a minor portion of an Islamic bank's asset portfolio. Instead, fee-based financial products are the norm, with a "implicit" interest rate that is frequently well associated with the "explicit" interest rate seen in traditional banking. Second, the extent to which Islamic principles are implemented varies according on the bank's size, product offerings, and demographics. Islamic microfinance is more common in the Far East,



whereas real estate finance is more common in the West. As a result, changes in steady state efficiency and efficiency convergence rates within the Islamic banking sector should be predicted, blurring the lines between Islamic and conventional banks.

Third, we anticipate that global financial integration will increase over time as a result of shared regulatory frameworks. As a result, Banks are more likely to priorities efficiency, and convergence is projected. Fourth, international regulation and supervision of Islamic banking continue to be difficult. Regulators, for example, must take into account Islamic banking's distinctive characteristics, particularly in terms of capitalization and liquidity management, while preserving a level field between Islamic and conventional banking. Although some countries have made substantial success in this area, Islamic banking is spreading to other countries, each with its own set of problems. As a result, inconsistencies in accounting standards, regulatory and supervisory frameworks, licensing requirements, and Shariah board authority prevent standardization, further reducing efficiency.

Fifth, special aspects of the Islamic business model may have an impact on the efficiency gap and its dynamics. The Islamic banking model allows for risk to be "passed through" from the asset to the liability side, reducing the impact of negative shocks on the bank's solvency. Islamic financial instruments necessitate the administration of an assetinventory which is real estate and commodities, a more difficult operation that has been shownto reduce efficiency. In the face of inadequate hedging and risk management skills, Shariah limitations might encourage asset concentration. When it comes to late payments and/or default, Islamic banks may have restricted options. Religious clientele' heightened loyalty maylower the demand on Islamic banks to perform.

To summarize, both efficiency and the ability to quickly revert to a steady-state, which is efficiency convergence, are crucial for Islamic banks' growth and long-term survival

## 2.4 Explanation of Method Used / Conceptual Framework

**Table 2.1: Identification of Bibliometric data, search and exclusion**

1. Database: **Scopus**
2. Search criteria: **Keywords**
3. Exclusion criteria
  - Research focused on **the efficiency of Islamic Banking**
  - Type of source: **Journal**
  - Type of document: **Article**
  - Keywords appear in the **title, abstract, and list of keywords listed by the authors**
  - Articles published in **English**
  - Period of article: **10 year period from January 2012 to December 2021**

Figure 1: Conceptual framework of efficiency of Islamic banking

The method that has been used in this study is a bibliometric method. This method uses are (scopus) which serves as a data centre for searching various types of articles. Scopus is a database or data centre for scientific articles including other databases such as WOS, Ebsco, ProQuest, SpringerLink, Wiley, Web of Science (WOS), Doab, and others. Scopus is a search

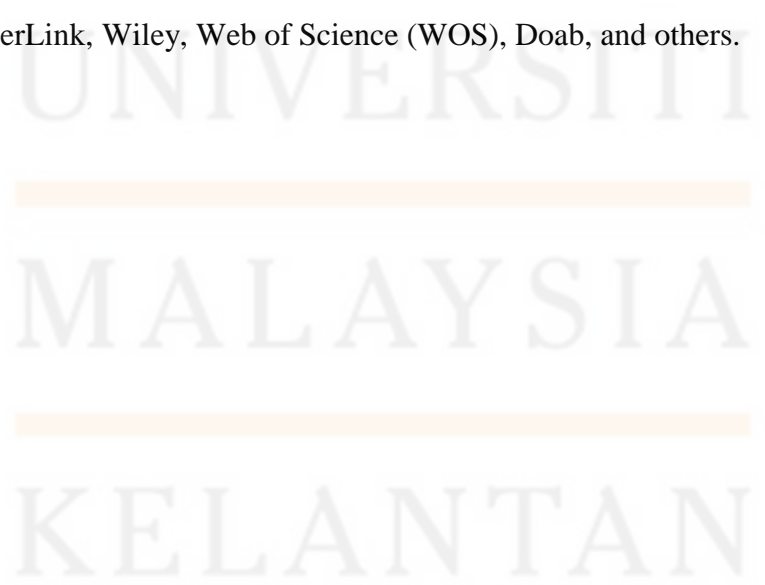
engine for scientific articles and journals. Scopus is one of the databases which is data center of citations or scientific literature owned by the world's leading publisher, Elsevier. Scopus was first introduced to the general public in 2004. Scopus usually competes fiercely with the Web of Science (WOS) published by Thomson Reuters which is also the largest data centre in the world. Despite the fact that WOS was released earlier than Scopus, Scopus is more popular and contains more journals (20 percent more) than WOS. In addition, Scimedirect is another database with a lot of information. Elsevier is also known to have published the database.

The goal of bibliometric is to address more general information processes like books, papers, and other materials. Bibliometric method is referred to as the determination of mathematical and statistical procedures through the use of documents and patterns in a publication. The publication material that has been published the results of research in scientific journals is the main object of bibliometric investigation. As a result, this method of bibliometric analysis can be concluded to indicate the type and direction of a publication's evolution using an analytical and descriptive approach to a published product. This type of analysis is frequently used to measure citations and analyse publication content, and it is not confined to the field of library science and information science. Search methods employing the proper keywords are critical in bibliometric studies to ensure that all research-related data investigated can be properly traced. Accordingly, in this study article detection was conducted based on benchmarking “The efficiency of Islamic Banking” and the search period runs from 2012 to 2021.

There is a lot of importance to the use of Scopus and it can help find topics and articles that are relevant to the research conducted when doing the literature review phase. Scopus is useful for finding complementary sources of learning theory, including finding relevant articles and pictures in order to improve the quality of learning activities and strengthen students' interest in the theory taught.

## 2.5 Summary

In the part of literature review, we had mention four point which are the background of Islamic banking and the importance, the previous study and the explanation of method or conceptual that we had used in our research, the efficiency of Islamic banking. Islamic banking often known as Islamic finance or Shariah-compliant finance and it's also refers to Shariah-compliant finance or banking which is Islamic law. Besides that, one of the importance is the Islamic banking system is also a backbone to the Islamic financial system, which helps mobilise deposits and channel financing for the economy's growth. Islamic banks offer a wide range of financial services and products. Moreover, the previous studies is related with our research title and based on table 2.1 is the list of article that relate with efficiency of Islamic banking. Based on the articles reviewed, there are two types of research on banking efficiency. The first consists of research that evaluated banking sector efficiency at specific times in time and, in a second stage analysis, maybe analyse the drivers of efficiency. The last part in chapter 2 is the explanation of method or conceptual that we used in this studies. In this subtopic, we was used Scopus Software which serves as a data centre for searching various types of articles. Scopus is a database or data centre for scientific articles including other databases such as WOS, Ebsco, ProQuest, SpringerLink, Wiley, Web of Science (WOS), Doab, and others.



## CHAPTER 3

### RESEARCH METHODS

#### 3.1 Introduction

The study on the efficiency of Islamic banking uses a bibliometric analysis approach to examine the results of past writings. Bibliometric analysis is a method of studying and measuring text as well as information in published materials. It is often used in various fields such as science, information science and so on which in citation and content analysis. This part will explain about research design, data collection, data analysis, data visualization and result but in this proposal we just explain until third part. The aim of methodology to make research more understand about the method in making any description.

This analysis uses the method of document analysis by collecting information from previous studies. It refers to the thoughts, feelings, opinions or actions of a person with written records such as articles, reports and any form of printed records. However in this study, we only collected resources in the form of articles only because we coordinate all the data and this will make it easier to analyse the results later. There are several advantages in doing methodology using document analysis that the researcher can analyze the value and detect what can be obtained from the document. This allows the researcher to collect as many articles as possible to analyse and compare the data and the items discussed. In fact, this methodology is also systematic because the scheme of the procedure is done using software. This can avoid errors and difficulties in analyzing the data. In addition, this methodology also has disadvantages, among which is that the analysis of document content can take a long time. Apart from that, the scattering nature of the documents required to conduct this study is a maximum of 300 and therefore, we only focus on articles only so that the results obtained are in order.

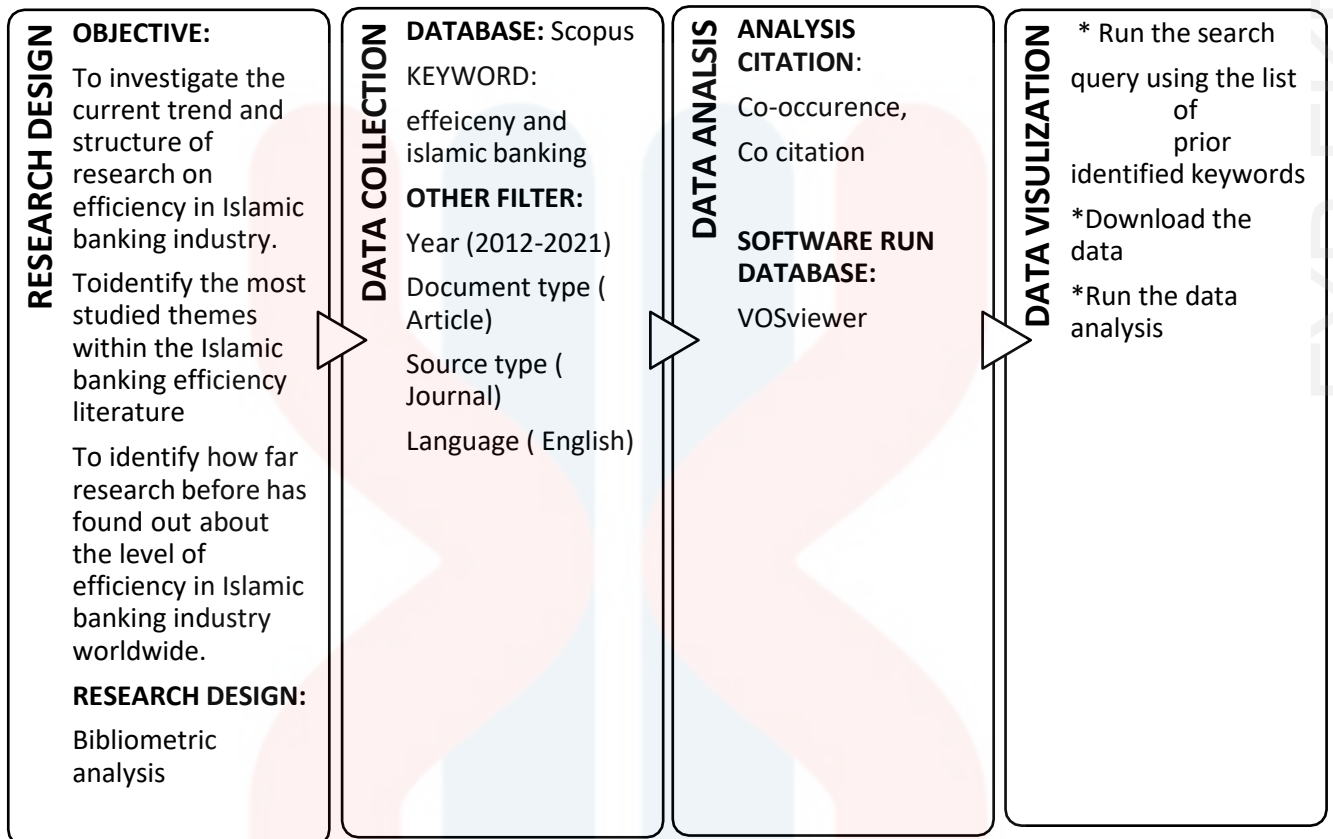


Figure 2: Process methodology in research bibliometric the efficiency of Islamic banking

### 3.2 Research Design

This design is chosen by the researcher in determining the framework of research methods and techniques to be used in the study. In each design has the main research function of collecting, measuring and finally is analysing data. The design phase of the study determines which tools will be used and how they will be used. Because we use bibliometric research, the framework of methods that we use to obtain the article are among the research questions, research objectives, and analysis techniques. First, the study determines three research questions namely what is the current trend and structure of research on efficiency in Islamic banking industry? Second, what are the most studied themes within the Islamic banking efficiency literature? And the lastly is did the previous research has found out accurately about the efficiency of Islamic

banking worldwide? This is to make it a marker in knowing whether the study is successful or not. After that, we also set three research objectives to ensure that the study conducted later does not deviate from the original objective. Objective of our study is to investigate the current trend and structure of research on efficiency in Islamic banking industry. Second to identify the most studied themes within the Islamic banking efficiency literature and to identify how far research before has found out about the level of efficiency in Islamic banking industry worldwide. This is to avoid research errors.

### 3.3 Data Collection Methods

Citation analysis is a method often used in the construction of citation graphics, networks and citation also show graphs among documents. There are many types of research that use this type of study to see more clearly about the impact of its field on a handful of researchers and their research paper or to identify highly influential papers in a particular area of research. Bibliometric also has other applications such as descriptive linguistics and reader assessment. In this section, researchers will describe how they collect using a specific database. In order to find past research articles on the efficiency of Islamic banking, we used Scopus as a database which is a multidisciplinary database suitable for information systems (IS) researchers. Therefore, this study uses the Scopus database. The result of the search in our Scopus obtained 140 and the number of this document is the number after we select some core analysis and the desired method

In the Scopus database, we have started the search using keywords. The definition of a keyword is an important word, or a word used to find information while researching. We have conducted a document search with the keyword the “efficiency” and "Islamic banking". After that, we start to the next step which is inclusion and exclusion criteria which is to identify the list of keywords and apply the research filter such as year, document type, source type and language. While to apply the research filter, we start with the year of publication of the document. The selected year is within a period of 10 years starting from 2012 to 2021. Then the research filter is the document type which is the article. According to the Cambridge Dictionary, an article is a piece of writing that discusses a particular subject and is published in various media. The last research filter was language and we choose to focus on the article in English only to make it easier for us to understand its content.

### **3.4 Population**

In research, a population is a group of individuals, content, objects and others that have characteristics so as to successfully attract researchers to conduct research. The general characteristics of a group distinguish it by individuals, colours, objects and so on. The term universe is also used as a synonym to population. In this study, we would like to conduct a study on the efficiency of Islamic banking based on past research of researchers. This population can be calculated easily because we did a document review where many authors discussed it. In this case, we have focused on the article. The definition of an article is a written essay of indeterminate length, whose purpose is to convey ideas or facts with the intention of convincing, educating, and entertaining.

If seen in the figure below, there are 4 types of documents analysed by Scopus on this topic. Here we can say that the article is a population object that we studied with the help of Scopus. Meanwhile, Scopus is one of the world’s largest data indexing scientific journals, books, conference papers and patents from five major patent offices in the world, used by more than 3,000



academics, governments and companies. In general, researchers really use the advantages of Scopus in an effort to achieve scientific success. In addition, academic institutions, governing bodies, and companies also use Scopus in research results and fundraising. The benefit of Scopus to students is in the activity while looking at the thesis study and the final project can help in identifying articles to help create literature and support thesis and research development.

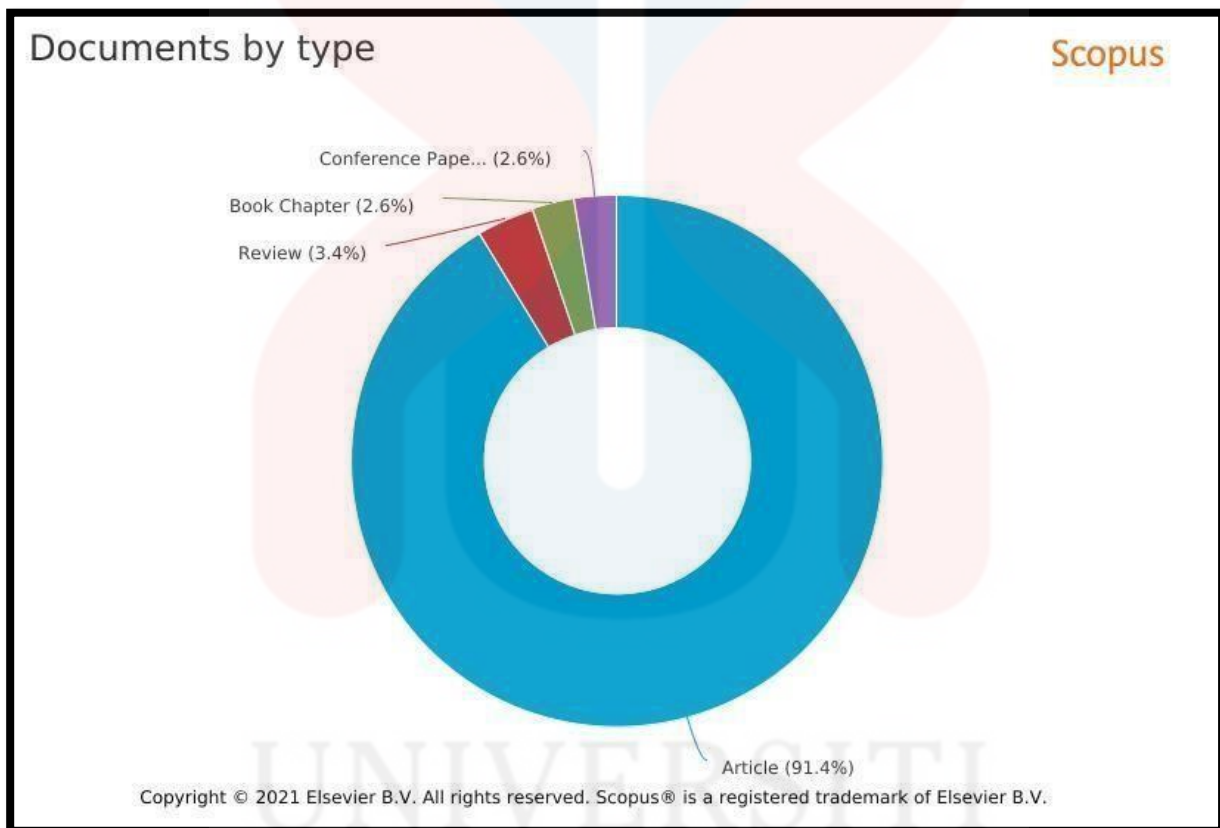


Figure 3: The analysis search result in types of document

### 3.5 Sample

Before determining how large a sample is, we should determine the study population and our population is articles from Scopus analysis. The sample size can be determined by various constraints such as the type of data analysis to be performed. In the first step, we use keywords; 'Islamic banking' to take examples of relevant articles from Scopus database. We use another keyword, 'efficiency', to get specific articles on performance Islamic banking.

Islamic banking refers to money management based on Islamic rules. During the data generation process, we also found scholarly articles published in 2021. The figure below is the number of published articles on Islamic banking efficiency in each year starting in 2012 to 2020. Therefore, we use keywords as a sample article search.

### 3.6 Sampling Techniques

In sampling techniques, a description of the data obtained to construct the bibliometric data will be detailed in this section. Pritchard (1969) made a bibliometric analysis of scientific techniques to study the historical evolution of research topics from the perspective of various disciplines (Bhatt et al., 2020; Caviggioli and Ughetto, 2019; Khanra et al., 2020, 2021). According to Donthu et al., 2020; Leung et al., 2017; Xu et al., 2018, the bibliometric analysis can help comprehensive understanding of the research topic, the mapping of boundaries, leading author identification, and development of new research lines. This methodology has been used by academics in several fields, including manufacturing (Caviggioli and Ughetto, 2019), art-based management (Ferreira, 2018), marketing (Gurzki and Woisetschlager, 2017), social media or networking (Leung et al., 2017; Shiau et al., 2017), finance (Corbet et al., 2018), and technology and innovation (Li et al., 2018a; van Oorschot et al., 2018).

The bibliometric methodology selected for the ability to create the intellectual structure without subjectivity (Xue et al., 2018). According to scholars, a bibliometric methodology is a cross-disciplinary tool that allows for the efficient mapping directions and topics to be addressed during the growth of the field of study (Khanra et al., 2020, 2021; Liao et al., 2018; Martínez-Lopez et al., 2018). As a result, our research focuses on understanding how the research is to understand the application in the efficiency of Islamic Banking around the world. Bibliographic coupling, co-creation, and network analysis has been used in this study for the bibliometric analysis. Our strategy is the same as Khanra et al (2020), which is uses bibliometric analysis to identify intellectual structures, depth gaps, and future study paths for

big data analysis and business research as shown by early bibliometric research, each of these methods has intrinsic strengths as well as limitations that can be addressed simultaneously with their application to problem.

There is so many websites that researchers can explore for obtain the information. Even so, the researchers used Scopus to get the data. In view of the fact that, Scopus contains more than 36,377 titles (22,794 active titles and 13,583 active titles) from approximately 11,678 publishers, 34,346 — both of which are in journal reviews in top-level topic areas: biological sciences, social sciences, physical sciences, and health sciences. It is divided into three categories: book series, journals, and trade journals. Each year, all journals included by the Scopus database are checked for sufficiently high quality using four types of numerical quality measures for each title: h-Index, CiteScore, SJR (SCImago Journal Rank), and Clippings (Normal Source of Impact per Paper). The Scopus search also includes a patent database search

To find database sources, researchers use the Scopus website to find the journal sources that will be used in this project. Criteria used to find a journal is to use criteria keywords which will highlight the main words to be searched. Researchers is focused on the topic that has been chosen, namely the efficiency of Islamic Banking. Researchers also used the original research for the type of studies and for the type of documents and source, the researchers used journal and article. This is because most writers who have written journals and articles have placed many of their journals in the category of journals and articles to facilitate public search.

Keywords that have been searched using the title that has been set will appear with a more specific search that is by setting again with a more detailed class that is title, abstract and list of keywords listed by the authors. In keyword filter, researchers choose only Islamic banking and efficiency to make the document is according to what is desired. For the language, the researchers used English only for the articles that was published and for the period, researchers selected 10 years which is from 2012 to 2021. Researchers choose bibliometric

analysis techniques such as citation, co-citation, and co- authorship. The researchers decided to choose software that appropriate to perform the chosenanalysis is VOSviewer.

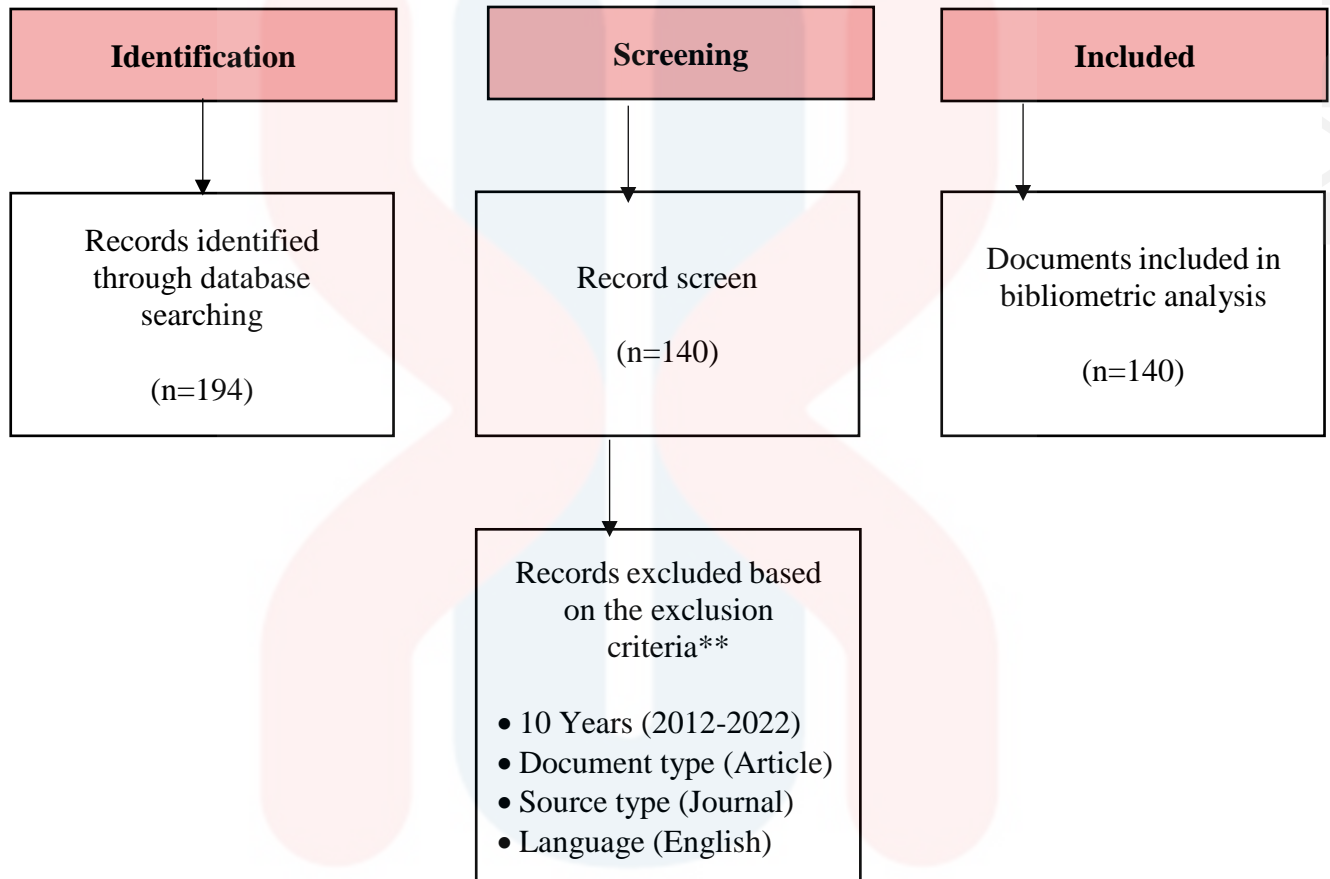


Figure 4: The flow to build database

### 3.7 Procedure For Data Analysis

The data acquired from personal interviews was analysed using content analysis. According to Moore and McCabe (2005), this is the form of study in which data is divided into themes and sub-themes so that it may be compared. The fundamental advantage of content analysis is that it aids in the reduction and simplification of data obtained. While also delivering results that can be quantified. Furthermore, the content analysis allows researchers to compile the data obtained in a way that meets the objectives of the study. On the other hand, human error is heavily engaged in content analysis, as there is a possibility that researchers would

misunderstand the data acquired, resulting in incorrect and incorrect results (Krippendorff & Bock, 2008).

According to Samhis (2020), data analysis is defined as a way or ability in processing data to become information so that the characteristics of the data can be understood and useful to solve problems, especially problems related to research. The process of data analysis helps to reduce a large amount of data into smaller, sensible fragments. The researchers obtain data by searching for journals and articles by following a predefined filter. In this way, it can provide better results as well as in line with what the researchers want.

### **3.8 Summary**

This chapter describes the research methodology used to collect and analyse the data needed to answer the research questions and to test the relationship of the hypotheses developed in this study. The chapter begins with a discussion of the research plan, followed by the population from which the data will be collected and approach used in sample selection. This chapter then continues with a description of keywords, documents and other filters to filter out unnecessary data in Scopus. Next, the discussion centres on data collection methods, with research instrument development. Finally, the choice of data analysis methods is discussed.

**CHAPTER 4**

**DATA ANALYSIS AND FINDING**

Throughout this chapter, we'll utilize Scopus as a central location to aggregate and organize relevant articles. In this case, the overall result, years of publications, the most notable authors, top nations and institutions in undertaking relevant research, and the result or finding in utilizing VOSviewer in Bibliometric Citation (BC) will be displayed below.

**4.1 General result and Total of Articles**

<b>Criteria</b>	<b>Total/Quantity</b>
Articles	140
Authors	159
Countries	42
Institutions	160
Source (Journal)	140

Table 2

In this study, Scopus was used to identify 194 publications, which were then narrowed down to 140 documents having a source from 140 journals that were set to English language exclusively. Furthermore, there are 76 affiliated from 42 nations and 160 organizations linked with the papers. From 2012 through 2021, the articles have been picked. Those data have been recorded in the Table 2.

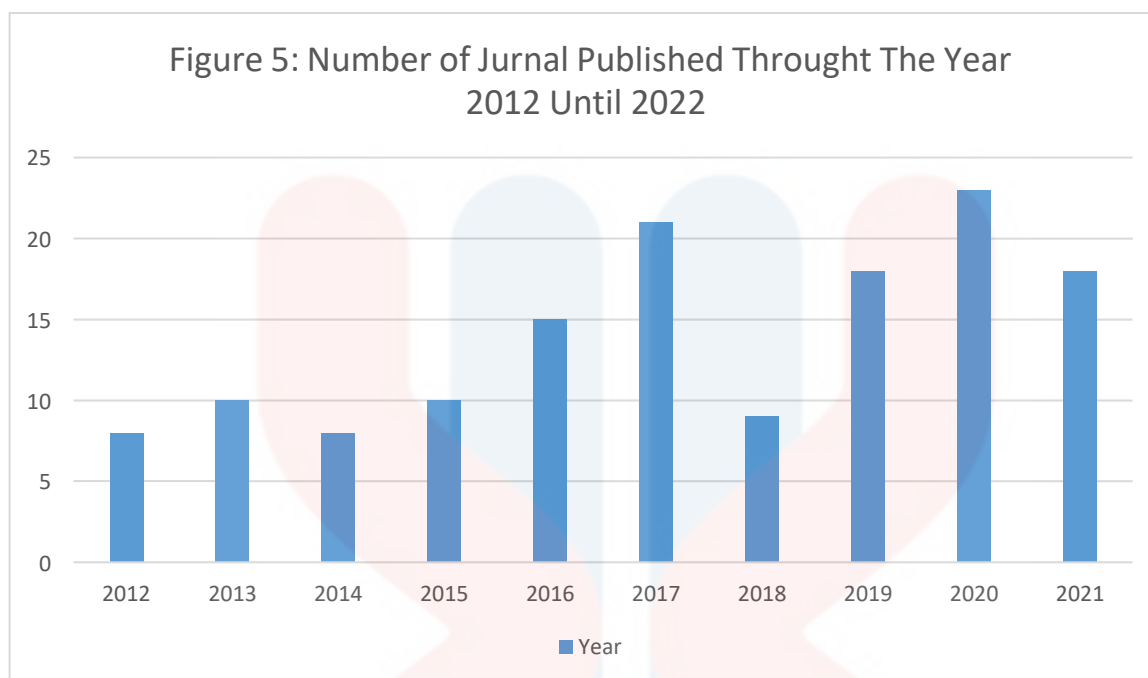


Figure 5 above shows the total number of publications published between 2012 and 2022, as seen in the graph. Graphs like this one reveal an increasing interest in the efficiency of Islamic banking, as well as publications relating to the term efficiency. The biggest number of publications with the keyword's "efficiency" and "Islamic banking" were published in 2020 with 23 articles. In 2012 and 2014, when the fewest articles were written, a total of eight articles were published during the course of the year.

#### 4.2 Top 5 authors in publishing document.

Rank	Author	Total/Quantity
1	Kamarudin, F.	8
2	Sufian, F.	7
3	Safiullah, M.	5
4	Wanke, P.	4
5	Alqahtani, F.	3

Table 3

According to the study, 159 writers were found, with an average of 140 papers published in the field of research. The top-ranking authors are shown in the Table 2 above. A total of 8 articles have been written by Kamarudin, F., who is the first-place author. Among these is a 2019 publication titled "Bank Efficiency in Malaysia a DEA Approach" that was just released. This is followed by the author of "Bank Efficiency in Malaysia: A DEA Approach," Sufian F which he also joined with Kamarudin, F., who has written a total of 7 articles. Safiullah, M. is the third author who has contributed the most publications, with a total of 5 articles, the most recent of which was published in 2019 with the title "Risk-adjusted efficiency and corporate governance: Evidence from Islamic and conventional banks." 4 documents have been authored by Wanke P. Wanke's most recent publication was "Predicting efficiency in Malaysian Islamic banks: A two-stage TOPSIS and neural networks method" in 2016. It was written by Alqahtani, F. in 2017 and is titled "Islamic Bank Efficiency Compared to Conventional Banks during the Global Crisis in the GCC Region."

#### 4.3 Most cited articles in Scopus

Rank	Titles	Total/Quantity of cited
1	Islamic vs. conventional banking: Business model, efficiency and stability (Beck, T., Demirgüç-Kunt, A., Merrouche, O.)	620
2	A comparison of performance of Islamic and conventional banks 2004-2009 (Johnes, J., Izzeldin, M., Pappas, V.)	144
3	Efficiency of Islamic banks during the financial crisis: An analysis of Middle Eastern and Asian countries	97



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	(Rosman, R., Wahab, N.A., Zainol, Z.)	
4	Islamic banking and finance: Recent empirical literature and directions for future research (Abedifar, P., Ebrahim, S.M., Molyneux, P., Tarazi, A.)	78
5	Examining the relationship between default risk and efficiency in Islamic and conventional banks (Saeed, M., Izzeldin, M.)	64
6	Finance-growth nexus and dual-banking systems: Relative importance of Islamic banks (Abedifar, P., Hasan, I., Tarazi, A.)	55
7	Does Islamic banking development favor macroeconomic efficiency? Evidence on the Islamic finance-growth nexus (Gheeraert, L., Weill, L.)	55
8	Determinants of financial performance of Islamic banks: an intellectual capital perspective (Nawaz, T., Haniffa, R.)	52
9	Islamic bank efficiency compared to conventional banks during the global crisis in the GCC region (Alqahtani, F., Mayes, D.G., Brown, K.)	50
10	Bank overall financial strength: Islamic versus conventional banks (Doumpos, M., Hasan, I., Pasiouras, F.)	49

Table 4

The analysis showed the most top cited documents in the Scopus with a total of 2339 cited from 2012 to 2021. About 23.57% of a document never been cited and a total of 76.43% that has been cited

from 140 articles and the table above show the highest top 10 articles have been cited.

An article by (Beck, Demirgüç-Kunt, & Merrouche) titled "Islamic vs. conventional banking: business model, efficiency and stability" is the most referenced document article with 620 citations. The contrasts between Islamic banking and conventional banking are the topic of this study. With 144 citations, "A comparison of performance of Islamic and conventional banks 2004-2009" by Johnes, Izzeldin, and Pappas (2014) is the second most referenced paper in the field. Data envelopment analysis (DEA) and meta-frontier analysis (MFA) were used to compare the performance of Islamic and conventional banks from 2004 to 2009.

97 citations for the article "Efficiency of Islamic banks during the financial crisis: An analysis of Middle Eastern and Asian countries" by (Rosman, Wahab & Zainol, 2014) is the third most-cited work in the field. Analysis of pure technical and scale efficiency is used to determine Islamic banks' return on scale in the Middle East and Asia. "Islamic banking and finance: recent empirical literature and directions for future research" is the fourth most referenced article with 78 citations from (Abedifar, Ebrahim, Molyneux, & Tarazi, 2015). This research reviews the most recent empirical literature on Islamic banking and finance in order to guide future investigations. This paper by (Saeed & Izzeldin, 2016) is the fifth most often mentioned, receiving 64 citations. "Examining the link between default risk and efficiency in Islamic and conventional banks" Between 2002 and 2010, this study explores the relationship between Islamic and conventional banks in the Gulf Cooperation Council (GCC) and three non-GCC countries with respect to their efficiency and default risk.

#### 4.4 Top 10 influential countries

Rank	Country	Total/Quantity of Publications
1	Malaysia	48
2	Indonesia	22

3	United Kingdom	14
4	Saudi Arabia	13
5	United States	13
6	Tunisia	11
7	Pakistan	10
8	Australia	8
9	France	8
10	Brazil	4

Table 5

It was retrieved from Scopus, as shown in the table 3 above. There are 42 nations included in the Scopus results, however only the ten countries have been highlighted for this analysis. In terms of articles on Islamic banking efficiency, Malaysia is the most prolific country, with a total of 48 articles published. 22 publications from Indonesia follow. United Kingdom is the third most prolific country with 14 publications. In all, Saudi Arabia and the United States have published 13 articles each. 11 publication from Tunisia and 10 from Pakistan round out the top seven. With eight publications, Australia and France each have eight. Brazil is the country with the least publications with a total of 4. As a result of the country's large Muslim population, Malaysia had the most publications. United Kingdom managed to stay in 3rd place, indicating that they are interested

#### 4.5 Top 10 influential institutions

Rank	Institution	Total/Quantity of Publication
1	International Islamic University Malaysia	10
2	Universiti Putra Malaysia	10

3	Universiti Utara Malaysia	6
4	Universiti Malaya	6
5	Universiti Kebangsaan Malaysia	5
6	La Trobe University	5
7	La Trobe Business School	5
8	Universidade Federal do Rio de Janeiro	4
9	Universiti Teknologi MARA	4
10	Taibah University	4

Table 6

Table 4 shows the results obtained from Scopus. There are 160 institutions included in the Scopus results, but only the top 10 are shown here. An article relating to Islamic banking's efficiency has been published 10 times by each of International Islamic University Malaysia and Universiti Putra Malaysia. With 6 publications apiece, Universiti Utara Malaysia and Universiti Malaya are next. Universiti Kebangsaan Malaysia, La Trobe University, and La Trobe Business School each have 5 publications, while Universidade Federal do Rio de Janeiro, Universidade Teknologi MARA, and Taibah University Tunisia each have 4 publications.

#### 4.7 Finding

As shown in the previous section, the Scopus test has presented journals involved with writing related to the efficiency of Islamic banking. There is information that is often emphasized in the writing for this title such as significant differences in efficiency, capital, and liquidity in Islamic banks with conventional banks which it will emphasize on the efficiencies that exist in Islamic banking. In this section, we first compare the efficiency of Islamic banks that have been published in each journal whose data has been taken, after which we study the probability of consumption related to the efficiency of Islamic banking.

**Co-occurrence**

Keyword	Output	Keyword	Output
Islamic banking	60	Conventional banking	16
Islamic banks	56	Banking	13
Efficiency	48	Performance	12
Data envelopment analysis	45	Technical efficiency	11
Conventional banks	20	Financial system	10
Cost efficiency	20	Financial performance	8
Malaysia	20	Profitability	7
Revenue efficiency	20	Islamic finance	5

Table 7: The total link strength by number of co-occurrence

Table 1 shows the highest output of frequency for using the efficiency of Islamic banking articles in the top 16 keywords. Based on the table, the top three contributions are Islamic banking (60), Islamic banks (56) and the efficiency (48). Moreover, it is interesting to note down that many research papers have been completed in other keywords such as the Data envelopment analysis (45), conventional banks and cost efficiency with the same output (20).

Figure 6 depicts the search trends based on the keywords investigated. The investigation began in 2012. To begin, it identified research topics related to Islamic banking and Islamic banks where there is an essential activity of Islamic banking efficiency. Figure 6 depicts the most frequently used keywords in articles about the efficiency of Islamic banking. The author's keywords are those provided by the original authors at the time the document was published. It is possible to highlight the various themes of a given domain by using a clustering algorithm on the keyword network. Each cluster and theme can be represented on a specific plot called a strategic or thematic map:

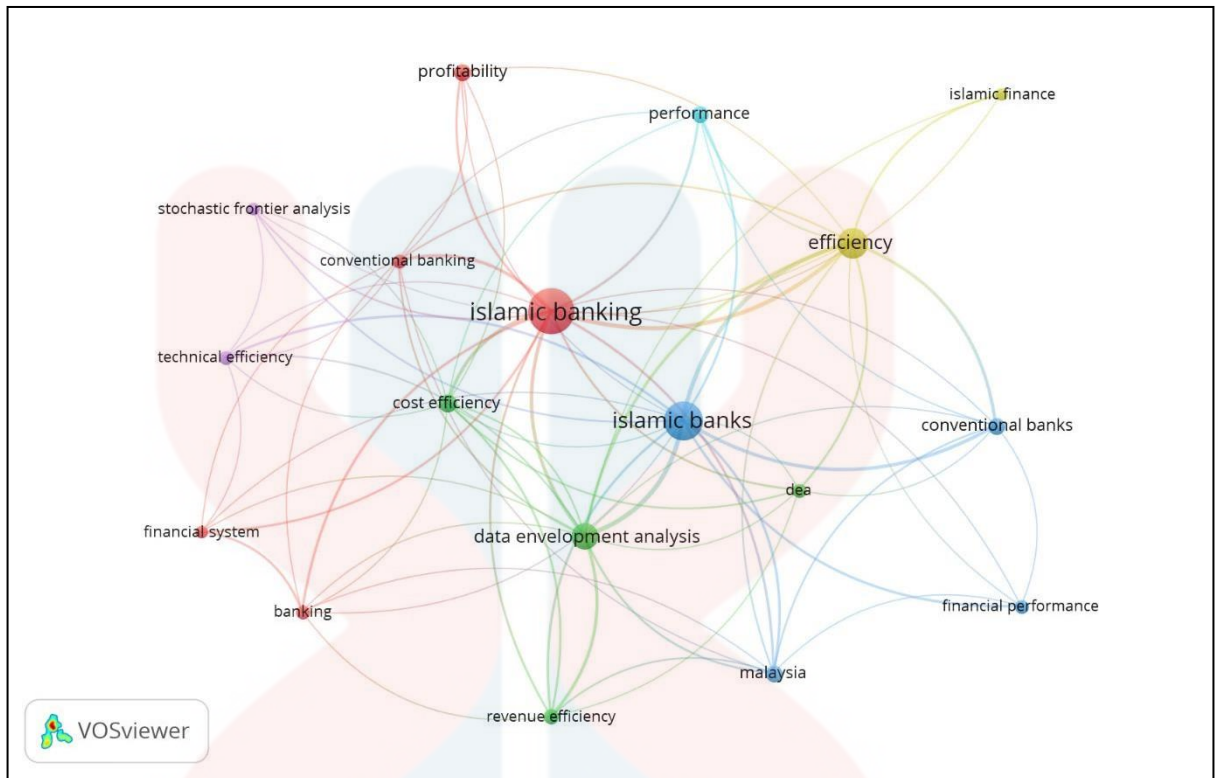


Figure 6: Result of co-occurrence analysis.

After analysing the most frequency keyword on the topic of articles, the most important scientific articles are proposed in Figure 1 where it shows the historical co-occurrence network is proposed. Thus, in the output, column cluster has the same role which is to group the words according to them closes definition between each other. Vosviewer will help the user to identify the number of clusters will be generated in the output, but the user also has authorized to choose how many clusters of words that they want. The bigger number of clusters means the bigger group of words will be pooled together. From this cluster, sometimes the user can identify the potential topic or research interest that they can dig into. Vosviewer will display the cluster with difference colour with difference theme as shows in figure 6.

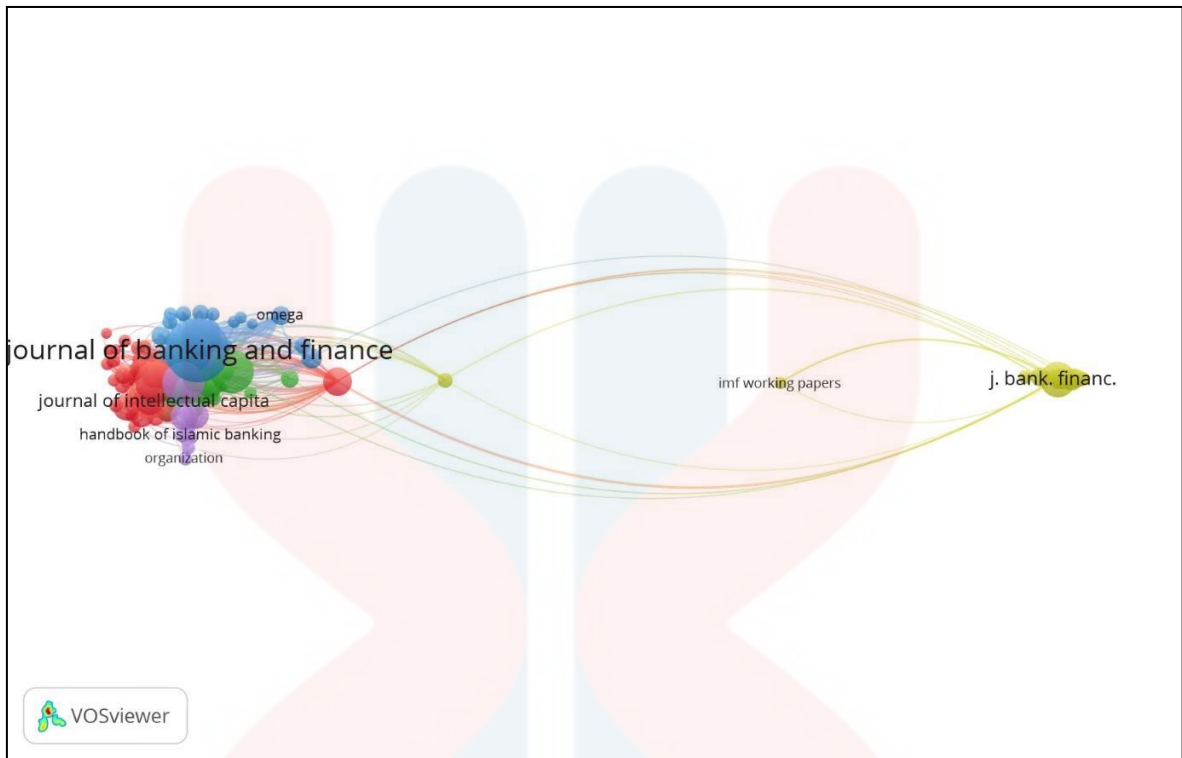


Figure 7: Result of co-citation analysis

**Co-citation**

Country	Output	Country	Output
US	896	Portugal	121
France	848	New Zealand	114
Malaysia	652	Tunisia	103
Netherlands	620	Pakistan	84
UK	488	Belgium	55
Saudi Arabia	150	Iran	34
Australia	143	UAE	26
Brazil	128	Bahrain	12

Table 7: The total link strength by number of citations

Table 7 shows the highest output of frequency for using the efficiency of Islamic banking articles

in the top 16 countries. Based on the table, the top three contributions are US (896), France (848) and the Malaysia (652). Moreover, it is interesting to note down that many research papers have been completed in other countries such as the Netherlands (620), UK (488) and Saudi Arabia (150).

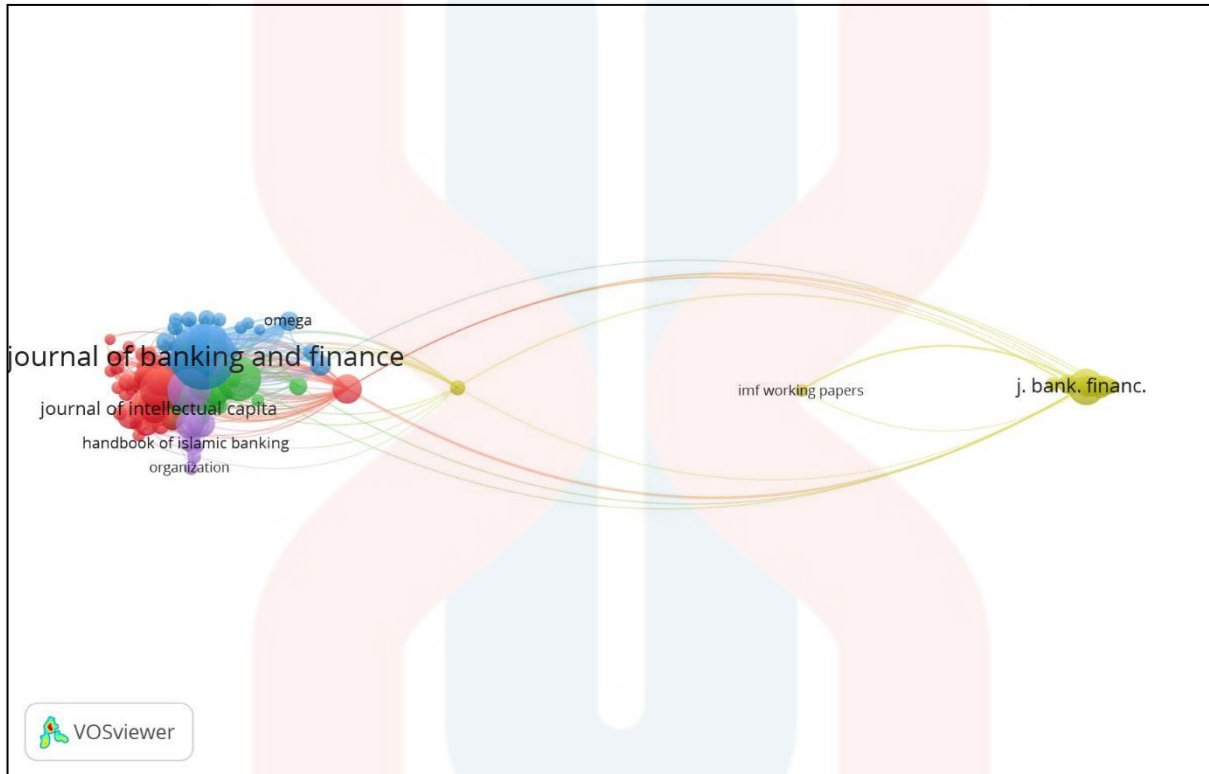


Figure 7: Result of co-citation analysis.

The author co-citation analysis provides several useful insights for understanding the influence of these authors on the intellectual structure of the efficiency if Islamic banking field. Figure 7 shows below the Islamic banking field's co-citation analysis specifically focussing on the intellectual structure. The size of the circle reflects the sources' co-citation frequency and, the thickness of the lines represents the strength of co-citations ties. The proximity between sources is shown by the links and not by the spatial closeness to one another. Network edges can have different interpretations depending on the citation type (co-citation or direct citation) citation analysis is the most common analysis in bibliometrics in the form of co-citation between sources or documents. Co-citation analysis, when examined over time, helps detect a shift in paradigm schools of thought (Small, 1973). From table 6, it is possible to identify four well-disturbed clusters. Sub clusters are defined in five themes, which are



identifiable by the different colours, namely, blue, red, purple, green, and yellow. The blue sub-cluster is an outlier. Above the centre of gravity, it is identifiable the first cluster in blue, which theme is definable as the theme is definable as the theory and social structure. The red theme at the centre of the analysis is composed of specific studies on the efficiency of Islamic banking, which is composed of specific studies. The green theme develops around the purple theme, and therefore, around the centre of gravity, which is identifiable as the origins of the topic of the analysis. The following representation allows us to identify the most significant work on the subject being analysed. For instance, the efficiency of Islamic banking and its historical development can be traced year by year, by identifying various strands of connection.

#### **4.8 Discussion**

Based on literature studies, the framework for measuring Islamic banks' efficiency and productivity is as follows. Cost control difficulties are intertwined with efficiency issues. The term "efficiency" refers to the fact that the costs paid in order to create profits are less than the profits received from the usage of these assets. Bank efficiency is critical since the level of competition among banks is increasing, as is the standard of service. Banks that are unable to reach ideal levels of efficiency will lose their competitiveness.

This research aims to give a bibliometric analysis of the efficiency of Islamic banking in VosViewer indexed journals from 2012 to 2021, spanning a ten-year period. The data given in the third portion revealed a number of intriguing points.

For starters, there has been a significant increase in the number of publications on efficiency Islamic banking in the six years covered by this study (2012–2017). This significant increase in the efficiency of Islamic banking literature could be linked to a similar increase in the number of journals that provide new channels for such articles. The lack of similar research activities may be responsible for the low number of publications in 2018, which climbed again in the next two years before decreasing in 2021.

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Second, nine of the ten most quoted articles on the effectiveness of Islamic banking were quite recent. These studies were published between 2012 and 2021, indicating that the efficiency of Islamic banking as a discipline is gaining traction. With 620 citations, the most referenced document article is "Islamic vs. traditional banking: business model, efficiency, and stability" by (Beck, Demircuc-Kunt, & Merrouche).

Third, the supportive environment created by the government and research and training organisations operating in the country can explain the high number of publications from Malaysian. Government support has always been a crucial component in fostering the growth of Islamic banking efficiency in Malaysia. Research and training centres on Islamic banking efficiency in Tunisia, Pakistan, Australia, France, and Brazil should be encouraged to publish more studies on Islamic banking efficiency.

Fourth, the favourable environment created by the government and research and training institutes functioning in the country can explain the high number of publications from Malaysian universities, which is International Islamic University Malaysia. Governmental support has always been an important role in encouraging the growth of Islamic banking efficiency in Malaysia. Furthermore, undergraduate students of social and management sciences should be taught about the effectiveness of Islamic banking which is in finance, management, accounting, business administration and economics.

The DEA technique is the most extensively utilised efficiency measurement. This is due to the fact that DEA is a non-parametric statistical method that only necessitates a few assumptions (Yahya et al., 2012). DEA is a method for calculating the efficiency of an

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organization's production function and organisational units (Mostafa, 2009). According to various research, Islamic banks' performance is judged using efficiency methodologies like DEA (for example, Mostofa. 2011, Sufian and Mohamad 2009, Sakti and Azhar 2018, Wahab and Razali, 2017).

### **CHAPTER 5**

### **CONCLUSION**

#### **5.1 Implications of the study**

There are several implications of Islamic banking efficiency that must be addressed by institutions and customers in this study. The development aspect of innovation on Islamic banking products or technologies plays an important role in improving the efficiency of Islamic banking. In this regard, Islamic banks must be creative and innovative in order to increase efficiency, but they must not violate established Shariah principles, because innovation is only acceptable if there is clear evidence that it contradicts Shariah's basic rules. As a result, applications and products, such as those used in Islamic finance, should adhere to Shariah principles. The principle is to avoid using forbidden words in transactions such as *riba*, *maysir*, *gharar*, *darar*, and *tadlis*. It should also be transparent, with no hidden costs or irresponsible or unethical funding. This provides a basic understanding of what is meant by Shariah compliance in Islamic banking. Indeed, the increased use of it in Islamic finance comes with an increased risk of information security threats. This indirectly worries many parties to the point where many organisations are hesitant to invest in technology. As a result, increased innovation in improving the efficiency of Islamic banking will have an impact on the country's economic stability, as well as the institution's image, and the public will begin refusing to use financial institutions affected by cyber-attacks.

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The effect of Islamic banking's efficiency is also to improve the image and begin attracting the attention of the community to begin taking note of Islamic banking. We all know that Islamic banking is constantly compared to conventional banking on the basis of terms that are said to be different and more profitable. However, as the efficiency of Islamic banking grows and develops from various perspectives such as products, instruments, technology, institutions, and security, the community will begin to accept Islamic banking. Malaysians are accustomed to Islamic banking institutions such as Bank Islam Malaysia Berhad, Maybank Islamic Berhad, AmBank Islamic Berhad, and Bank Muamalat Malaysia Berhad. One of the reasons why Islamic banking has become a popular choice among the people is because it promotes Islam, faith, and hope by encouraging people to seek the pleasure of Allah in everything they do. On the other hand, conventional banking seeks the maximum possible profit regardless of faith, reward, or sin, and its business is not based on Islamic law in Islamic banking, namely the Maqasid Syariah. This is not to say that the conventional banking system is a bad system; rather, it is to say that the difference in principle between Islamic banking and conventional banking is so significant when compared. However, Muslims prefer Islamic banking because of its efficiency and follow the Shariah compliant.

### 5.2 Limitation

There will be some limitations in the study if bibliometric analysis is performed. The first is the format of the material included; Scopus will post information such as the author, country, year, and type of research, such as article, journal, or magazine. Not all of the research analysed by this software has a complete material format, and the number of authors in a study is not always the same. Furthermore, the units in the first case do not have the same value as the units in the second case. Scopus, for the time being, is not considering this issue. This has attempted to solve a portion of the use of VOSviewer renderer software by allowing the

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breakdown of studies by number of authors. Besides that, this study is like all research which had limitations including those caused by keyword selection and the use of only one database. Nonetheless, the current literature review clearly demonstrates the need for greater conceptualization and development of research on topics related to university-industry collaboration. Another significant limitation is that many studies can receive better bibliometric evaluations because this type of research receives more citations and there are many excellent works because many people are working on the topic. Finally, bibliometric measurement cannot assess many important issues in scientific research, such as participation in international journals and conferences.

### 5.3 Suggestion for future studies

The author's proposal for producing good future studies is to work with Islamic banks in discussing current issues to help improve its efficiency. Many of these industries, for example, are introducing new products designed to meet the specific needs of segments that lack financial services. These products include courtesy microfinance for B40 entrepreneurs funded by corporate company donations, as well as low-interest financing programmes for zakat recipients. Donations are also used to provide financial protection to hardworking poor families in the form of takaful riders. The author can then research the issues surrounding COVID-19 and how institutions such as takaful can be discussed in greater depth.

### 5.4 Conclusion

We examined 140 articles on the efficiency of Islamic banking from 2012 to 2021 in this study. Based on a ten-year period, the total production of articles on this topic will be in 2020, with the keywords "efficiency" and "Islamic banking" there could be up to 23 articles. While we analyse the position of the author, the top 5 articles that have the highest number of

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articles published are Kamarudin, F. with a total of 8, Sufian, F. with as many as 7 articles, Safiullah, M. with a total of 5, Wanke, P. with 4 articles, and Alqahtani, F. with 3 articles released in 2017. In addition, we examined 10 of the most frequently cited documents, with a total of 2339 citations over a 10-year period. However, 23.57 percent of the total are documents that have never been cited, while the remaining 76.43 percent are cited documents, based on 140 documents reviewed. The Scopus results include 42 countries, but only ten of them have been highlighted for this analysis. Malaysia is the top country in the title of the study the efficiency of Islamic banking, with a total of 48 articles published, followed by Indonesia, the United Kingdom, Saudi Arabia, the United States, Tunisia, Pakistan, Australia, France, and Brazil. Furthermore, the Scopus results include 160 institutions under the term influential institutions, but only the top 10 are shown here. Each of International Islamic University Malaysia and University Putra Malaysia has published an article on the efficiency of Islamic banking ten times. University Utara Malaysia, University Malaya, University Kebangsaan Malaysia, La Trobe University, and La Trobe Business School are next, followed by Universidade Federal do Rio de Janeiro, Universidade Teknologi MARA, and Taibah University Tunisia. While Scopus results are based on two types of citation, namely co-occurrence and co-citation. We see the most frequency of keywords in the efficiency of Islamic banking that have red, blue, green, yellow, and purple in the co-occurrence. With a score of 60, we discovered that the keyword 'Islamic banking' is related to other keywords. While the second citation is a co-citation that is analyzed to see which countries have the highest output of frequency for using the efficiency of Islamic banking articles. It demonstrates that the co-citation analysis in the Islamic banking field is specifically focused on the intellectual structure.

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**PPTA 1 SEMESTER 6**

TASK NAME	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14
Meeting with Miss Fariha in Microsoft team												
Meeting with our supervisor, Dr. Ahmad Ridhuwan Abdullah												
Make discussion with team (Group 13) about topic of project research.												
Title verification by Dr. Ahmad Ridhuwan Abdullah at Google Meet.												
Dr. Ahmad Ridhwan have a briefing at Google Meet on how to determine the important things in research by means of Ginko Application.												
Discuss with group members in google meet in determining problems, objectives and scope of research and updates directly in the Ginko App												
Obtain permission from the supervisor to continue the study.												
Assign tasks to each group member: Research Framework, Research Methodology and Data Collection Method												

Final review of the draft research project proposal.													
Submission of draft research project proposal to the supervisor.													
Review by supervisor													
Correlation													



**PPTA 2 SEMESTER 7**

TASK NAME	Week1	Week2	Week3	Week4	Week5	Week6	Week7	Week8	Week9	Week10	Week11	Week12	Week13	Week14
Meeting with our supervisor, Dr AhmadRidhuwan Abdulah	■	■												
Generate database in Scopus and Vosviewer		■	■	■	■	■	■	■						
Update report to supervisor						■	■	■	■	■				
Meeting with our supervisor, Dr AhmadRidhuwan Abdulah											■			
Start do chapter 4 and 5											■	■		
Submit the report to supervisor													■	
Submission the poster, research paper and video to our supervisor and examiner														■