Emergence or Descend of Islamic Crypto currency: A Bibliometric Review of Scholarly Discourse

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Abstract

This bibliometric analysis explores the scholarly discourse on Islamic cryptocurrency literature, examining 20 articles published between 2018 and 2021. Through a thorough examination of the literature, the International Journal of Economics and Business Administration is identified as the top journal. At the same time, Massey University and Islamic University are revealed to be core affiliations of scholarly interest. Furthermore, based on citation impact, Bahrain, Malaysia, and Saudi Arabia are the major countries for literary research. The most commonly used words in titles, abstracts, author's keywords, and keywords plus are 'blockchain' and 'Islamic', reflecting the central concepts of this discourse. The core author of "Islamic cryptocurrency" articles, Khan Shahnawaz, has also made a significant contribution to the field. The study further utilizes co-occurrence and co-citation analyses to explore the literature's themes and sub-topics. The co-occurrence analysis reveals two clusters in the literature, with the first cluster representing the intersection of cryptocurrency and COVID-19. In contrast, the second cluster highlights the connection between cryptocurrency and Islamic fintech. The co-citation analysis also provides two clusters, with the first tracing the evolution of digitalization, development, and disruption in Islamic fintech. The second cluster focuses on mining digital currency with Sharia compliance, using cryptocurrency in accordance with Islam and the Sunnah's teachings and its legality. The main article from this bibliometric analysis discusses the impact of financial technology (FinTech) on Islamic finance and financial stability. This analysis offers a comprehensive and nuanced understanding of Islamic cryptocurrency literature, highlighting its evolution and key themes.

Keywords: Islamic cryptocurrency, bitcoin, blockchain, bibliometric analysis, digital- currency, fintech, Islamic Shariah, Islamic Fintech

Introduction

Cryptocurrency is one of the flourishing terms in recent research on the finance sector. Today's life is shifting to the digital and virtual environment, making a cloud of data and eliminating the traditional physical hurdles. These innovations are more user-friendly and change the lives of the common people and positively affect them (Rabbani et al., 2020). The Muslim world consists of almost one-third of the world and is a significant part of facing a huge stream of financial innovations from other world societies. The Muslim community must adopt These financial innovations with a genuine tenacity that the Sharia came to preserve (Abdeldayem et al., 2020).

The cryptocurrency was introduced to create a place of independent peer-to-peer transactions with no support from the country's regulatory bodies. Cryptocurrency has no physical existence; it is called coins, but these coins are digital and designed in cryptography. The person with this money can transfer funds to others who also have or deal in this currency. Introducing cryptocurrency is an exciting issue for financial markets as money is based on blockchain technology. This technology is new and still can't be understood in many fields. On the other hand, fiat money is printed and regulated by the country's central bank with the government's permission in power. Fiat currency has boundaries, and cryptocurrency has no boundaries for any country (Abdullah & Mohd Nor, 2018).

From a Sharia standpoint, cryptocurrency can be measured as mal (property) due to need and preservation ability. The Fatwa Center of the South African Islamic seminary, Darul Uloom Zakariyya, specified that Bitcoin is allowable in principle. This shows that it can be treated as a valuable item in society and can be used as a medium of exchange (Saleh et al., 2020). Usually, the starter of the internet, e-commerce, mobile network, and intelligent devices has critically subsidized shifting the form of financial and monetary services. The initiation of cryptocurrencies has been among the powerful influencers and the most robust substance for interruption (Gulrez, 2021). The Fatwa Center of Palestine and Grand Mufti of Egypt professed that cryptocurrency as haram denotation is forbidden by the Shari'ah (Information, 2006). Similarly, the UK-based scholar Shaykh Haitham and the Turkish government's religious authority also decided that all cryptocurrencies are forbidden and that the purchasing and sales of cybernetic currencies are not well-matched with Islam (Tyson O'Ham, 2017).

The increasing popularity of cryptocurrency around the world is not subject to the regulation of central bank control (Cheah et al., n.d.). The need to comprehend its importance with sharia-compliant and its comparison with fiat currency (Finance & 2018, n.d.). Therefore, as a scholarly pitch, cryptocurrency literature is speedily advanced, specifically in the previous years. So, the increasing number of

bibliophiles of Islamic cryptocurrency needs a comprehensive analysis of previously printed literature to comprehend the complete opinion of the theme.

This paper aims to deeply discover the sources that are being published, encircling all features of Islamic cryptocurrency literature and providing concepts for future research. Therefore, the study has used a unique and trending approach to bibliometric analysis. There are twenty highly anticipated research articles on cryptocurrency considered by this study for bibliometric analysis. We are using R-package, i.e. "bibliometrix 3.0" for the objective of this study

The following points can see the contribution of the study to the literature. First of all, a complete keyword index was assembled based on the author keywords, keywords plus, title, and abstract. Secondly, We report the core influential and intellectual aspects of cryptocurrency literature.

The aim of the study is to:

1. Identify the leading authors from the literature.
2. Identify the primary core affiliations from literature.
3. Identify the main sources of the cryptocurrency literature.
4. Identify the main articles from the literature.
5. Identify the major countries from the literature.

This study considerably enhances the usefulness of the literature review by presenting a vibrant, organized, and republish evaluation procedure. With the help of this study, the future researcher can map the research fields and significant work without idiosyncratic prejudice that is authoritative for complete assistance to the literature process (Ellegaard & Wallin, 2015). 'Biblioshiny' is used in the study, a web-based interface of the R-package for bibliometric analysis. The study workflow is presented in figure 1, which gives a brief understanding of how this study is unfolding the critical influential, conceptual and intellectual factors of cryptocurrency literature.

The process of bibliometric analysis

The study follows four rigorous workflow steps to provide a bibliometric analysis of bibliometric literature. The workflow is shown in figure 1.
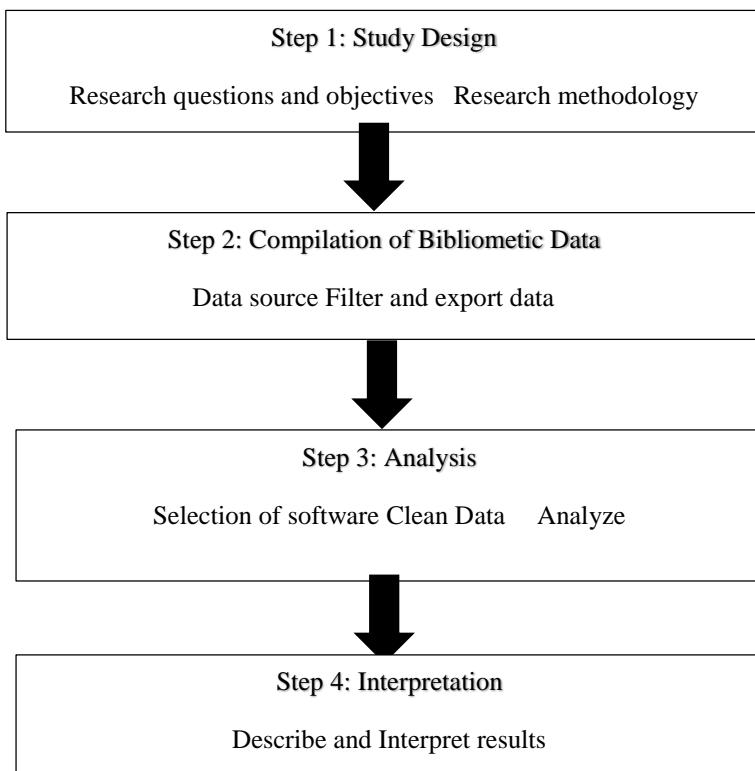
Figure 1: Workflow Chart

Scheme of Study

Many questions are to be answered in connection with Islamic cryptocurrency in the current situation. For this study, we contemplated subsequent questions to be replied which help to recognize the undercurrents of Islamic cryptocurrency literature that will deliver complete resources for forthcoming examination in the field. This research discourses the following questions.

1. What are the influential aspects of Islamic cryptocurrency literature?
2. What past thematic literature gives some essential lessons for future research, and which future research streams can be extracted from it?

To reply to the first question, we confer descriptive analysis and attempt to ascertain springs, authors, publications, countries, and affiliations in the Islamic cryptocurrency publications. Primary sources and authors are assigned weights according to total citations (TC), h-, g-, m-index and net production (NP). The study also uses Bradford's law to identify core sources with the help of three zones. Unlike

the second and third zone, the first zone is considered the nuclear zone that provides the most prolific source of a specific study area (Nasir et al., 2020). Top affiliations and countries are evaluated based on total citations and frequency of publications.

Keywords plus define the construction of information and help the study recognize and link diverse research capabilities (Li et al., 2016). The database derives the keywords plus to state the article matter concisely. We use keywords plus for analysis as the author provided keywords provide less expressive tendencies against keywords plus (Tripathi et al., 2018).

Combining of Bibliometric data

The arrangement of our bibliometric data has two sections. In the 1st section, we have taken the spring from where we can get and study articles. Several databases such as Scopus, Emerald, google scholar, and Web of Sciences (WOS) were selected. In the 2nd section, the query for the search was designed for complete data collection. We have carefully chosen the Islamic cryptocurrency for amassing for that drive. We have used several screening processes for our search query and attempted to make it in a way which would match our objective and provide the best results. After screening processes, we concluded that as the topic represents contemporary novelty to the subject area, the simple query of TITLE-ABS-KEY(Islamic AND cryptocurrency) is sufficient to achieve our research objectives and the literature presented as representative of the subject area significantly. The search query provides twenty documents from which eight articles are from finance, and six are related to business management, accounting and economics.

Bibliometric analysis is the contrivance of statistical and mathematical tools to books and media communication (Nasir et al., 2020). With the help of "Biblioshiny", the R-package, different means are provided to the non-coders for completing bibliometric analysis offering abundant options divided into categories of sources, documents, authors, conceptual structure, social structure, and intellectual structure. It provides numerous outcomes in graphs and tables that do not match with other software (Moral Muñoz et al., 2020).

Descriptive Information

Table 1 shows descriptive details of Islamic cryptocurrency literature that are important to understand before going forward to do analysis. We are working on 20 documents which consist of Journals, Books, conferences etc. The table also gives information about the total number of author keywords and keywords used in the literature; furthermore, we have taken the literature from 2018 to 2021. The table includes numerous features such as the alliance between countries index, authors per

document, and single and multiple-authored documents in Islamic cryptocurrency literature.

Table 1: Descriptive Information

Description	Results
Documents	20
Sources	19
Keywords Plus	31
Authors' keywords	60
Period	2018 - 2021
Average Citations per Document	3.25
Authors	50
Appearance of Authors	52
Authors of Single-Authored Documents	6
Authors of Multiple-Authored Documents	44
Single Author Documents	7
Documents per Authors	0.4
Authors per Documents	2.5
Co-Authors per Document	2.6
Collaboration Index	3.38
Document Types	
Journal Articles	12
Books	2
Book Chapters	3
Conference Papers	1
Conference Review	1
Erratum	1

Top author impact based on citation

Table 2 shows the authors who contributed to the Islamic cryptocurrency literature based on the citation. The ranking of the core authors consists of three heads h, g, and m index. Khan Shahnawaz is the top author with one h and g index and .3333 m_index. The author steered a thorough analysis of financial technology like blockchain and crypto currencies in Islamic finance in this study. According to the author, modernization of any type is welcome in Islam as long as it does not intrude upon the elementary teachings of the Quran and Sunnah.

Table 2: Author Impact based on citation

Author	h_index	g_index	m_index	TC	NP	PY_start
KHAN S	1	1	0.333333333	19	1	2020
RABBANI MR	1	1	0.333333333	19	1	2020
THALASSINOS	1	1	0.333333333	19	1	2020
ALAM N	1	1	0.25	13	1	2019
GUPTA L	1	1	0.25	13	1	2019
ZAMENI A	1	1	0.25	13	1	2019
AYSAN AF	1	1	0.5	8	1	2021
DISLI M	1	1	0.5	8	1	2021
HANDIKA R	1	1	0.333333333	8	1	2020
MITA AF	1	1	0.333333333	8	1	2020

Country Scientific Production

In Table 3, the country's scientific production is shown in terms of frequencies; it can be noted that Malaysia is the country with the most publications with seven out of 20 articles Baharain and Pakistan are the second and third place with five publications. The topic is unique as the number of publications is limited but it is increasing over time because the topic is getting more and more popular as the popularity of blockchain and cryptocurrency increases with passing time (Gulrez, 2021).

Table 3: Country Scientific Production

Region	Frequency
Malaysia	7
Bahrain	5
Pakistan	5
Indonesia	4
New Zealand	3
Saudi Arabia	3
Tunisia	3
Bangladesh	2
Qatar	2
Austalia	1

Locally and globally cited articles

In this section, the leading articles in Islamic cryptocurrency publications are highlighted. In table 4, the top 5 globally cited articles are listed down. The most prominent in the list are Rabbani et al., who conducted a study in 2020 about Islamic FinTech. The article gives information about three classes: Islamic fintech, Islamic financial technology, its opportunities and challenges, cryptocurrency/blockchain sharia compliance and law. According to the results, the main challenge Islamic fin tech organizations face regarding cryptocurrency and blockchain is sharia compliance. It is also concluded that the Islamic fintech organization and financial institutions should work together rather than as rivals. In the second number, a book explains the comprehensive literature about the Islamic finance industry through three aspects: digitalization, development, and disruption. In the book blockchain and fintech, evolution is discussed in detail, and shariah tech of fintech in line with shariah principles is also explained.

Table 4: **Locally and globally cited articles**

Document	Year	Local Citations	Global Citations
Rabbani Mr, 2020, Int J Econ Bus Adm	2020	2	19
Alam N, 2019, Fin Tech and Islam Finance: Digit, Dev and Distrupt	2019	0	13
Siswantoro D, 2020, Heliyon	2020	2	8
Disli M, 2021, Res Int Bus Financ	2021	0	8
Naeem Ma, 2020, Pacafic ACC Rev	2020	0	5

Corresponding Author Country

Table 5 shows that most of the corresponding authors belong to Bahrain with three articles, and it is also essential to consider that multi-country authors produce two articles, and 1 of the article is single-country production. Likewise, Malaysia and Saudi Arabia are the countries from which authors belong who are corresponding Islamic cryptocurrency literature with single and multi-country production.

Table 5: **Corresponding Author Country**

Country	Articles	Freq	SCP	MCP	MCP_Ratio
Bahrain	3	0.25	1	2	0.667
Malaysia	2	0.1667	2	0	0

Saudi Arabia	2	0.1667	1	1	0.5
Australia	1	0.0833	0	1	1
New Zealand	1	0.0833	0	1	1
Pakistan	1	0.0833	1	0	0
Qatar	1	0.0833	0	1	1
USA	1	0.0833	0	1	1

Most Cited Countries

Figure 2 and Table 6 show the total and average article citations according to the countries. It can be seen that Bahrain is the country that has the most citation of the related articles, with 20 total citations, and 6.67 is the average of citations. On the other hand, Saudi Arabia has the least total one and an average of .50 citations of the articles.

Table 6: Most Cited Counties

| Country	Total Citations	Average Article Citations
Bahrain	20	6.67
Malaysia	13	6.50
Qatar	8	8.00
New Zealand	5	5.00
USA	4	4.00
Australia	3	3.00
Pakistan	1	1.00
Saudi Arabia	1	0.50
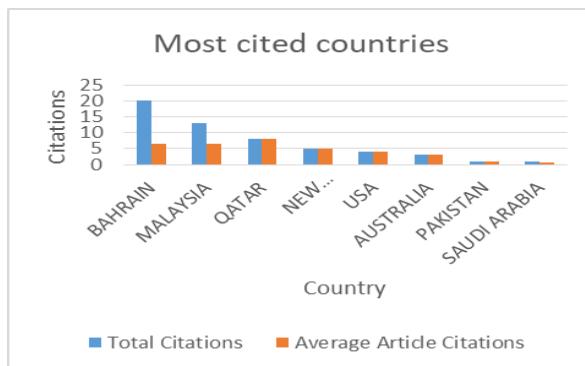
Figure 2: **Most Cited Countries**

Most Cited Sources

Table 7 is about the main sources based on the most cited sources. Finance research letters are the most cited source, with 12 articles. The article on cryptocurrency was published in 2021. The journal explores the novel measurement by discovering the impacts of UCRY policy on gold, DJ Islamic, Bitcoin, US Dollar, WTI, and Sukuk returns. It concludes that the US dollar, Bitcoin, and WTI returns are not the assets that cannot meet the haven criteria, and on the contrary, gold can be considered a hedge (Hasan et al., 2021). European research studies journal and IEEE Access are on the second number with eight articles. The journal IEEE access explains the significant influential and conceptual aspects of blockchain and cryptocurrency literature. The article specifies that IEEE access is the main journal that started publishing blockchain and cryptocurrency literature in 2017 (Nasir et al., 2021).

Table 7: Most Cited Sources

Sources	Articles
Finance Research Letters	12
European Research Studies Journal	8
IEEE Access	8
International Journal of Management Science and Business administration	7
Bitcoin a Peer to Peer Electronic cash system	6
Energy Econ	6
International Review of Financial Analysis	6
International Journal of Economics and Business administration	5
Journal of Islamic Banking and Finance	5
Econ Model	4

Keyword Analysis

Figures 3, 4, 5, and 6 show the keyword analysis. Keywords are essential in examining the research literature. In this analysis, we found different keywords: word cloud author keywords shown in figure 3, which shows bitcoin is the main keyword representing the type of cryptocurrency. We can also notice blockchain as an evident keyword as it is the primary technology working on the base of cryptocurrency. Author keywords are important in all keyword analyses; we can see the different words: fintech, Islamic finance, security, Islamic banking, and Islamic currency. From these words, researchers can find different themes for future research. Similar words can be seen in figure 5, which shows keyword plus related to cryptocurrency technology and represents its other affiliations with the fields. There is a minor change in figures five and six; in these figures, the use of Islamic and Islamic finance is evident, and it is the central theme of this study. Eventually, these figures show a different style of word counts which are more relevant to the literature on the Islamic cryptocurrency.

Figure 3: Word cloud author keyword

Figure 4: Word cloud keyword plus

Figure 5: Word cloud Title

This study proposes that author keywords signify an important and reliable keyword compared to other sources, and these keywords cover and examine an extensive range of topics in Islamic finance.

Most Relevant Affiliations

It can be seen in table 8 that the top institution is Massey University, with three articles as its products relevant to the Islamic cryptocurrency Massey University's forward-thinking spirit, research-led teaching, and cutting-edge discoveries make Massey New Zealand's defining university. Islamic University and King Abdulaziz University are second and third numbers, with two each publications; there are fourteen comprehensive universities related to the Islamic cryptocurrency literature.

Table 8: Most Relevant Affiliations

Affiliations	Articles
Massey University	3
Islamic UNIversity	2
King Abdulaziz University	2
A'sharqiyah University	1
Ajman University	1
Applied Science University (ASU)	1
Cairo University	1
Dubai Men's College	1
Hamad Bin Khalifa University	1
Imam Mohammad Ibn Saud Islamic University	1

Co-occurrence analysis

Figure 6 shows the co-occurrence analysis of keywords. This figure shows that Islamic cryptocurrency literature can be divided into two clusters. These clusters consist of two colours, red and green. These clusters are very much related, and the

themes from these clusters are interrelated. The red cluster can be said as the primary cluster with the main keywords. These clusters divide the literature into different streams.

The red cluster revolves around the currency with more affiliation with cryptocurrency with the inclusion of Covid-19. This cluster is named cryptocurrency and covid-19. The second cluster with green is related to red, indicating that some important topics can be extracted from it. This research stream is named cryptocurrency and Islamic fintech. These two streams are interrelated and would help researchers in future research.
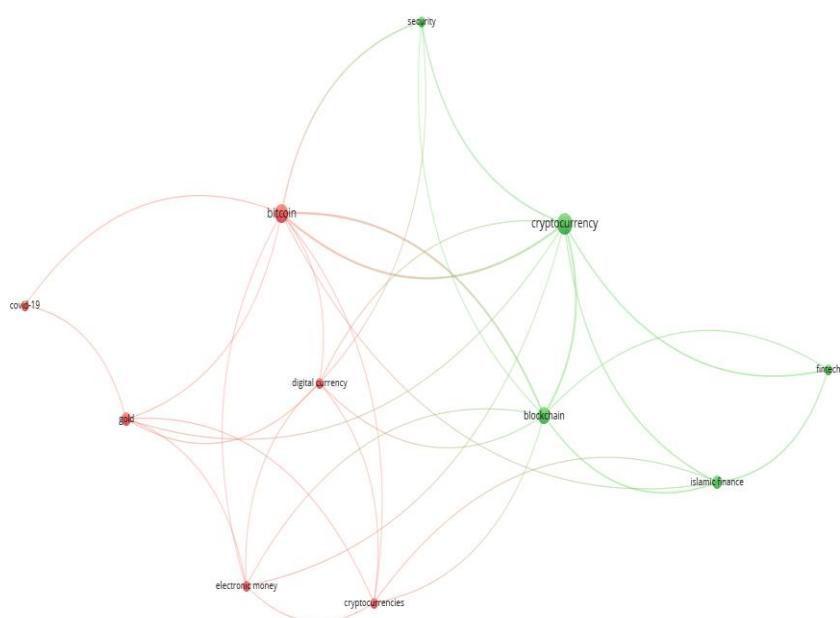
Figure 6: Co-occurrence analysis

Co-citation analysis

This study contains 20 documents. Figure 7 presents the most cited documents in the Islamic cryptocurrency literature. The figure shows two colours reflecting a distinct theme in the Islamic cryptocurrency research, although these groups are related. The interrelatedness highlights the increasing acknowledgement of Islamic cryptocurrency researchers to borrow from others and cultivate strong research outlines. The red cluster is the densest and shows more close points. Studies belonging to this group can be the central theme of the Islamic cryptocurrency literature. The researchers in this group discussed the evolution of digitalization, development, and disruption of Islamic fintech. The insight of Shariah Technology

and its application in Islamic financial institutions is the central theme of the cluster (Alam et al., 2019; Ellegaard & Wallin, 2015). The second cluster is green, which is very similar but less dense in appearance even though the researcher in this group discussed the mining of digital currency with sharia compliance and the use and legality of cryptocurrency in compliance with Islam and sunnah's teachings, which is very much similar to the first cluster.
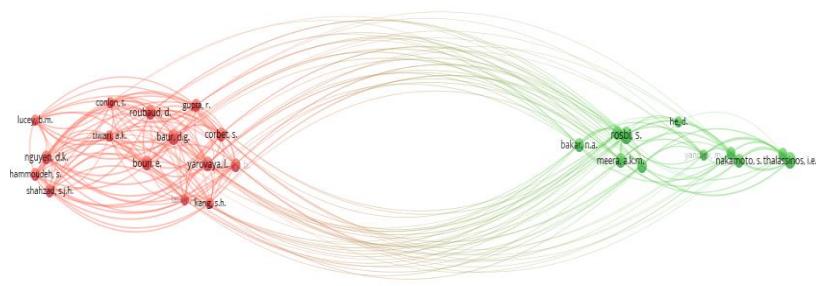

Figure 7: A co-citation analysis

Conclusion

The study aims to provide a novel approach to propose influential and conceptual aspects of Islamic cryptocurrency literature. The study identified twenty research articles from various journals and found significant, influential facets of Islamic cryptocurrency literature. These important facets provide roots for future research streams in cryptocurrency under the Shariah perspective. The study found that the first journal is Impact of Financial Technology (FinTech) on Islamic Finance and Financial Stability; there are international conference and finance research letters in the second and third numbers, respectively. According to Bradford law, there are 19 journals which published literature of Islamic cryptocurrency. With the help of the current study, it is also found that the article by Rabbani et al. is on top of the list of articles about Islamic Fintech. The article is divided into three categories: Islamic fintech, Islamic financial technology, its opportunities and challenges, cryptocurrency/blockchain sharia compliance and law. Bitcoin is the main keyword which represents the type of cryptocurrency. The study reports blockchain as an evident keyword related to cryptocurrency; basically, it is the main technology working on the base of cryptocurrency. Author keywords have a significant place in all keyword analyses; in this, we can see the different words such as fintech, Islamic

finance, security, Islamic banking and Islamic currency; from these words, researchers can find different themes for future research—the main authors who contributed in the Islamic cryptocurrency literature based on the citation. The ranking of the core authors consists of three heads h, g, and m index. Khan Shahnawaz is the top author with 1 h and g index and .3333 m_index. The country's scientific production is shown in terms of frequencies. In the last part, conceptual analysis was discussed with the help of co-occurrence and co-citation analysis. This shows different themes and streams for future researchers, such as there is a dire need for more quantitative research in this field. More Islamic countries should conduct research in this field to extract more authentic results.

Future recommendations

As the study is a detailed review of Islamic cryptocurrency literature, there can be some future directions for policymakers, Education institutes, financial institutions, and society.

1. There is limited research on Islamic cryptocurrency literature; there is a dire need for more research.
2. The experiences and perceptions of other Islamic finance experts and Shariah scholars can be collected to determine whether Islamic cryptocurrency is shariah-compliant.
3. As it is proven that Malaysia is the country with the most publications, Baharain and Pakistan are in the second and third numbers; these countries can pool their resources to conduct more research on the Islamic cryptocurrency to get more relevant results.
4. Universities can introduce technology-related subjects to enhance the skills of the finance and management students to cope with the future needs of the banking fields.

Limitation of the study

The study's main limitation is that there is minimal literature on Islamic cryptocurrency, economics, and the business field. Additional research is essential in confronting the economy's needs in this situation. The search query is steered at one point in time, because of which it became a limitation of the study. Add these studies may be modified and increase in number as new literature may be added on future dates.

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