# Zakat and Waqf Technology: A Bibliometric Analysis

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## ABSTRACT

This study aims to determine the development and trend map of the zakat and waqf in technology digital outbreak research that is published by reputable journals on the theme of Islamic economics and finance. The data analyzed covered more than 1264 publications of Web of Science (WoS) research publications. The export data is then processed and analyzed using the bibliometric application program to find out the bibliometric map of the development of the role of Islamic economics and finance in zakat and waqf technology research. The results showed that the number of publications on the zakat and waqf digital experienced a significant increase.  It revealed that the highest number of document types is the journaled articles.

**Keywords:** Zakat Digital; Bibliometric; Co-word Analysis; Waqf

## INTRODUCTION

Living in the era of Industrial Revolution 4.0 (IR4.0), Muslims must explore financial technology (FinTech) to apply it for purposes, especially in the Islamic finance industry. Along with the advancement of technology, it becomes a responsibility for Muslims to adapt and modify the technology to meet the needs of muamalah so that Islam will not be left behind. In Malaysia, FinTech adoption is highly encouraged in Islamic social finance such as zakat, waqf, and charity. For instance, zakat and waqf institutions as well as the State Islamic Religious Councils (SIRCs) are recommended to utilize FinTech in their operation (Iqbal et la., 2023). This is because zakat, waqf, and charity are seen to have tremendous potential to be revolutionized for shared growth and welfare of underprivileged people.

Zakat and waqf institutions that could collectively be termed as the tools of philanthropy for welfare are emerging as global phenomena not only for Muslim majority countries but also have been aligned to several Sustainable Development Goals (SDGs) such as SDG 1 (no poverty), SDG 2 (zero hunger), SDG 3 (reduced inequalities), and SDG 16 (promote peaceful and inclusive societies for sustainable development) (Ghafoor, 2023). However, to implement the FinTech mechanism in Islamic social finance is not easy. It demands a strong foundation consists of comprehensive research works and effective strategic planning in digital technology to ensure the sustainability of zakat and waqf institutions.

Therefore, this study explores research papers from the Web of Science (WoS) database, specifically research journal articles on zakat and waqf in digital technology. The search query in WoS has been refined and aims to focus on elements of the use of zakat and waqf in digital technology. The objective of this study is to identify clear research themes and predict future research directions based on analysis of WoS citation data. Key terms frequently used in zakat and waqf research are calculated in the VOSviewer software, which illustrates the science behind zakat and waqf research topics.

## LITERATURE REVIEW

### Digital in Islam

As technology advances, the impact of digital Islam is expected to increase. Virtual reality (VR) and augmented reality (AR) applications may offer Muslims immersive experiences, allowing them to virtually visit sacred

sites, participate in religious rituals, and learn in interactive environments. Artificial intelligence (AI) may also help with personalized religious guidance and learning experiences. Digital Islam has altered the way Muslims engage with their faith, opening up new avenues for learning, community building, and spiritual growth. As technology advances, Muslims must navigate the digital world with caution to preserve authentic Islamic teachings and values. Muslims can use technology responsibly to improve understanding in an increasingly interconnected world, bring people together, and deepen their relationship with Islam(Mujahidul, 2021).

The rise of digital Islam with the arrival of the internet and smartphones, and digital platforms have given Muslims all over the world unprecedented opportunities to connect, learn, and engage with their faith. Technology has played an important role in facilitating modern-day Islamic practice, from accessing religious knowledge to finding community support. Social media platforms have emerged as effective tools for disseminating Islamic knowledge, creating community, and promoting Islamic values. Influential Muslim scholars, speakers, and organizations have embraced social media, using platforms like Facebook, Instagram, Twitter, and YouTube to reach out to a global audience and spread religious messages. In addition, nowadays we have Islamic apps and digital resources. The development of Islamic apps has given Muslims easy access to a variety of resources and services. These apps include Quran recitation, prayer time reminders, Islamic calendars, and digital collections of Islamic literature. Users can now keep a wealth of Islamic knowledge and tools in their pockets, increasing their daily engagement with Islam (Konmal Ali, 2023).

## Zakat and Technology

Zakat of property is defined as one of the foundations of Islam, meaning purification and development, and is required to be carried out by those who own property that surpasses the threshold (nisa b) to be distributed to the eight groups established by the Al-Quran and Sunnah. This quickly expanding computing technology has a lot of exciting possibilities that have to be discovered and then used, such as a big network of connections, a lot of data storage capacity, and the sophistication of simple but effective analytical tools (Shahidi & Shukri, 2019). Finally, this fantastic opportunity and place improves the effectiveness and efficiency of zakat organizations through several trend approaches.

Firstly, the advent of social media platforms such as Twitter, Instagram, Twitter, YouTube, and TikTok is thought to have initiated a new paradigm that influences society's digital communication patterns. A broad and rapid target reach can help zakat institutions become more responsive, effective, and productive in dealing with public concerns. The second is systematic data management, in which data accessibility, as a one-stop shop, may make things easier, simpler, and faster by integrating multiple technologies. Big Data is becoming the next trend, as the global digital ecosystem evolves. This has fueled the growth of Big Data, which is enormous, diverse, limitless, and valuable (volume, variety, velocity, value) up to terabytes and petabytes of data. Next data security is more guaranteed. The availability of digital data necessitates rigorous and effective security measures (Khairul et al.,2021).

## Waqf and Technology

Waqf derives from the Arabic term for 'holding' (Noor Hisham Md Nawi et al., 2018). Jurists define the term waqf variously. Abu Hanifah believes that the purpose of waqf is to hold something in line with existing regulations and use its benefits for good. According to the Shafi'i school of thinking, waqf is the process of releasing property from ownership using existing procedures. In general, the original goal of the endowment party was to draw closer to God and obtain ongoing gifts. Waqf has provided important contributions to society over the years, beginning with Prophet Muhammad SAW and continuing till today. Waqf expanded rapidly throughout the Islamic era of governance. According to Fauzi et al. (2022), the majority of waqf initiatives focus on social and spiritual components, such as mosques, cemeteries, and Islamic schools. The increase in waqf property development nowadays has a favorable impact on the community, particularly in terms of socioeconomic sustainability (Abd Mutalib & Maamor, 2018; Suhaimi & Ab Rahman, 2021). In Malaysia, waqf is regarded as an efficient means of promoting the ummah's social and economic development, (Sapuan & Zeni, 2021; Medias et al., 2022; Yakob et al., 2021; Ismail et al., 2023). Originally, Malaysian waqf was limited to general and special waqf. However, as technology and time progressed, we now have a variety of waqf options (Norhayati, 2019).

The incorporation of digital technology into customary waqf procedures and frameworks is known as waqf digitalization. Digitization involves the use of various technologies such as blockchain, crowdfunding, smart waqf applications, and data analysis to improve efficiency, transparency, and accessibility in waqf fund management and distribution. Zakat, waqf, and alms are significant parts of the Islamic economy that are imposed on the able-bodied by Islamic law. In this regard, one of the tenets of Islam is the duty to pay zakat, which every Muslim who can do so by the established calculation and haul must adhere to. As technology advances, transactions become more efficient. Cash waqf is viewed as the most effective approach for increasing waqf productivity (Laili, N.H., Khairi, K.F., Masruki, R., 2023) the availability of digital-based cash waqf makes life easier for folks. As technology advances, transactions become more efficient. Cash waqf is viewed as the most effective approach for increasing waqf productivity. The availability of digital-based cash waqf makes life easier for folks. This allows Muslims to give without needing to amass enormous quantities of money. The allocation of assets (waqf) employed for productive activities has a significant impact on economic activity in society. According to Amaliyah et al. (2022), waqf empowerment is regarded as professional when managed by waqf principles.

# METHODOLOGY

This study is quantitative in nature and conducted using bibliographic metadata. This study used all accessible metadata of the documents such as journal articles, conference proceedings, books, or book chapters and reviews. In the first step, the metadata was retrieved from the Web of Science Master Journal (WoS) database on 21 May 2024. The outcome of this study is presented using network visualization and bibliometric indicators. The search is limited to the specific term of keywords that appear in the title, abstract, and author's keywords. The search string is as follows: "TITLE-ABS-KEY (zakat and waqf digital )", which fields 765 documents. This study is not restricted to certain articles aiming to gain a broader picture of zakat and waqf literature. The second step is filtering and screening the data. This step is to check the consistency and reliability of the data, such as the lack of consistency in the names of the author's keywords, institutions, nations, and others. Therefore, standardization such as this problem is needed to ensure the accuracy of the result. In the current study, for example, the keywords "zakah" and "zakat" merged as "zakat digital", and "Waqf Digital". Then, the last step is a bibliometric analysis using VOSviewer software developed by the Center for Science and Technology Studies (Leiden University, Leiden, the Netherlands). This software helps with the most critical task of bibliometric mapping. The current study utilized the software to create different co-authorship, citation, and co-occurrence of keyword analyses. Finally, content analysis of the co-occurrence of keywords was useful in figuring out future research. The outcome of this study is presented using network visualization and bibliometric indicators.

# RESULTS

The bibliometric analysis identified the abovementioned analytical results, i.e. "keywords, subject areas, document types, languages and retrieved documents per year. This study mapped the author's keywords using VOS viewer software. VOS viewer was used for constructing and visualizing bibliometric networks. This software visualizes the author's keywords and presents the association of a keyword with the other keywords through font size, square size, colour, or the thickness of connecting lines.

Table 1: Document type

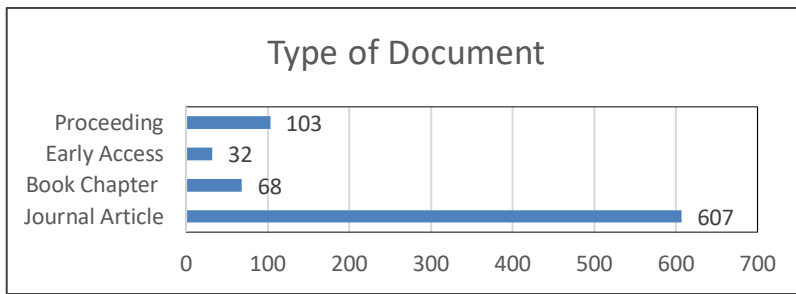| No | Document Types | Number of Articles |
|---|---|---|
| 1 | Journal article | 607 |
| 2 | Book chapter | 68 |
| 3 | Early Access | 32 |
| 4 | Proceeding | 103 |
| | **TOTAL** | 810 |

Figure 1: Documents Type

The table and figure above show the number of document collections studied on the theme of zakat and waqf digital, namely a total of 765 data consisting of 5 different types of documents, with the following explanation: (1) the types of published journal articles are 607 documents, (2) types of interest a book chapter of 68 documents, (3) proceeding type of 103 documents, and (4) early access of 32 documents.

Table 2: Language Document

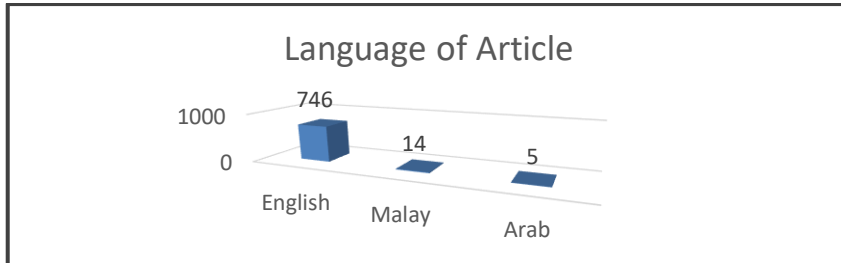| No | Document Types | Number of Articles |
|----|----------------|--------------------|
| 1 | Malay | 14 |
| 2 | Arab | 5 |
| 3 | English | 746 |
| | **Total** | 765 |



Figure 2: Language Document

According the table and Figure 2, language of the document approximately 97.5 percent of the retrieved documents were published in English. All the remaining papers were published in Malay and Arabic.

Table 3: Trends in Number of Publications per Year (2018-2024)

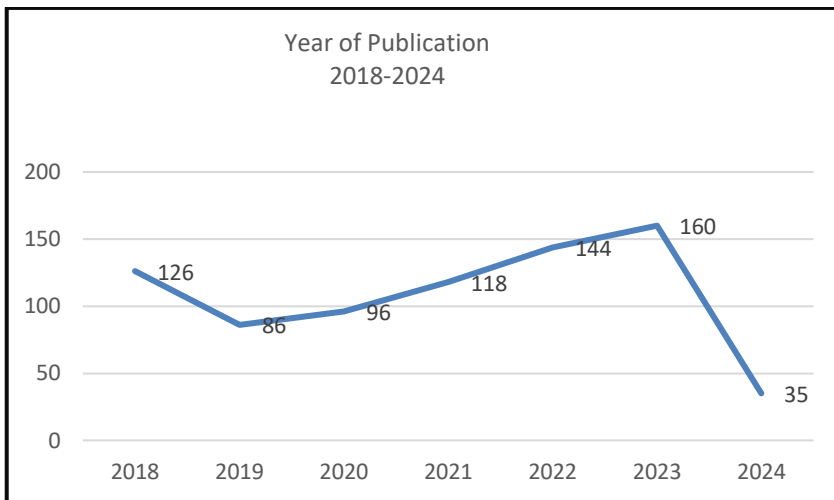| Bil /Year | Total Publication |
|-----------|-------------------|
| 2018 | 126 |
| 2019 | 86 |
| 2020 | 96 |
| 2021 | 118 |
| 2022 | 144 |
| 2023 | 160 |
| 2024 | 35 |

Figure 3: Trends in the Number of Publications per Year (2018-2024)

Based on data obtained from the Web of Science (WoS) database, the end number of research publications on the topic of zakat and waqf digital from 2018 to April 2024. The number of research publications on zakat from 2018 to 2024, has not shown a significant trend. However, from 2019 to 2023, research publications on zakat have increased. This shows that research on zakat and waqf digital is starting to get attention.
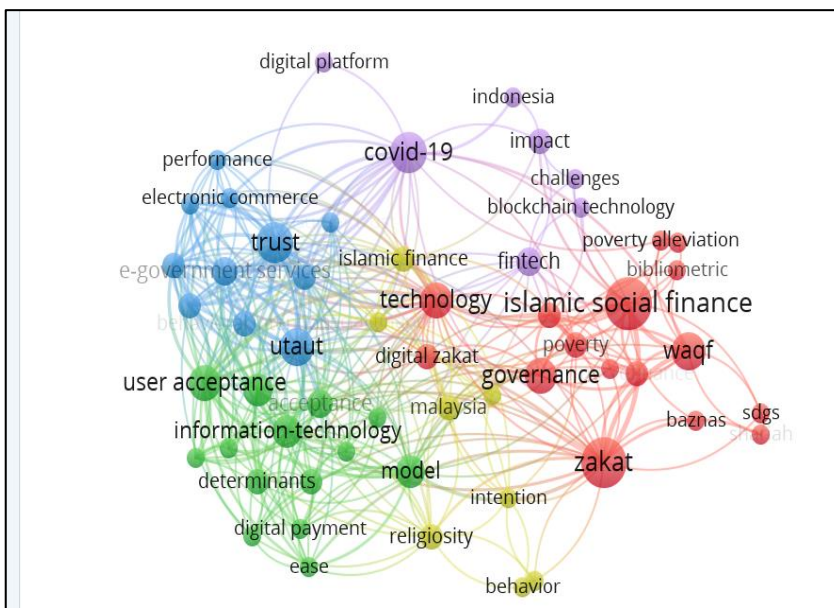


Figure 4 Network Visualization Map of the Author Keywords

Figure 1 presents a network visualization of the author's keywords using by VOS Viewer, a software tool for constructing and visualizing bibliometric networks. Based on data analysis between 2018 and 2024, the terms "zakat digital" and "waqf digital" appeared in 765 publications. Kluster 1 red color, 16 items " Baznas", "bibliometric", "digital zakat", "framework", "Governance"," Islamic Microfinance", Islamic Social Finance", "Microfinance", "poverty", "Poverty alleviation", "Productive zakat", "SDGs", "Shariah", "Technology", "Waqf" and "Zakat". Kluster 2, green color, 14 items "Acceptance", "Adoption", "Determinants", "Digital payments", "ease", "Information-technology", "Intentions", " Internet banking", "Model", "Perceived Usefulness System", Technology Acceptance", "User Acceptance" and "Zakat institution". Kluster 3 blue color, 11 items " Behavioral intention", "Consumer trust", "e-government services", "electronic commerce", "Mobile banking", "Perceived Risk", "Performance", "Technology adoption", "trust", "UTAUT", AND "Zakattech". Cluster 4, yellow color 8 items "Behavior", "Finance", "Gender", "Intention", "Islamic Finance", "Malaysia", "Religiosity", and "Social Finance". Kluster 5 Purple color, 7 items "Blockchain", "Challenges", "Covid-19", "Digital Platform", "Fintech"," Impact" and "Indonesia"
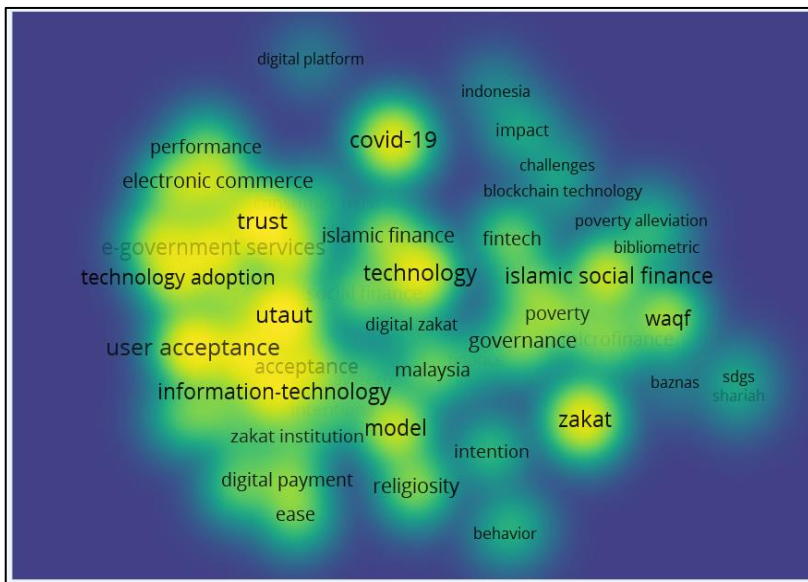
Figure 5 .Co-Word Density Visualization of the Twelve High-Impact Journals

In the co-word density visualization of the selected high-impact journals, research on the digital library is closely related to human interaction in the form of learning and using electronic resources. A density visualization map is used to see the depth of keywords that are often used in zakat research. As can be seen in Figure 5, the lightest color indicates that the topic has been studied frequently. Meanwhile, bright colors indicate that the topic is still rarely studied so that the topic still has the opportunity to be researched in the future. Based on the density map, the keywords that appear or are most frequently studied are 'trust' 'technology adoption' 'UTAUT' 'trust', and 'User Acceptance'. Meanwhile, studies on 'waqf', 'poverty', 'Islamic Social Finance', 'Islamic Finance', 'Fintech', 'performance', 'COVID-19', 'digital payment' and 'electric commerce' are still under-studied so they have the opportunity to be researched in the future.

## CONCLUSIONS

In conclusion, this study has explored the topic of research in zakat and waqf in digital technology. The results have shown that the research of zakat and waqf in digital technology is multidisciplinary and related to social phenomena with the advent of the use of zakat and waqf in digital technology. Nevertheless, the challenge of the zakat side is that although the administration of zakat and waqf has gone through many improvements in terms of administrative systems, digital implementation and so on, there are still issues that need to be addressed to ensure that the administration of zakat and waqf moves in a better direction, especially involving the use of technology digital.

It is indisputable that technology is a straightforward, precise, and methodical use in Malaysian zakat, waqf, and charity management. To propel the muamalah service system in the development of the best Islamic economy, not only for the benefit of fellow humans but also for the sake of obtaining God's pleasure completely and effectively, there is a tendency for other organizations that are also working to ensure that the appreciation, involvement, and management of zakat, waqf, and charity is more systematic.

This study employed a bibliometric approach to analyze the current status and trend development of academic research in the field of zakat and waqf digital through a rating study and envisioned illustration of several key factors in a sample of 765 related published articles retrieved from the WoS databases. A piece of the necessary information is found that can assist in revealing an authentic picture of the subject of waqf. As for the journal distribution, only those journals that are entitled to the Islamic economics domain pay reasonable attention to waqf. Waqf studies are relatively absent in mainstream economics journal

## ACKNOWLEDGMENT

# REFERENCES

1. Abd Mutalib, H., & Maamor, S. 2018. Investigating issues and challenges in utilising waqf property. International Journal of Engineering & Technology 4(19): 158-160.
2. Amaliyah, Nabilatul, M Rizal Leviansyah, and Lilik Rahmawati. "Wakaf Uang Digital :Transformasi Dan." AL-INFAQ: JurnalEkonomi Islam 13, no. 1 (2022): 26–46.
3. Mohd Noor Sahidi Johari & Ahmad Shukri Yusoff. (2019). Fintech: Ke Arah Keberkesanan Kutipandan Agihan Zakat di Malaysia. International Journal of Zakat and Philanthrophy, 1(2 )
4. Norhayati Abdillah,Julai 2019. Sinar Harian https://www.bharian.com.my/bisnes/lain lain/2019/07/584207/pentadbiran-wakaf-ke-arah-digital-fintechFauzi, R. Q., Hapsari, M. I., Herianingrum, S., Fanani, S.,& Kurnia, T. 2022. The challenges of empowering waqf and in Indonesia: An analytical network process analysis. International Journal of Ethics and Systems 38(3): 427-443
5. Iqmal, M., Kamaruddin, H., Hanefah, M. M., Shaharuddin, A., Mohammed, A., Ayedh, A., & Othman, N. A. (2023). Development of Fintech in Islāmic Social Finance in Malaysia. International Journal of Economics, Management and Accounting, 31(1), 177–204.Ismail, C.Z., Daud, D., Shaharuddin, A., & Al-Amin, A.M 2023. Istibdal method for sustainable development: Analyses of jurisprudence and implementation on waqf properties IsIslamiyyat: International Journal of Islamic Studies 45(1).
6. Ghafoor, Z. (2023). Application of Fintech Solutions for Promoting Islamic Social Finance. Journal of Islamic Business and Management (JIBM), 13(01), 1–4. https://doi.org/10.26501/jibm/2023.1301-001
7. Konmal Ali,2023, The Rise of a Digital World: Technology Through the Lens of Islam, Al-Talib https://al-talib.org/the-rise-of-a-digital-world-technology-through-the-lens-of-islam
8. Khairul Azhar Meerangani, Muhammad Taufik Md Sharipp, Muhammad Ikhlas Rosele, Mohammad Fahmi Abdul Hamid, Abdul Qayuum Abdul Razak,2021 Digitalisasi Sistem Pengurusan Zakat Di Malaysia: Potensi Dan Cabaranjournal Of Business Innovation 6 (1), 36
9. Laili, N.H., Khairi, K.F., Masruki, R. (2023). The Role of Blockchain Technology in the Management of Waqf. In: Alareeni, B., Hamdan, A., Khamis, R., Khoury, R.E. (eds) Digitalisation: Opportunities and Challenges for Business. ICBT 2022. Lecture Notes in Networks and Systems, vol 620. Springer, Cham. https://doi.org/10.1007/978-3-031-26953-0_9
10. Mujahidul Islam, 2021.Islamic Ethics and The Rise of Digital Technology. https://themaydan.com/2021/07/islamic-ethics-and-the-rise-of-digital-technology
11. Sapuan, N. M., & Zeni, N. A. M. 2021. The determinants of waqf sustainability in Malaysia: A PLS-SEM Analysis. International Journal of Business and Society 22(1): 102-118.
12. Suhaimi, F. M., & Ab Rahman, A. 2021. Peranan wakaf dalam pembangunan sosioekonomi: Analisis ke atas projek bazar wakaf rakyat terpilih. Islamiyyat-The International Journal of Islamic Studies 43(Isu Khas)
13. Yakob, R., BAM, H. S., Razali, N. H., & Mohamad, H. 2021.Conceptualizing financial risk and investment diversification towards the efficiency of waqf institutions in Malaysia.Islamiyyat: International Journal of Islamic Studies 43(2).