

The Future Direction on Pesantren's Research: A Bibliometric Analysis

Mahmud Yunus Mustofa¹, Abdurrahman Mas'ud² & Misbah Zulfa Elizabeth³

¹Ph.D Candidate at Walisongo State Islamic University Semarang, Indonesia

²Professor at Walisongo State Islamic University Semarang, Indonesia

³Anthropology Lecturer at Walisongo State Islamic University Semarang, Indonesia

Correspondence Email: mahmudyunusmustofa1@gmail.com

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ABSTRAK

Kuantitas dan kualitas penelitian terkait pesantren, khususnya mengenai perkembangan teknologi digital masih belum banyak dilakukan. Sementara itu isu-isu kepesantrenan mengalami perkembangan karena dampak perkembangan teknologi. Artikel ini akan menganalisis tren penelitian, mentor akademisi, dan peneliti langsung terkait pesantren. Selain itu, artikel ini membahas penulis dan jurnal paling berpengaruh di bidang ini. Penelitian ini bertujuan untuk mengevaluasi tren penelitian pesantren yang terindeks Scopus menggunakan Publish or Perish dan VOSviewer. Studi ini menemukan bahwa penelitian pesantren telah bergeser selama dekade terakhir. Dari data penelitian menunjukkan bahwa peneliti jarang mengkaji tema-tema penelitian pesantren, hal ini terlihat dari indeksasi Scopus yang hanya ada 61 publikasi. Mayoritas peneliti menggunakan pendekatan konvensional ke pesantren. Karena itu, sangat penting untuk melakukan penelitian di masa depan tentang hubungan antara pesantren dan kemajuan teknologi digital. Khususnya dalam bentuk model kiai (religious teacher) atau pembelajaran berbasis santri (student-based learning) dan proses adaptasi pesantren, yang ditunjukkan dengan berdirinya berbagai platform media pesantren sebagai pusat produksi dan penyebaran pengetahuan agama. Dengan demikian, pesantren akan tetap menjadi sumber ilmu agama dengan beradaptasi dengan tradisi dan teknologi.

Kata kunci: Bibliometrika; tren publikasi; teknologi digital; Publish or Perish; VOSviewer

ABSTRACT

Academics have not quantified the quantity and quality of research conducted on pesantren (Islamic boarding school), particularly concerning the development of digital technology. Indeed, the current pesantren trend has accelerated as a response to the development of online media. This article will analyze emerging research trends, mentor academics involved in pesantren's research, and direct researchers. Additionally, this article discusses the most influential authors and journals in the area. The research aims to evaluate pesantren's research trends indexed in Scopus using bibliometric analysis software Publish or Perish and VOS Viewer. The study discovered that pesantren's research has shifted during the last decade. According to the data, scholars continue to study pesantren's research themes infrequently, as indicated by the indexation of only 61 publications by Scopus. The majority of researchers use a conventional approach to pesantren. As such, it is critical to conduct future research on the relationship between pesantren and the advancement of digital technology. Specifically, in the form of Kiai (religious teacher) or *santri*-based learning (student-based learning) models and the process of pesantren adaptation, as indicated by the establishment of numerous pesantren media platforms as centers for religious knowledge production and dissemination. Thus, pesantren will keep being the source of religious knowledge by adapting to tradition and technology.

Keywords: Bibliometric; research trends; digital technology; Publish or Perish; VOSviewer



1. INTRODUCTION

Islamic boarding schools known as *pesantren* in Indonesia have grown in popularity as research in recent years. *Pesantren*, which continues to expand and develop due to their remarkable adaptability, became a trigger for this phenomenon (Isbah, 2020). Since its inception, *pesantren* has served as a democratic, integrative, humanist (Syamsul, 2018) and moderate education model in Indonesia (Nurdin et al., 2019; Syarif & Hannan, 2020). It is critical to note that research on *pesantren* has revealed an indigenous component that has always been emphasized: "the spirit of education" (Nilan, 2009). Additionally, multiculturalism (Raihani, 2012) is also defining characteristic of *pesantren education*, an example of a global Islamic education model with a local to the global paradigm. Numerous experts have been prompted to analyze *pesantren*, for example, Zamakhsyari Dhofier (1982), Martin Van Bruinessen (1990; 1994); Nur Cholis Madjid (1997); and KH. Abdurrahman Wahid (2001). Several of these works represent the figures who examined *pesantren*. On the other hand, *pesantren* is an appealing Islamic educational institution, not only as a repository of Muslim scholars' knowledge and reproduction but also as an icon of Islamic educational institutions that spread Islamic moderate from Indonesia to the rest of the world.

Despite the abundance of academic studies on *pesantren*, analysis of the evolution of *pesantren* research remains infrequent. Moreover, academics have not measured the quantity and quality of research conducted on *pesantren*, especially in terms of the development of digital technology. Even though the Muslim community's engagement with the digital world is becoming a trend. Bunt called it the "Islamic Cyber Environment" (Bunt, 2009), or Mandaville's concept is called "digital Islam" (Mandaville, 1999). Digital Islam is the consequence of the Muslim community's adaption to digital media, which Eickelman referred to as "new media" (Eickelman et al., 2003). As part of the Muslim community's attempt to spread religious knowledge, the internet has become the new public sphere.

As a result, it becomes critical for observers of Islamic education to conduct a review of the development of *pesantren* education to serve as a reference point for future research. This article performs a bibliometric analysis using Publish or Perish and VOSviewer to ascertain research trends related to Islamic boarding schools or *pesantren*, covering countries, relevant authors, and keywords. *Pesantren's* most distinguishing feature is its capacity to challenge and combine traditional and digital education elements. Instead of being a problem, digital development makes education in *pesantren* even better and makes it stronger as Islam in Indonesia is widely known.

This study aims to ascertain *pesantren's* research trends indexed in the Scopus database. Scopus is used by most researchers worldwide. Furthermore, this research identifies which journals are the most productive, which authors publish the most, and which articles are the most cited by Islamic boarding school researchers worldwide. Finally, this work is critical, as the *pesantren* has become a symbol of the growth of Islamic education in Indonesia and even the world. When the trend in the growth of *pesantren* research is known, it will open up future subjects related to the development of *pesantren* and their relationship to the digital world. In the end, *pesantren* are no longer known as Islamic educational institutions that are famous for their traditionality but also for their modernity with the digitization of their media.

2. METHODS

The bibliometric method is used to ascertain the trend of a study, which serves as a guideline and motivation for further research (Donthu et al., 2021), particularly in *pesantren's* research

(De Bakker et al., 2005), and more specifically in *pesantren* education subjects (de Oliveira et al., 2019; Duque Oliva et al., 2006) to create a roadmap for future research. In the beginning, the study quantified and compared the scientific output of academics, research groups, institutions, regions, and countries using measures such as the number of publications, accepted quotations, and participation in *pesantren's* research. Second, identify the most prominent or relevant publications in *pesantren* education; third, track the evolution of Islamic education, specifically *pesantren* education, over time (El Mohadab et al., 2020).

This current study used the Publish or Perish (PoP) application to determine Pesantren's research outputs. To support that, the VOSiwer application is also used to evaluate the data collected to establish and visualize the study patterns. The data were gathered through <https://www.scimagojr.com/> to ensure that papers filtered using the PoP can be detected for the quartile quality of the journal. It takes several steps to ensure that the data is comprehensive and valid.

3. RESULTS AND FINDINGS ANALYSIS

This article collected bibliometric data from Scopus, as of October 18, 2021. The database's results are analyzed to obtain information about the growth of publications. It collected a variety of tags, including author, title, abstract, country, citation note, and author affiliation. Between 2011 and 2021, the Scopus database produced 61 documents, 52 of which were articles and 9 of which were conference papers. The ten years were chosen to obtain more current data on research development. Table 1 summarizes the findings from the PoP application.

Table 1. Pesantren's research in numbers indexed by Scopus

No	Metrics Data	Search Results
1	Source	Pesantren
2	Publication Year	2011-2021
3	papers	61
4	Citations	166
5	Cites/year	16.60
6	Cites/paper	2.86
7	Author/paper	1.00
8	h-index	7
9	g_index	11
10	hl_norm	7
11	hl_annual	0.70
12	hA-index	4

Source: Researcher's analysis with Publish or Perish

This study conducted searches on Scimago Journal Rankings (SJR) website to ensure that the journal is still indexed in Scopus at the quartile levels. SJR provides researchers to evaluate the journal's progress in terms of quality. After grouping the data, the study discovered that numerous items on the rankings are no longer indexed by quartile. Sixteen of the thirty-two journals reviewed in PoP are indexed, whereas the other sixteen are not, see table 2.

Table 2. Scopus journal indexation data at Scimago Journal Rankings

No	Name of Journal	Description	Quartile	SJR	Publisher	Country
1	Indonesian Journal of Islam and Muslim Societies (IJIMS)	Indexed	Q1	0,2	State Islamic Institute Salatiga (IAIN)	Indonesia
2	Journal of Indonesian Islam	Indexed	Q1	0,25	State University Sunan Ampel Surabaya (UIN)	Indonesia
3	Qudus International Journal of Islamic Studies (QIJIS)	Indexed	Q1	0,19	State Islamic Institute Kudus (IAIN)	Indonesia
4	Journal of Islamic Architecture	Indexed	Q2	0,13	Intellect Ltd	United Kingdom
5	Asian EFL Journal	Indexed	Q2	0,27	Asian EFL Journal Press	United Kingdom
6	Australian Journal of International Affairs	Indexed	Q2	0,38	Association for Taylor & Francis Ltd	United Kingdom
7	Eurasian Journal of Educational Research	Indexed	Q2	0,24	Bridgewater State College	United States
8	FWU Journal of Social Sciences	Indexed	Q2	0,49	Emerald Group Publishing Ltd	United Kingdom
9	International Journal of Islamic and Middle Eastern Finance and Management	Indexed	Q2	0,24	Egitim Malari Arastil	Turkey
10	Journal of International Women's Studies	Indexed	Q2	0,13	Pakistan	Pakistan
11	Journal of Social Studies Education Research	Indexed	Q2	0,38	Taylor and Francis Ltd	United Kingdom
12	Malaysian Online Journal of Educational Management (MOJEM)	Indexed	Q3	0,21	University of Malaya	Malaysia
13	Journal of International Dental and Medical Research	Indexed	Q3	0,26	Ektodermal Displazi Grubu	Turkey
14	Journal of Physics: Conference Series	Indexed	Q4	0,14	IOP Publishing Ltd	United Kingdom
15	Journal of Theoretical and Applied Information Technology	Indexed	Q4	0,15	Little Lion Scientific	Pakistan
16	Journal of Religion and Popular Culture	Indexed	Q4	0,1	University of Toronto Press	Canada
17	Multicultural Education & Technology Journal	not yet indexed Quartile	-	-	Emerald Group Publishing Ltd	United Kingdom
18	International Journal of Innovation, Creativity, and Change	not yet indexed Quartile	-	-	Primrose Hall Publishing Group	United Kingdom
19	Journal for the Education of Gifted Young Scientists	not yet indexed Quartile	-	-	Journal for the Education of Gifted Young Scientists	Turkey

20	Journal of Language Teaching and Research	not yet indexed Quartile	-	-	Academy Publisher	Finland
21	Pertanika Journal of Social Sciences and Humanities	not indexed	-	-	University Putera Malaysia	Malaysia
22	International Journal of Engineering & Technology	not yet indexed Quartile	-	-	Science Publishing Corporation Inc	United Arab Emirates
23	International Journal of Pharmaceutical Research	not yet indexed Quartile	-	-	Advanced Scientific Research	India
24	Journal of Advanced Research in Dynamical and Control Systems	not yet indexed Quartile	-	-	Institute of Advanced Scientific Research	United States
25	International Journal of Advanced Science and Technology	not yet indexed Quartile	-	-	Science and Engineering Research Support Society	Australia
26	International Journal of Engineering and Technology (UAE)	not yet indexed Quartile	-	-	Science Publishing Corporation Inc	United Arab Emirates
27	Universal Journal of Educational Research	not yet indexed Quartile	-	-	Horizon Research Publishing	United States
28	International Journal of Innovative Technology and Exploring Engineering	not yet indexed Quartile	-	-	Blue Eyes Intelligence Engineering and Sciences Publication	India
29	Journal of Engineering and Applied Sciences	not yet indexed Quartile	-	-	Journal of Engineering and Applied Sciences	Pakistan
30	Mediterranean Journal of Social Sciences	not yet indexed Quartile	-	-	MC SER- Mediteranian Centre of Social and Education Research	Italy
31	Journal of Language and Literature	not yet indexed Quartile	-	-	Progress IPS LLC	Azerbaijan
32	Journal of Applied Sciences Research	not yet indexed Quartile	-	-	INSInet Publication	Pakistan

Source: Researcher's analysis with scimagojr.com

The data obtained from the PoP then were analyzed using the VOSviewer to determine research trends. Numerous keywords, including *pesantren*, Indonesia, Islamic boarding school, and education, emerged as the most frequently used themes. Figure.1 shows the results.

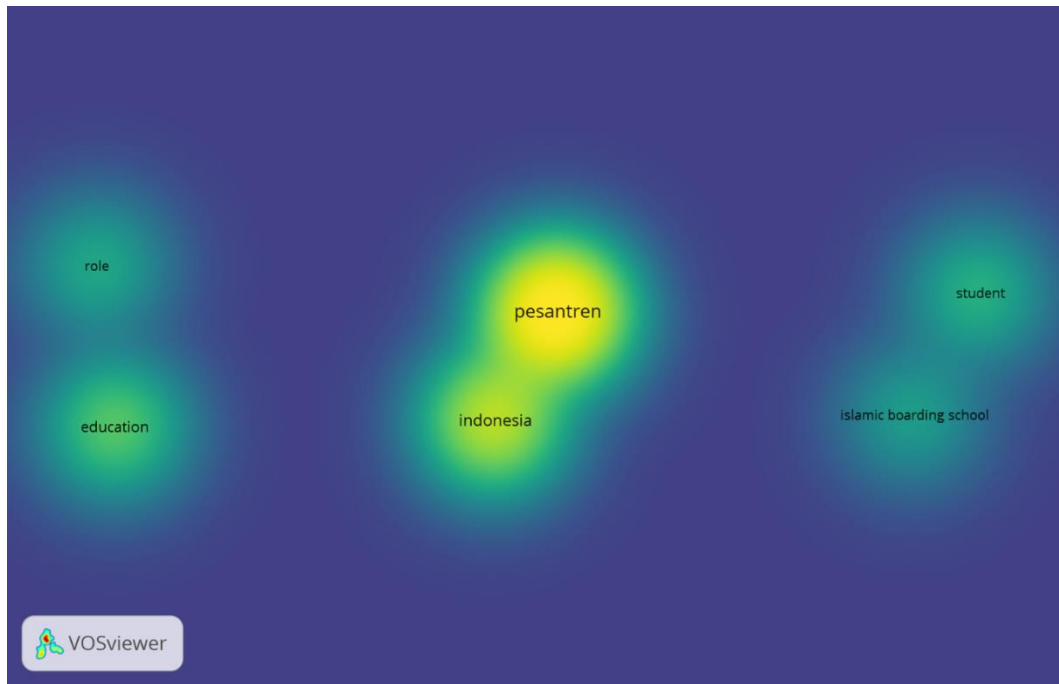


Figure 1. Density Visualization of Pesantren Research on Scopus.
Source: Researcher's VOS Viewer analysis

The study then examined the growth of research on *pesantren* from 2011 to 2021. According to the data, only two studies on *pesantren* were published in 2011 (Asrohah, 2011; Saputro, 2011). In 2012, there was an increase, as evidenced by three studies (Hamid, 2012; Ismah, 2012; Izfanna, 2012). Between 2013 and 2016, Scopus indexed no *pesantren*. It then increased to eight papers in 2018 before reaching a peak of 18 articles in 2019 (Anam, 2019; Bin-Tahir, 2019; Hudaefi, 2019; Humaisi, 2019; Indra, 2019; Ma'arif, 2019; Machfudz, 2019; Maisyaroh, 2019; Masruhan, 2019; Mukhibat & Ghafar, 2019; Prabamurti, 2019; Putro, 2019). Figure 2 illustrates the data.

It was observed some interesting statistics in which the year 2019 had witnessed a dramatic increase in the amount of study conducted on *pesantren*. Using data from this year, the *pesantren* study theme has begun to assess its relationship to technological advancements. For instance, Syakroni's (2019) research on the Internet of Things (IoT), or Mukhibat & Ghafar's virtual boarding school (2019). Additionally, the Ministry of Religion of Indonesia launched the theme of religious moderation this year (RI, 2019), and this resulted in other studies undertaken by Syamsul Ma'arif (2019) and Jamil (2019). In 2019, these two factors of religious moderation and digitalization drove an increasing number of research on *pesantren*.

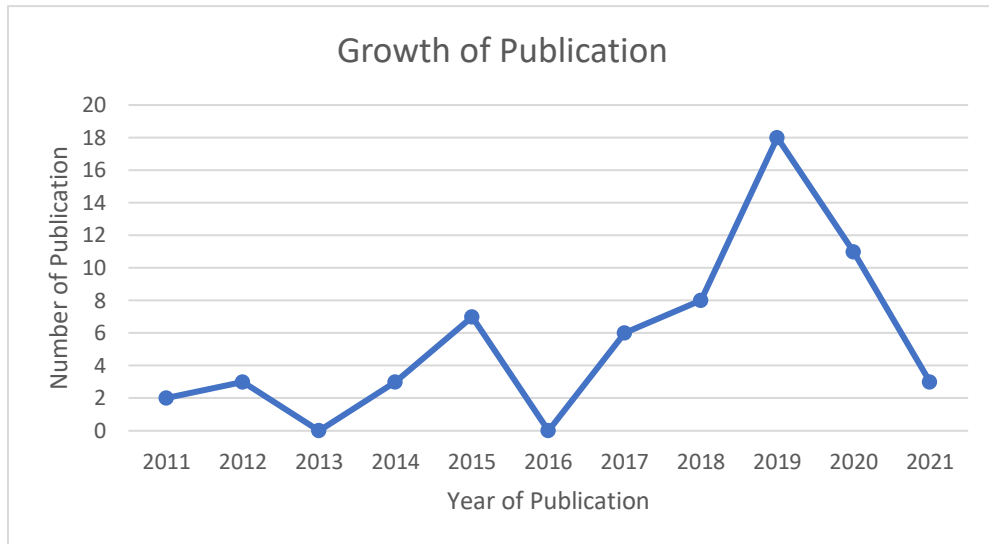


Figure 2. Growth of Publication of Pesantren's Research on Scopus
Source: Researcher's analysis from Scopus with Publish or Perish

In terms of countries, it was discovered that ten countries published research on Islamic boarding schools or *pesantren*. Australia, Azerbaijan, India, Indonesia, Malaysia, Pakistan, Turkey, the United Arab Emirates, the United Kingdom, and the United States are among these countries, see figure 3.

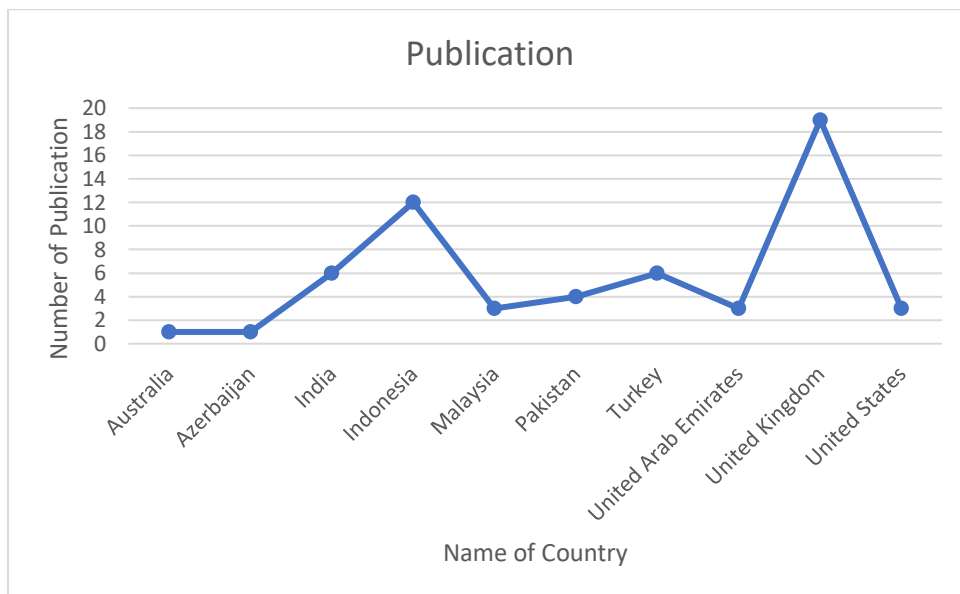


Figure 3. Top Countries that publish Pesantren's Research on Scopus
Source: Researcher's analysis from Scopus with Publish or Perish

Other results showed that six journals indexed by Scopus have published the most research on Islamic boarding schools. *Journal of Physics: Conference Series* contributed the most papers with eight articles. *Qudus International Journal of Islamic Studies* and *Journal of Indonesian Islam* published five articles, followed by additional publications in other journals. Figure 4 illustrates this data.

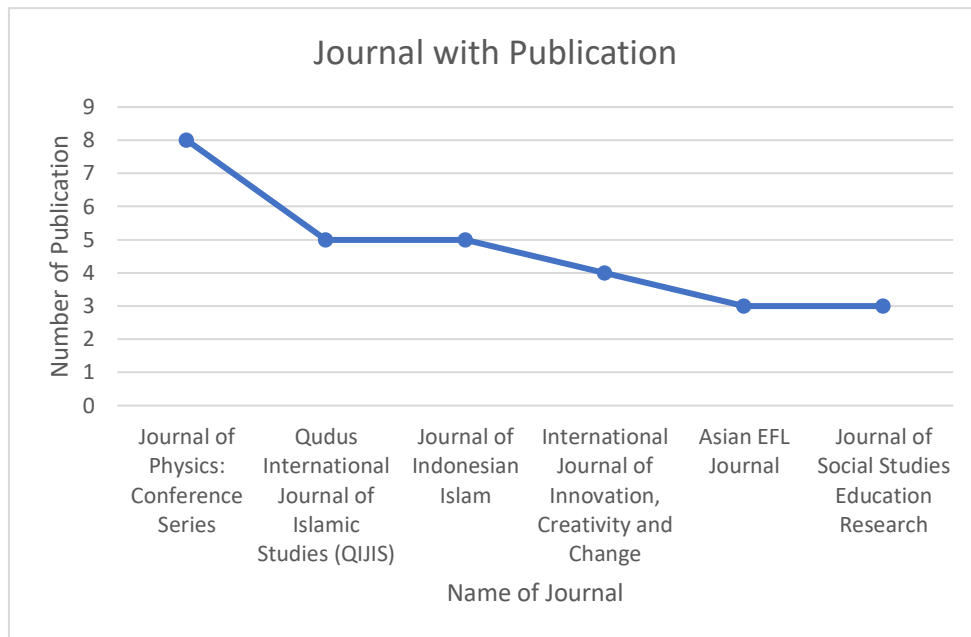


Figure 4. Top Journals that have to publish Pesantren's Research indexed by Scopus
Source: Researcher's analysis from Scopus with Publish or Perish

A citation shows contributions from a paper. This study shows the ten most frequently cited articles from Scopus. SZ Bin Tahir became the author with the most citations, with 22 in his first article (Tahir, 2015), 15 in his second article (Tahir, 2017), and 7 in his third article (Bin-Tahir, 2019). Syamsul Ma'arif (2018), D. Izfanna, and NA Hisham (Izfanna, 2012) follow 17 citations each. Table 3 shows this data.

Table 3. Top 10 cited rank articles

No	Name of Author	Title	Journal	Year	Cites	Type
1	Saidna Zulfiqar bin Tahir	Multilingual behavior of Pesantren IMMIM students in Makassar	Asian EFL Journal	2015	22	Article
2	Syamsul Ma'arif	Education as a Foundation of Humanity: Learning from the Pedagogy of Pesantren in Indonesia	Journal of Social Studies Education Research	2018	17	Article
3	D. Izfanna; NA Hisyam	A comprehensive approach in developing akhlaq A case study on the implementation of character education at Pondok Pesantren Darunnajah	Multicultural Education & Technology Journal	2012	17	Article
4	Saidna Zulfikar Bin Tahir	Multilingual teaching and learning at Pesantren Schools in Indonesia	Asian EFL Journal/ Professional Teaching Articles/ August 2015, Issue 86. Pp. 45-64	2017	15	Article

5	Munifah; Huda, Syamsul; Hamida, Ulfi Dina; Subandi; Syazalie, Muhamad; Umam, Rofiqul	The Use of Management Strategies to Attract the Public's Interest in Pesantren: A New Model for Pesantren Dynamics Study	International Journal of Innovation, Creativity, and Change	2019	8	Article
6	Syakroni, Agus; Zamroni; Muali, Chusnul; Baharun, Hasan; Sunarto, MZ ; Musthofa, Bisri; Wijaya, Muallim	Motivation And Learning Outcomes Through The Internet Of Things; Learning In Pesantren	Journal of Physics: Conference Series	2019	8	Conference paper
7	FA, Hudaefi; N, Heryani	The practice of local economic development and Maqāṣid al-Sharī 'ah: Evidence from a Pesantren in West Java, Indonesia	International Journal of Islamic and Middle Eastern Finance and Management	2019	8	Article
8	Saidna Zulfiqar Bin-Tahir; Suriaman, Aminah; Rinantanti, Yulini	Designing English Syllabus for Multilingual Students at Pesantren Schools	Asian EFL Journal	2019	7	Article
9	S Ni'am	Pesantren: the miniature of moderate Islam in Indonesia	Indonesian Journal of Islam and Muslim Societies	2015	7	Article
10	B Smith	Stealing women, stealing men: co-creating cultures of polygamy in a pesantren community in eastern Indonesia	Journal of International Women's Studies	2014	7	Article

Source: Researchers' Analysis with Publish or Perish

4. DISCUSSION

Research Growth on Pesantren Studies

The growth of *pesantren's* research is dynamic. As seen in Figure 2, the growing numbers are unstable. In 2011, the theme was *pesantren's* dynamics in the face of modernization (Asrohah, 2011). Asrohah examines the ability of *pesantren* to adapt to modernization through what he refers to as an internal mechanism. Although it does not detail digital developments, this research indicates that *pesantren's* research on adaptation to technological advancements has begun. It is worthy to note that no articles discussing *pesantren* and digital effects appeared in 2012 or 2013, until 2014, when Jeff Ritchey and Nurhaya Muchtar published articles on the use of media and technology in Islamic boarding schools. They analyzed the leaders of Islamic boarding schools' perceptions of community engagement through the use of media (Muchtar & Ritchey, 2014).

The same thing happened in 2015, 2016, and 2017. There were no discussions about *pesantren* or the development of digital technology. Instead, most writings published in those years examined *pesantren* as the foundation of moderate Islam (Ni'am, 2015) and the role of *Kiai* or religious teacher and *pesantren* as the foundation of traditional Islam in Indonesia (M.

L. Fauzi, 2012). In 2018, the *pesantren* theme and more specific digital developments gained prominence. For instance, Fauzi et al. examined the use of E-Learning to demonstrate how Islamic boarding school education has evolved (A. Fauzi, 2018). The incorporation of technology into *pesantren* education is also evident in Agus Syakroni et al., who examined the use of the Internet of Things (IoT) to boost learning motivation in Islamic boarding schools (Syakroni, 2019). Finally, it is worth noting that Mukhibat published a virtual *pesantren* study in 2019 (Mukhibat & Ghafar, 2019). They examined the virtual *pesantren*, which has emerged as a new trend in Indonesian Islamic education.

These findings indicate that the theme of *pesantren* and the digital world's development is still not a priority in this area. The majority of researchers continue to approach the subject from a traditional perspective. Humanism, Islamic moderation, and traditionalism in Islamic education continue to be the most subject topics. For instance, M. Falikul Isbah's (2020) article on the history of *pesantren* discusses the development of *pesantren* through the lens of the education system, which he refers to as dynamic integration with the national education system. There has rarely been studying the relationship between *pesantren* education and technological advancement. Indeed, the emergence of various *pesantren* studies and their relationship to digital technology can be a significant indicator that the intellectual tradition of Islamic boarding schools has shifted slightly.

However, this fact has been overlooked by a large number of researchers. Even though there are numerous intriguing themes associated with *pesantren*, students' Digital Literacy (Ng, 2012) for example. Digital literacy, particularly among students, is a critical area of study in the face of an information tsunami and a shift in religious authority (Solahudin & Fakhruroji, 2020). Wan Ng (2012) defines Digital Literacy as having three dimensions: cognitive, technical, and social-emotional. Additionally, the study of digital applications as a foundation for Pesantren's financial management is intriguing.

The Future Direction of Pesantren Research

The bibliometric study indicates that research on Islamic boarding schools is still limited to classical themes. Academics at *pesantren* have not researched the relationship between *pesantren* and the digital world. Indeed, it would be pretty interesting to connect the two of them with Indonesian religious authorities. For instance, *Ngaji Online* (Online Qur'an Recitation), the Islamic Digital Environment, Pesantren School Digital Marketing, Virtual Pesantren, and other topics relating to *pesantren* and the digital world. This study did not find any research on the existence of women *ulama* (cleric) as leaders in *pesantren* or on the transmission of women's *fiqh* knowledge through the media. It is critical to emphasize such issues to study. Based on the study that most researchers continue to view *pesantren* through a traditionalist lens, not as digitally capable Islamic educational institutions. Indeed, *pesantren* is a religious community capable of retaining religious authority, mainly on social media. Social media has developed into a productive space for Indonesian Islam's development (Solahudin & Fakhruroji, 2020).

With adaptive technology capabilities, *pesantren* can establish a new Islamic public sphere through technology as a medium while maintaining to the *kitab kuning* (yellow book) as a source of scientific knowledge. Thus, *al-Mukhafadhah 'ala Qadim as-Salih wa al-akhdu bi al-Jadid al-central Aslah's* (maintain ancestors' traditions while adopting new, superior ones) theme should be interpreted as a *pesantren's* adaptive process of producing religious knowledge within a technological framework. The spirit of legitimizing *pesantren's* innovative capacity in keeping up with the times. For example, *Ngaji Online*, which grew in popularity,

particularly during the pandemic, demonstrated that *pesantren* had established a new habitus in religious education (Bourdieu, 1977). *Kiai* (religious teacher) and *santri* (student) develop into social agents, with digital media as a field and the yellow book tradition as their capital. Thus, in a *pesantren* environment, the process of disseminating religious knowledge through digital media has developed into a new habit.

The data from this study demonstrates that few *pesantren* have analyzed *santri* (students), which is a critical component of the development of *pesantren* in the digital age. *Santri* is now understood as devout individuals or groups trained in religious science (Saat & Burhani, 2020). *Santri* has played a significant role in developing education in *Pesantren*. *Pesantren* is finally able to disseminate their religious teachings through various media due to their students' ability in digital technology. If some previous *pesantren* experts, such as Zamakhsyari Dhofier (1982); Martin Van Bruinessen (1994); Nur Cholis Madjid (1997); KH. Abdurrahman Wahid (2001); and Abdurrahman Mas'ud (2006) laid out the initial foundations for the elements of *pesantren*; they must now be reviewed. For instance, a *kiai* who was initially viewed as a charismatic individual with extensive knowledge and traditional characteristics is currently being examined as a person who possesses charismatic leadership and digital leadership.

***Pesantren* Research; in the New Perspective**

Seeing research development on *pesantren*, this study suggests several themes to develop future *pesantren*'s research, especially concerning digital effects. The themes of this research can also use a different approach, for example, Netnography (Kozinets, 2010; Kozinets & Gambetti, 2020), by analyzing the media platforms owned by *pesantren*. Numerous theories, such as Campbell's (2013) Digital Religion and Digital Creatives (H. A. Campbell, 2020), can also be employed to study the media coverage of *pesantren*, both in terms of learning and religious authority, as seen in Figure 5.

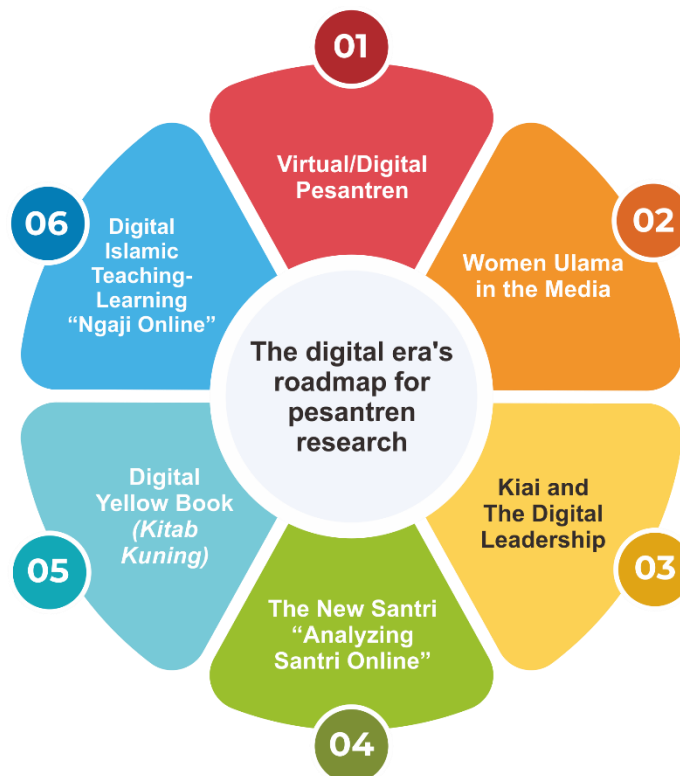


Figure 5. Roadmap on the *Pesantren* research in the digital age

First, the phenomenon of Virtual Pesantren that has emerged can be analyzed in depth. Will this threaten traditional *pesantren* or strengthen them?, second, women *ulama* (pious women) are an intriguing subject to examine in terms of their role in challenging male *ulama*'s dominance in the struggle for religious authority. Third, the theme of *kiai*'s leadership is also essential to study. *Kiai* in *pesantren*, which used to be synonymous with traditionalism, has changed greatly with their digital adaptive capabilities. Will this be a new variant in leadership theory? It is essential to study together. Fourth, the number of *mustami*' (listener) religious studies will be an indicator of a new *santri* typology other than "Santri Mukim" and "Santri Kalong": namely "Santri Online"?, Fifth, the Digital of Yellow Book (*Kitab Kuning*) became the first theme that was interesting to study. Researchers can see the development of *pesantren* religious texts known as the Yellow Book which are now starting to be converted into digital form. Is the digitization of the yellow book progress, or is it a threat?, and the last *Ngaji Online* is a theme that is no less interesting, related to the Religious Authority in Indonesia. The number of *ustadz* (teacher), *ulama*', *kiai*, or *pesantren* that carry out *Ngaji Online* indicates that religious knowledge has become a new commodity. At least, these six major issues can offer the theme of *pesantren* and their relationship to the digital world.

5. CONCLUSION

It would be fascinating to research the evolution of *pesantren* and their relationship to digital technology in further detail. However, few researchers have focused exclusively on *pesantren* in this sector. In fact, based on the data, the Scopus database currently indexes only 61 articles related to *Pesantren*. Indonesia, where the *pesantren* term originated, must be more productive in producing *pesantren*-related works than the Scopus index. Universities' journals, particularly those with Scopus indexation, must constantly be encouraged to provide a forum for researchers to share their ideas on the subject and digital advancements. Nevertheless, some fascinating topics such as Santri Online, Digital Leadership of Kiai, Women Ulama in the Digital Age, and Virtual Pesantren provide a roadmap for future research. These topics began to be explored by Indonesian researchers and were also initially published in domestic journals. *Pesantren*'s study can also incorporate novel methodologies like nethnography to provide a new perspective on *pesantren*.

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