



Islamic Fintech: Investigating the Past, Present and Future using Science Mapping Analysis

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ABSTRACT

This research aims to conduct a thorough and systematic review of the available literature on Islamic Fintech. The purpose of this study is to summarize and synthesize the methodology and findings of major research in the field of Islamic finance technology. We used Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA) to present the status of available literature and studies in academia worldwide. Beyond systematic literature review of the major studies, the present study also applied scientometric analysis to present future themes of research.

Despite its enormous potential in banking, finance, insurance, investment, and wealth management, the topic is new, and global contributions from scholars are limited. The topic is multidisciplinary in nature and has been investigated in terms of technology, finance, and management. Future research will consider the integration of smart technologies such as blockchain and the internet with banking, insurance, and other financial services. As an emerging field of study, the research will assist current scholars in outlining the past, understanding the most recent developments, and providing direction for future research to scholars and industry practitioners. There is a dearth of literature on the topic. This study will add to the existing literature on the current developments and future of Islamic fintech.

KEYWORDS: Fintech, Islamic Finance, Islamic Fintech, Banking, Financial Technologies

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I. INTRODUCTION

With modern technologies permeating our daily lives, automation has become ingrained in our culture. Financial institutions have begun to incorporate technologies that many customers are unaware of but must fast adjust to (AlKemyani, et al, 2022). In the case of Islamic financial institutions, these technologies are also assisting in resolving issues and broadening access to the market in order to achieve financial inclusion. One of the much-debated technology is 'Fintech'.

The phrase 'Financial Technology' or "Fintech" refers to the new era of financial sector digitalization. Fintech is an economic sector made up of companies that employ technology to improve the efficiency of financial institutions. Fintech is a term that refers to technology-enabled financial solutions. It is not limited to certain industries (for example, finance) or business models, but rather encompasses the complete range of services and products typically supplied by the financial services industry (Nugraha, et al., 2022; Arner, et al., 2015).

Fintech is used in both conventional and Islamic finance. Islamic financial practices are based on shariah principles, which include, but are not limited to, the avoidance of riba (interest); the prohibition of gharar (uncertainty, risk, and speculation); and a concentration on halal (religious approved activities) (Alam et al., 2017). Islamic finance encompasses all financial activities that adhere to the Quran and Sunnah. Geographically, a number of nations have implemented Islamic financial services, including the GCC, Asia, and

southern Africa. Islamic finance has a number of characteristics, one of which is that it enables the expansion of Islamic ideas to incorporate economic activity in a way that benefits social welfare. Additionally, it distinguishes itself by offering services that other banks do not, such as Zakat Fund and cultural banking.

Islamic Fintech refers to the application of financial technologies to the creation and delivery of Islamic financing products (Alshater et al., 2022). The sole distinction between Fintech and Islamic fintech is Sharia compliance, which is a critical element in integrating both fintech and Islamic fintech. Global Islamic financial technology is classified into categories like money management, insurance, loan and deposit, societal finance, and finance. Islamic finance technology possesses a plethora of characteristics. One of these characteristics contributes to the efficiency of financial services, hence reducing the likelihood of a financial catastrophe. Additionally, it strengthens consumer business financing's Sharia-compliant nature. Islamic finance technology bolsters the industry's competitiveness and product offers. One of the benefits of Islamic financial technology is that it provides financial inclusion and poverty alleviation to the unserved. Additionally, it delivers innovative financial services that adhere to Islamic law. Our research aims to gain an understanding of the most recent advances in the academic literature in this emerging field.

II. METHODOLOGY

This research aims to conduct a thorough and systematic review of the available literature on Islamic Fintech. The purpose of this study is to summarize and synthesize the methodology and findings of major research in the field of Islamic finance technology. As an emerging field of study, the methodology will assist current scholars with the most recent developments while also providing scholars and industry practitioners with direction for future research (Donthu et al. 2021; Pal et al. 2021; Bhaskar et al. 2020).

To present the status of available literature and studies in academia around the world, we used Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA). To gather data for the study, we used the world's largest scientific database, SCOPUS, as well as Google Scholar and various reports (Tiwari, et al., 2022). To study the best material available, we conduct a qualitative Systematic Literature Review on only a subset of the peer-reviewed articles in these databases. The review will look at past and current work on Islamic finance from around the world. Furthermore, we conduct quantitative bibliometric analysis to unpack the evolutionary nature of Islamic fintech and to identify emerging areas of research in the field. The data collection and processing process are outlined below.

2.1 Database Search:

The initial search was conducted using keywords such as "Islamic Fintech." The database was chosen for the extraction of related documents due to its size and multidisciplinary nature. Around 76 documents containing articles, books, editorials, book chapters, review papers, conference papers, and editorials were extracted in total. The number of documents that contained the aforementioned keywords was recorded.

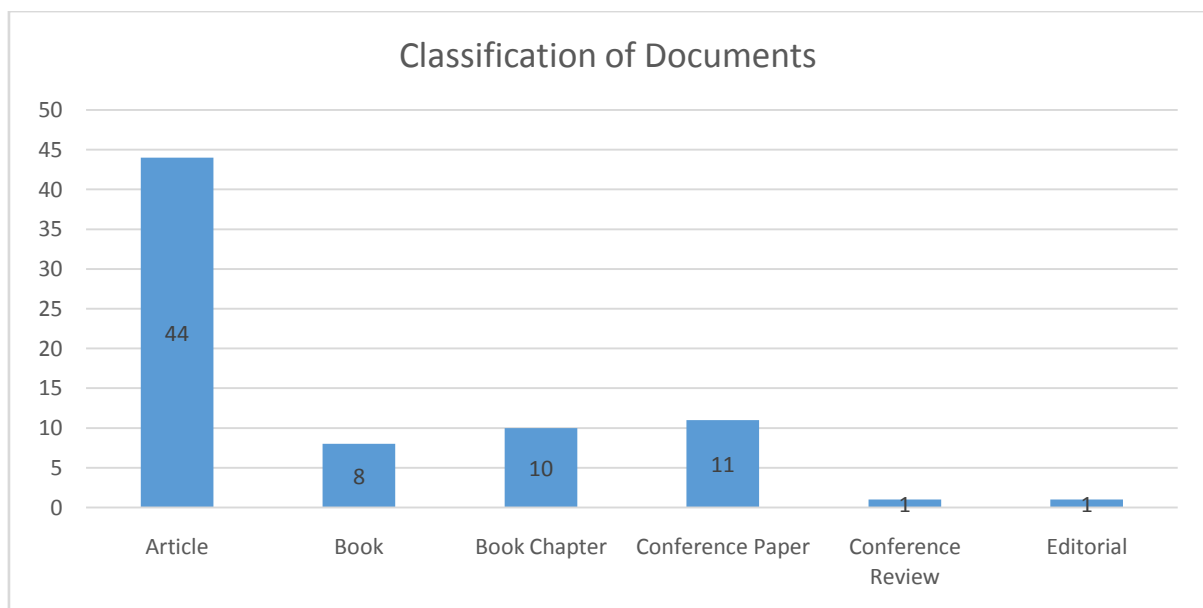


Fig. 2.1. Classification of documents on Islamic fintech (Complied by authors)

2.2 Exclusion and Inclusion Criteria:

The secondary data we used for our analysis met the following inclusion criteria for further investigation. First, the documents must be topic-related and written in English. Second, the available document must be an article, an article in press, or a review paper and cannot be a conference paper, conference review, book chapter, book, or editorial.

Finally, 44 articles were considered for systematic review and bibliometric analysis.

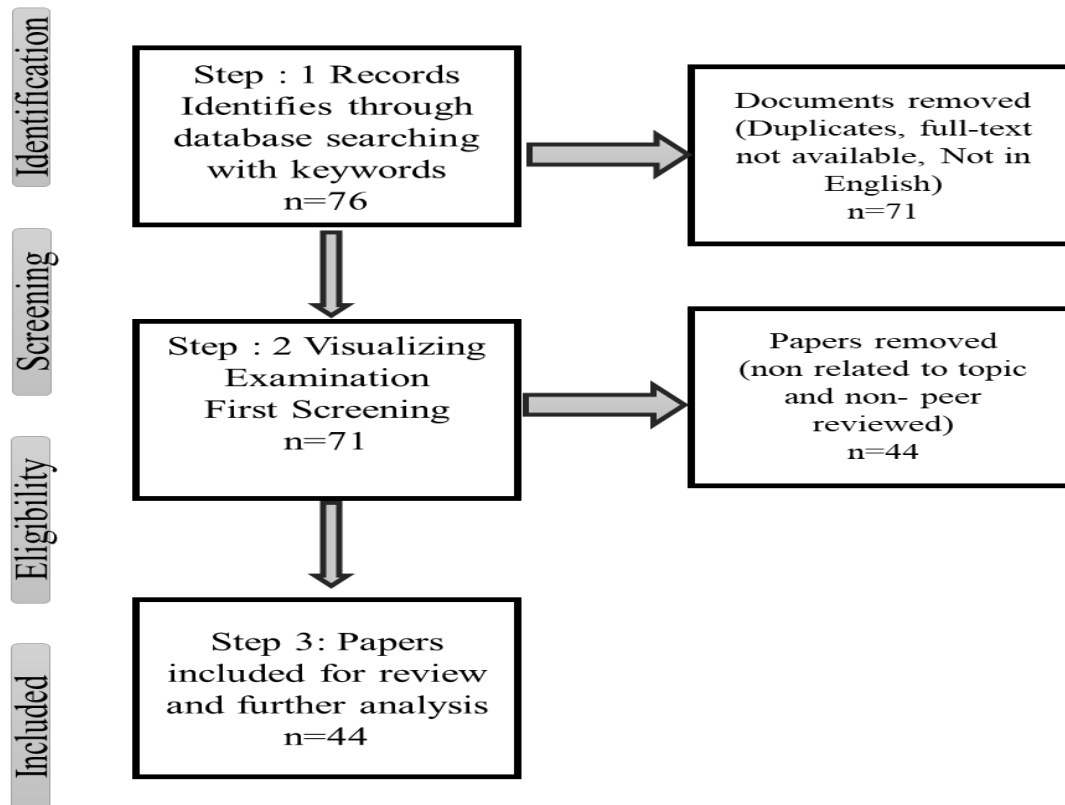


Fig. 2.2. PRISMA Methodology (Compiled by authors)

III. REVIEW OF LITERATURE

Islamic Fintech is the union of Islamic finance and financial technology. Customers can access financial products based on Shariah law via digital platforms. Islamic financial institutions are embracing new technologies such as electronic Know-Your-Customer (e-KYC), blockchain and distributed ledger technology, big data, machine learning, electronic payments, and digital infrastructure investment.

Islamic fintech encompasses services such as banking, wealth management, insurance, crowdfunding, peer-to-peer lending, money transfer, trading, and investment. In this emerging space, a Shariah-compliant Initial Coin Offering (ICO) for fees and risk-sharing backed by halal instruments has recently been launched. Scholars have explored the area of Islamic fintech with reference to different countries around the world. The following table presents some of the significant contribution to the literature on Islamic Fintech.

Table 3.1 Systematic Review of Major Studies (Complied by Authors)

Author	Purpose	Methodology	Findings
Haider, et al., (2020)	To investigate the possibility of using Zakat and Qardh-Al-Hasan as a source of funding to combat the negative effects of the Coronavirus on poor people and SMEs.	Qualitative Model	Islamic finance has enormous potential for combating any situation or pandemic. When combined, Zakat and Qardh-Al-Hasan can be a lethal combination in combating COVID 19's negative effects.
Rabbani, et al., (2020)	To examine academic research in the field of Islamic financial technology.	Qualitative Using Systematic Literature Review	The most difficult challenge that Islamic FinTech organizations face is Sharia compliance in relation to cryptocurrency/blockchain.
Hassan, et al., (2020)	To examine the challenges that COVID-19 poses to Islamic finance, as well as how Fintech	Exploratory Study	Following COVID-19, there has been a significant increase in Islamic Fintech and Fintech

	can be used to address those challenges.		adoption by Islamic finance customers.
Buallay, et al., (2019)	To investigate the efficiency of intellectual capital in Islamic and conventional banks	Quantitative, Empirical Analysis using Regression	In Islamic banks, there is a positive relationship between intellectual capital efficiency and financial and market performance. A link exists between intellectual capital and operational and financial performance.
Hudaefi, (2020)	To explore the Islamic financial technology (fintech) lending in Indonesia	Qualitative Using Themes	Fintech companies have been promoting financial inclusion while also collecting and distributing social funds.
Shaikh, et al., (2020)	by extending the technology acceptance model (TAM) in the Malaysian context, to investigate the determinants that influence bank users' acceptance of Islamic financial technology (FinTech) services	Structural Equation Modelling, Data collection using convenience sampling	Acceptance of Islamic FinTech services is determined by perceived ease of use, perceived usefulness, and another variable, consumer innovativeness.
Rabbani, et al., (2021)	To evaluate an innovative Islamic approach to dealing with the economic crisis that has occurred as a result of the pandemic.	Qualitative Study, Exploratory	Islamic finance has enormous potential in terms of inclusion, stability, and sustainability.
Baber, (2020)	Examine how FinTech and crowdfunding applications affect client retention in Islamic banks of Malaysia and the United Arab Emirates	Empirical Analysis for the test of association	FinTech has little bearing on client retention in Islamic banks in these countries, although other variables such as payments, advisory services, compliance, and crowdfunding do.
Usman, et al., (2020)	To propose an enhanced model of the technology acceptance model (TAM) for the application of financial technology (Fintech) in Islamic philanthropy	Multiple linear regression model and MANOVA, Data collected using survey	Using TAM, trust and religious belief play a role on how easy or difficult something is to use and how effective it is.
Nastiti and Kasri, (2019)	To review and evaluate the impact of Islamic and branchless banking regulations in determining their efficacy	Multiple linear regressions for the selected banking and macroeconomic variables	The stimulus regulation has a favorable impact on the growth of Islamic bank lending.

IV. ANALYSIS AND RESULTS:

Scholars interested in new areas of study can benefit from the bibliometric evaluation of the papers in this subsection (Donthu, et al., 2021). To deliver the contributions in this area and to facilitate future research, we perform citation analysis, source title analysis, and co-word analysis. Analysis tools like Bibliometrix from the R package (Aria and Cuccurullo, 2017), and visualization tools like VOSviewer (Van and Waltman, 2013) are used to present the results.

4.1 Citation Analysis

Using citation analysis as a method for scientific mapping, researchers can find the intellectual connections generated when one journal references the other. The amount of citations an article obtains is a good indicator of its effect. Our research (Fig. 4.1a) shows that experts from Korea (n=16) and Indonesia (n=16) earned the most citations for their work on Islamic fintech, followed by Bahrain (n=13). The average number of citations per article from these countries is also a good indicator of the quality of the published work. Only eight researchers from around the world have obtained citations showing that there is still a great deal of research to be done on the subject.

Some famous scholars have attempted to study the relationship between Islamic finance and technology (Fig. 4.1b). For example, one of the most cited publications (Syed, et al, 2020) examined the feasibility of using Zakat and Qardh-Al-Hasan as a financing approach to combat the negative impact of Coronavirus on poor individuals and SMEs. The study finds that Islamic money has enormous potential to combat any emergency or epidemic. COVID 19's negative effects can be countered by combining Zakat and Qardh-Al-Hasan. The scholar's systematic review of academic research in the field of Islamic finance technology is yet another influential research project (Rabbani et a., 2020). Another of the most frequently quoted studies has addressed the issue of COVID-19 for Islamic finance and how the use of fintech might address such challenges. (Hassan et al., 2020). Post-COVID-19, Islamic fintech has a lot of room to expand,

according to a recent study. As a result, customers and service providers are increasingly turning to the internet for their financial needs.

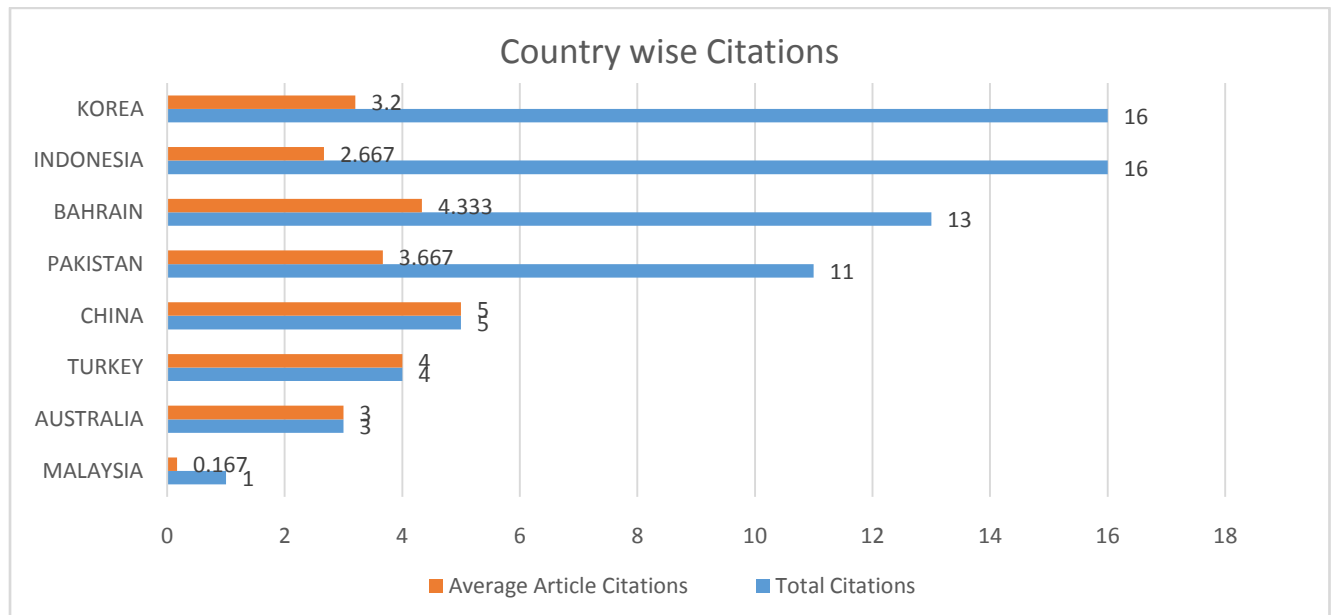


Fig. 4.1aCountry-wise citations (Complied by Authors)

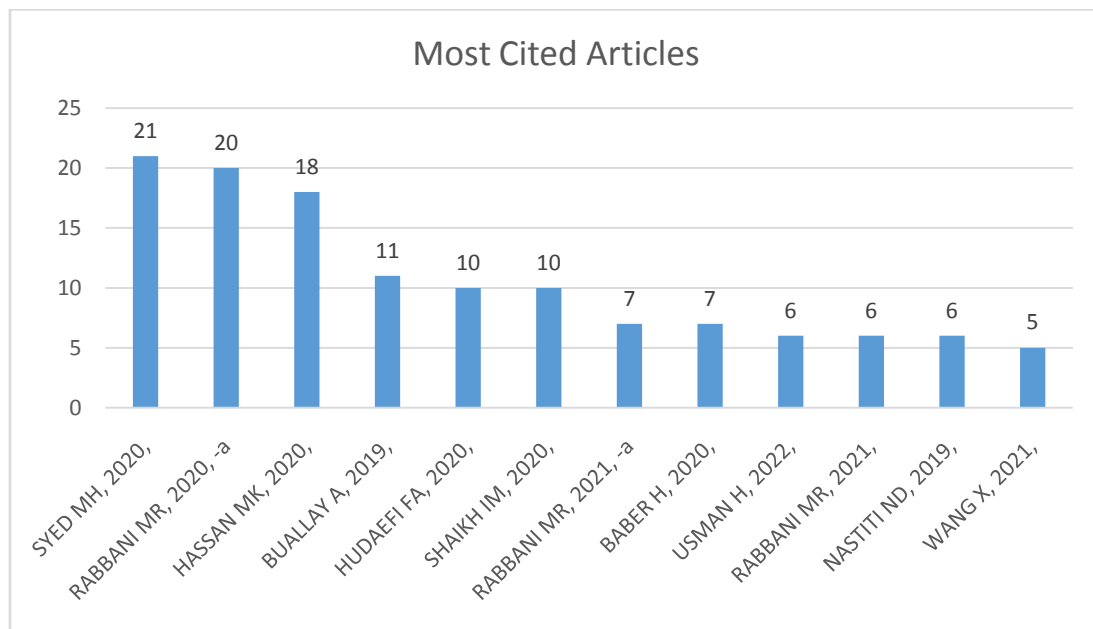


Fig. 4.1bMost Global Cited Documents (Complied by Authors)

Table 4.1: List of Journals Publishing on Islamic Fintech (Complied by Authors)

Sources	Articles
INTERNATIONAL JOURNAL OF ISLAMIC AND MIDDLE EASTERN FINANCE AND MANAGEMENT	5
QUALITATIVE RESEARCH IN FINANCIAL MARKETS	4
FORESIGHT	3
INTERNATIONAL JOURNAL OF ECONOMICS AND BUSINESS ADMINISTRATION	2
JOURNAL OF ISLAMIC MARKETING	2
JOURNAL OF OPEN INNOVATION: TECHNOLOGY MARKET AND COMPLEXITY	2
AL-SHAJARAH	1

COGENT ECONOMICS AND FINANCE	1
ECONOMIST (UNITED KINGDOM)	1
HELIYON	1
IEEE ACCESS	1
INTERNATIONAL JOURNAL OF ADVANCED SCIENCE AND TECHNOLOGY	1
INTERNATIONAL JOURNAL OF BUSINESS AND SYSTEMS RESEARCH	1
INTERNATIONAL JOURNAL OF ELECTRONIC FINANCE	1
INTERNATIONAL JOURNAL OF INNOVATION CREATIVITY AND CHANGE	1
INTERNATIONAL JOURNAL OF INNOVATIVE TECHNOLOGY AND EXPLORING ENGINEERING	1
INTERNATIONAL JOURNAL OF LAW AND MANAGEMENT	1
INTERNATIONAL JOURNAL OF SCIENTIFIC AND TECHNOLOGY RESEARCH	1
INTERNATIONAL JOURNAL OF SERVICES ECONOMICS AND MANAGEMENT	1
ISLAMIC LAW AND SOCIETY	1

4.2 Source Title Analysis

The source title analysis approach investigates journals that consider a specific topic worthy of publication in their journals. This keeps scholars up to date on the most recent developments in the field. According to our source title analysis (Table 4.1), research in the field of Islamic fintech will find a home in journals focusing on Islamic banking, Islamic marketing, and Islamic finance management. For example, the source ‘International Journal of Islamic and Middle Eastern Finance and Management’ has published the most articles (n=5), demonstrating the growth in studies, particularly in Islamic and Middle Eastern countries. This was followed by another source, ‘Qualitative Research in Financial Markets’ (n=4), which focuses on qualitative research in the banking and financial services industry. The articles were created primarily through surveys and focused group interviews to investigate current practices in the Islamic fintech space. The analysis concludes that studies exploring Islamic finance and finance technologies are found in journals related to banking, economics, finance, law, science, technology, and management, indicating that this subject of Islamic fintech is multi-disciplinary in nature. This can pave the way for researchers from various disciplines to collaborate and share knowledge with the academic community and societies.



Fig. 4.2a Word Tree (Compiled by authors)

4.3 Co-word Analysis

We used co-word analysis to look at the actual content of the publications. The co-word analysis is used to identify words from the selected articles that frequently appear together and have a thematic relationship. Our co-word analysis (Fig. 4.2a) predicts the future of Islamic fintech research. Some technological terms, such as industry 4.0, fintech, blockchain, cryptocurrency, and consensus protocols, have investigated the integration of technology in the banking and finance space. Furthermore, from the perspective of corporations, integrating technologies with finance and economics has provided them with a competitive advantage in their

business. The analysis indicates that businesses in the banking, finance and investment sectors are leveraging technology to improve their growth prospects.

According to the co-word analysis, most studies on Islamic fintech use the bibliometric analysis framework to outline the latest development and future of research in Islamic fintech. Further visualization suggests the top keywords used on the subject (Fig. 4.2b). The most well-known term, 'fintech,' refers to the marriage of finance and technology, which results in widespread financial service coverage via technology. Fintech growth has been driven primarily by financing tools such as crowdfunding and peer-to-peer lending. The term "blockchain" has numerous applications in both traditional and Islamic finance. Because of its strong immutability, security, and speed-like features, technology has the potential to transform the current finance industry (Pal, et al, 2021). The banking sector, in particular, has adopted Islamic fintech practices to facilitate banking-related services. Furthermore, it is exciting to note that the country with the greatest number of studies on Islamic fintech is a south-east country called 'Malaysia.' Due to the prevalence of sharia-compliant practices, we can expect to see contributions in the academic literature from countries such as Indonesia, Pakistan, Bangladesh, and other Muslim-dominated countries such as the GCC in the future. Future research will look into the integration of smart technologies such as blockchain and the internet with banking, insurance, and other financial services.

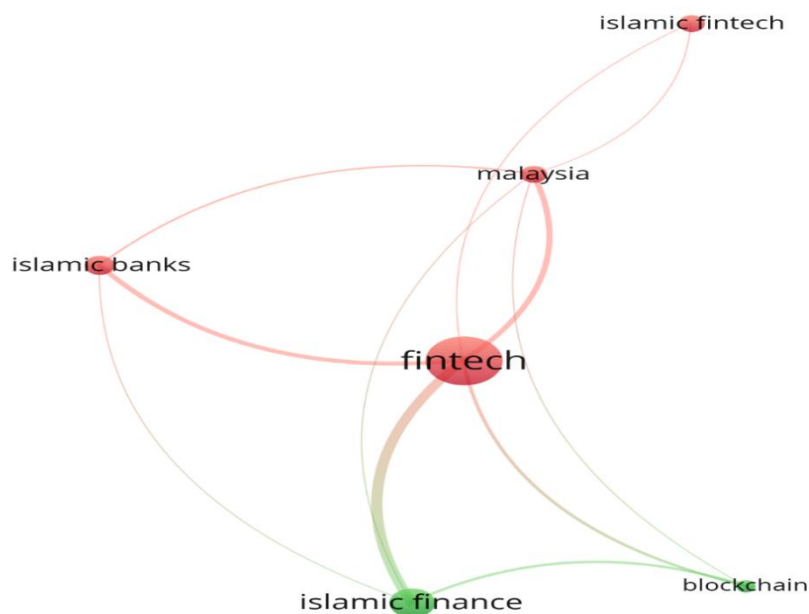


Fig. 4.2b Most Used Keywords (Compiled by Authors)

V. CONCLUSION AND RESEARCH IMPLICATIONS

Islamic finance encompasses all financial activities that are compliant with the elements of the Quran and Sunnah. Geographically, a number of countries, including the GCC, Asia, and South Africa, have adopted the provision of Islamic financial services. In turn, the three largest markets are Saudi Arabia, Iran, and Malaysia, which account for approximately 65 percent of total Islamic finance assets. Islamic banks and financial institutions are leveraging technology to increase the attractiveness of their products while minimizing costs. The delivery of financial services through digital infrastructure expands customer reach, bringing previously unbanked people into the financial system. Despite its enormous potential in banking, finance, insurance, investment, and wealth management, Islamic fintech is still in its early stages, with limited contributions from scholars worldwide. Further, the rate of adoption is slow among countries and a lack of digital literacy prevails among the stakeholders. The topic is multidisciplinary in nature, having been investigated in terms of technology, finance, and management. As an emerging field of study, the research will assist current scholars in outlining the past, understanding the most recent developments, and providing scholars and industry practitioners with direction for future research. Future research will look into how smart technologies like blockchain and the internet can be integrated into banking, insurance, and other financial services. Studies will be conducted to further investigate the quantifiable benefits of using fintech in Islamic finance.

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