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The House of Wisdom as a Library and Center of Knowledge

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The House of Wisdom as a Library and Center of Knowledge

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Abstract

The heyday of Islam was marked by the rapid development of Islamic science, culture, and education. This rapid development is supported by the existence of institutions that accommodate these developments. At that time, scientific institutions were established as learning science, culture, and Islamic education. Ibn Killis was a figure and pioneer of the development of education in the Fatimid Caliphate in Egypt. He founded a university and spent thousands of dinars per month to finance it. One of the most important foundations built during the Fatimid period was the construction of Dar al-Hikmah (The house of wisdom) or Dar al-'Ilm (house of knowledge), founded by al-Hakim in 1005 AD as a waqf-based library, center and spread of extreme Shi'ite teachings. This study aims to determine the development and trend map of Bayt Al-Hikma published by well-known journals in education. The data analyzed were more than 72 research publications indexed by Scopus. The results show that Bayt al-Hikma was a library and translation center during the Abbasid dynasty, also waqf-based library and center of knowledge.

Keywords: House of Wisdom, Bayt Al-Hikma, Waqf based library, Knowledge Center

INTRODUCTION

The heyday of Islam was marked by the rapid development of Islamic science, culture, and education. This rapid development is supported by the existence of institutions that accommodate these developments. At that time, scientific institutions were established as learning science, culture, and Islamic education.

Ibn Killis was a figure and pioneer of the development of education in the Fatimid Caliphate in Egypt. He founded a university and spent thousands of dinars per month to finance it. One of the most important foundations built during the Fatimid period was the construction of Dar al-Hikmah (house of wisdom) or Dar al-'Ilm (house of knowledge), which was founded by al-Hakim in 1005 AD as a center and spread of extreme Shi'ite teachings (Philip, 2008).

The Dar al-Hikmah library in Cairo was founded by al-Hakim Biamrillah in 395 H. The library already has a person in charge, officers and employees. The library has 40 cabinets, in one of which there are 18,000 books on ancient sciences. The library is also equipped with visitor needs such as (ink, pen, and paper) and everyone is free to enter (Mustafa, 2002). This library collects books in various fields of literature, Islamic sciences, natural sciences, logic, philosophy, etc. The interesting thing in the Fatimid era is that the first official state academy established by Caliph al-Ma'mun of the Abbasid dynasty in the first quarter of the 3rd century H/9 AD did not study Islamic science focused on translating works of Greek science and philosophy. The interaction between this type of knowledge and Islam had a major influence on Islamic civilization in the Middle Ages (Fazlur, 2017).

Various scientific activities are held at Dar al-Hikmah in studies, discussions, composing, and writing books. Some of the active scientists at this time were Abu Hanifah al-Maghribi, a religious expert from the Shi'a Isma'iliyah circle. In history, the famous scholars are Hasan Ibn Ali bin Zulhaq and Abu Hasan Ali al-Syabsyata. In the field of philosophy appeared famous scholars such as al-Razi, al-Kindi, Abu Ya'qub, Ja'far Ibn Mansur. Then the field of medicine emerged cleric Abu Abdullah, mathematician Abu Ali Muhammad al-Haitami, astronomical figures Ali bin Yunus and Jiz bin Yunus. The opticians who wrote books on eye diseases into Latin were Ibn Haitami and al-Hazan with his book al Manazir, Amri Ali with his book al-Muntakhab fi 'Ilaj al-'Aini. Figures that appear in literature are Abu al-Hamid al-Anthaqi, Ibn Hani, Ibn Abi Jar, Abu Hamid Ahmad, and Abdul Wahab Ibn Nasr (Rahimah, 2003).

From the explanation above, it is clear that progress in education during the Fathimiyah dynasty was growing rapidly. The emergence of various figures and inventors is not only in religion but also in the field of general sciences. During this period, contact with the West also took place by translating Greek books into Arabic. This adds to our belief that the spirit of scholarship and intellectual tradition at that time was extraordinary.

The Establishment of the First Islamic Library in Baghdad (Baitul Hikmah)

Baitul Hikmah was a library and translation center during the Abbasid dynasty. Baitul Wisdom is located in Baghdad, and Baghdad is considered a center of intellectual and scientific knowledge

during the Golden Age of Islam. Because since its inception, this city has become the center of civilization and the rise of science in Islam. That is why K. Hitti mentions that Baghdad is a professor of Islamic society (Fatah Syukur, 2008).

During the Abbasid period, this institution was expanded its use. Baitul Hikmah, pioneered by the caliph Harun al-Rashid, became the center of all scientific activities. At the time of Harun al-Rashid, this institution was called khizanah al-Hikmah (Treasury of Wisdom), which functioned as a library and research center. In this institution, both Muslims and non-Muslims translate the language as ancient texts and compiling various explanations (Mahmud Yunus, 2008).

The main purpose of establishing Baitul Hikmah was to collect and copy foreign knowledge into Arabic. This is the beginning of the progress achieved by Islam, namely holding the world with science and civilization. At that time, various disciplines of science and civilization were also developed, which was marked by the establishment of Baitul Hikmah as the center for the study of science and the greatest civilization of its time. This educational institution was founded thanks to the efforts and assistance of people who hold leadership in the government.

Since 815 AD, al-Ma'mun developed this institution and changed its name to Baitul Hikmah. It was during this time of Makmun that science and intellectuals reached their peak. At this time, Baitul Hikmah was used more advanced, namely as a storage place for ancient books obtained from Persia, Byzantium, even Ethiopia, and India. In this institution, al-Ma'mun employs Muhammad ibn Musa al-Hawarizmi, an expert in al-gebra and astronomy and one of the great teachers at Baitul Hikmah. Other Persians were also employed at Baitul Hikmah. At that time the director of Baitul Hikmah was Sahl Ibn Harun. Under the rule of al-Ma'mun, Baitul Hikmah functioned as a library and as a center for astronomical and mathematical study and research activities. In 832 AD, al-Ma'mun made Baitul Hikmah in Baghdad the first academy, complete with binoculars, a library, and a translation institute. The first head of this academy was Yahya ibn Musawaih (777-857), a student of Gibril ibn Bakhtisyu, then Hunain ibn Ishaq, Yahya's student, was appointed as the second chairman (Mahmud Yunus, 2008).

Factors That Caused the Establishment of the Baitul Hikmah Institute

What motivated the establishment of the Baitul Hikmah institution was the desire to imitate the great institution founded by the Christian Nestorians, namely gondhesaphur, one of whose characters, George Gabriel, was appointed head of a hospital during the caliphate of al-Mansur. This figure is also active in translating Greek works (Albert, 2004)

And also other motivations in establishing the Baitul Hikmah institution are caused by the following factors:

 The abundance of state wealth and the high appreciation of the Caliph al-Ma'mun for science and culture, such as philosophy, medicine, astronomy, and others, as well as his love for the art of music. The union of funds with this desire gave birth to a positive thought, namely developing more advanced education, which turned out to be a positive thought from his assistants and the community. 2. There is a high appreciation of most community members (from various social strata) for scientific activities, which causes them to work hand in hand without experiencing psychological burdens caused by differences in ethnicity, religion, social status, and so on. Here professionalism is upheld with an open attitude, so it is not surprising that at that time, non-Arab and non-Muslim ethnic people played a lot of roles and cooperated. They can carry out their duties calmly even though the Muslim caliph is (Badri Yatim, 2008).

Baitul Hikmah Library Activities and Roles

The main motive for establishing the Baitul Hikmah institution was to promote and coordinate the search and translation of classical works from the intellectual heritage of Greece, Persia, Egypt, and others into Arabic, especially Muslims. One of the most important, Hunayn bin Ishaq, traveled to Alexandria and stopped in Syria and Palestine to look for these ancient works. The factors that encourage Muslims to carry out translation and transfer activities of ancient knowledge are:

- 1. The atmosphere of competition (prestige) between Arabs and others.
- 2. The desire to master the sciences that are not yet owned.
- 3. The encouragement of the verses of the Qur'an (Islamic teachings) about seeking knowledge.
- 4. The progress of science is a consequence of increasing prosperity and economic progress.

With the establishment of Baitul Hikmah, knowledge transfer activities have become more advanced. The caliph succeeded in recruiting the best writers, historians and scientists. Then they were sent to the ancient areas of the Byzantine empire to search for the works of classical scientists/philosophers. Through these activities, Muslims finally developed ancient works such as Hypocrates, Euclides, Galen, and others. The rapid development of the Baitul Hikmah institution encourages this institution to expand its role, not only as a translator institution but also includes the following matters:

- 1. As a center for scientific documentation and information services for the community, which is shown, among other things, by the establishment of a library in the city of Baghdad.
- 2. As a center and forum for scientific development activities, all research equipment is also equipped with an astronomical observatory.
- 3. As a center for planning and development activities for the implementation of education.

RESEARCH METHODS

Topic Bayt Al-Hikma

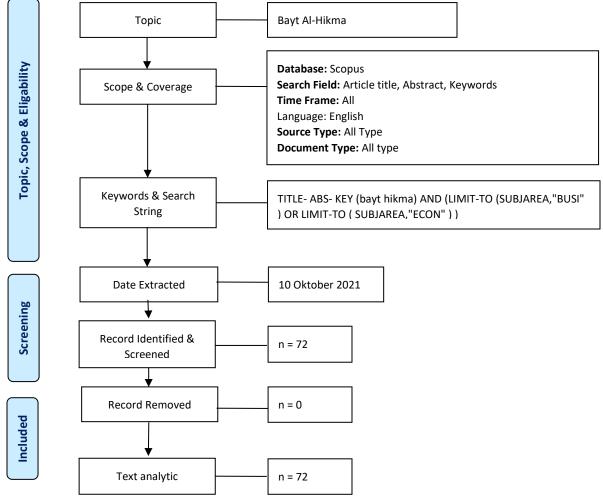


Figure 1: Flow diagram of the search strategy

Source: Zakaria et al. (2020), modified

The review process was carried out on October 10, 2021. Figure 1 illustrates the three steps in identifying research documents, namely eligibility, screening, and inclusion, involved in the systematic review process. The keywords that will be used in this study try to answer the research questions above. Some general statistics from the data set are presented to overview research related to good governance. All articles that fulfill the search query are evaluated from the aspect of text analysis

Then the research documents were analyzed using the bibioshiny software, a free software supported by the R environment ((CRAN, The Comprehensive R Archive Network, https://cran.r-project.org/) which provides a set of tools for quantitative research in bibliometrics and scientometrics (Aria & Cucurrolo, 2017). In the bibliometric literature, the greatest attention

is on the construction of bibliometric maps. Research is concerned with the effect of differences on a similarity of measure (Ahlgren et al., 2003), and they are tested with different mapping techniques (Boyack et al., 2005). Next, text analysis will be carried out on the results of bibliometrics mapping related to "word."

An example of bibliometric research using the R tool, for example, was carried out by Marlina et al. (2021), Srisusilawati et al. (2021), Antonio et al. (2020) and Taqi et al. (2021). Besides R, there are also other tools for bibliometric analysis such as VoSviewer. Some research that uses this tool includes As-Salafiyah et al. (2021), Laila et al. (2021), and Rusydiana et al. (2021).

RESULTS AND DISCUSSION

Source

The following is a table of the types of documents used in the research using Bayt Al-Hikma. The number of documents analyzed is 72 documents which are divided into 4 types of documents, including journal articles (29 documents), anthology/book chapters (28 documents), conference papers (1 document), and review (14 documents).

No	Document Type	Number of Articles	Percentage
1	Journal Article	29	40.27%
2	Book Chapter	28	38.89%
3	Conference Paper	1	1.4%
4	Review	14	19.44%
Total		72	

Table 1: Document Type

Based on the results of the grouping of document types above, the most widely used document types as research subjects with the keyword "Bayt Al-Hikma" are documents in the form of journal articles with a percentage of 40.27% or as many as 29 documents, and documents with the lowest percentage are conference papers where the percentage is 1.4% or as much as 1 document. Based on the type of document, it can be concluded that the references used are quite valid because most of them come from Scopus indexed scientific journals.

Analysis Text

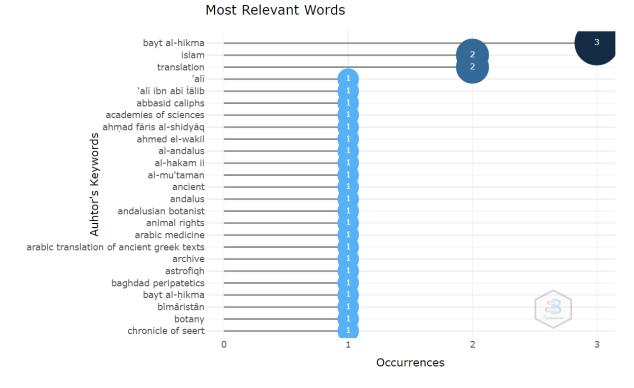
Text analysis was carried out using R-studio and bibliophily software developed by Massimo Aria and Corrado Cuccurullo from the University of Naples and Luigi Vanvitelli from the University of Campania (Italy). Text analysis is done by analyzing more deeply in searches related to words that often appear in the theme of Bayt Al-Hikma. This is intended to add

references that the government can make in tackling economic problems based on existing studies worldwide.

To explore the meta-analysis results, in this section, a visual mapping chart of 72 documents related to Bayt Al-Hikma will be presented. The results of the keyword mapping analysis become the basis for mapping together important or unique terms contained in certain documents. Mapping is a process that enables one to recognize elements of knowledge and their configuration, dynamics, interdependencies, and interactions.

Most Relevant Words

Figure 2: Most Relevant Words



The most relevant word analysis was carried out on keywords from each document, where there were several words with several occurrences between 0 to 3 times. The image above shows the 25 most relevant words used in the research collection related to the keyword "Bayt Al-Hikma."

The top word with the highest number of occurrences and the most relevant to the keyword Bayt Al-Hikma is the word Bayt Al-Hikma itself, with the highest number of occurrences 3 times. The second most relevant word related to Bayt Al-Hikma is Islam and Translation with 2 occurrences. The remaining keywords with the number of occurrences 1 time are 23 keywords.

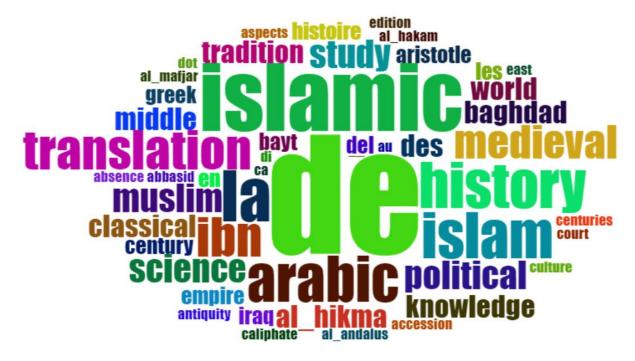
The study entitled Fasad, hijra and warlike diaspora from the geographic boundaries of early Islam to a new dar al-hikma: Europe (Demichelis M., 2019). This paper aims to emphasize the influence of "Classical" Islamic thought on contemporary European-Islamic thought regarding

conceptualization and action of emigration (hijra-hajara) through a geographic and juridical redefinition of the Old Continent as a new "home" (dar/bayt) in accommodating the Muslim population. This analysis should also be considered in light of the sectarian and violent phase that followed the peaceful phase of the so-called "Arab Spring" and the current partial deflagration of the Middle East. During this phase of proto-Islamic history, the term muhajirun were adopted to define those who made the hijrah, referring to the followers of the Prophet Muhammad in the year 622. They aimed to live according to religious behavior and began to differ from their native polytheistic society; the same term is also used to categorize those who partially inhabited the newly conquered territories in the following decades: Syria, Egypt, Mesopotamia, the Iranian highlands, etc., and who decided to take root and become urbanized. Contemporary juridical, political, and religious perceptions, before and after 2011, began to consider different "emigration" perspectives, which, not much different from the original Hijrah conceptualization, were rooted in leaving a land riddled with war and sectarian violence to reach geography in which religious affiliation individuals can be protected.

Word Cloud

Furthermore, relevant words in research related to the Bayt Al-Hikma theme will be displayed on the document title in the form of a word cloud. Word cloud describes the words that often appear in the collection of data papers researched with keywords from the title with the theme "Bayt Al-Hikma." The word cloud displays an image of the words displayed in various sizes according to the number of words that appear. In terms of placement, word clouds tend to be random, but the dominant words are placed in the middle so that they are more visible with a relatively larger size. In this study, the word cloud results were obtained based on an analysis of the document title.

Figure 3: Word Cloud

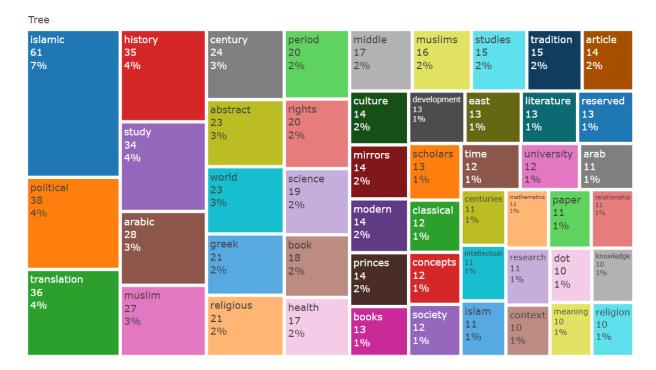


Based on the image analysis of the document title, it was found that the most dominant words were related to Bayt Al-Hikma, namely De, Islamic, Arabic, Translation, History, Al-Hikma. Most of the current research on "Bayt Al-Hikma" deals with "Islamic." This is because the word "Islamic" is relatively closely related to Islamic civilization in the world. Research conducted on Bayt Al-Hikma is related to Le bayt al-hikma de Baghdad (Balty-Guesdon M.-G., 1992), Scent from the garden of paradise: Musk and the medieval Islamic world (King AH, 2017) and In the Sultan's Salon: Learning, religion, and rulership at themamluk court of Qänisawh al-ghawrï (r. 1501-1516) (Mauder C., 2021).

WordTree Map

Furthermore, the relevant words in research related to the Bayt Al-Hikma theme will be displayed in the abstract document using a word treemap. Word TreeMap displays words that often appear in boxes similar to regions or regions on a map, where the more words that appear, the larger the square area.

Figure 4: Word Tree Map



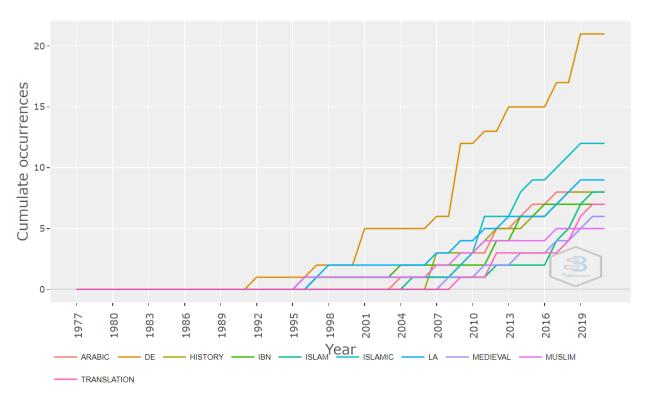
Based on the image of the analysis of the document abstract, it was found that the most dominant words in the research with the Bayt Al-Hikma theme were Islamic, Political, Translation, History, Muslim. Most of the current research related to the theme of Bayt Al-Hikma is about "Islamic." In people's daily lives, the word "Islamic" is relatively closely related to Islamic civilization in the world.

Research conducted on Bayt Al-Hikma was entitled Science institutionalization in early Islam: "Bayt al-Hikma of Baghdad as a model of an academy of sciences" (Zou'bi MR, Shah MH 2017). in the pre-Islamic era. To illustrate the rise of the Islamic tradition in the institutionalization of knowledge, the establishment, and protection of academies, the example of Baghdad's Bayt al-Hikma (House of Wisdom), which flourished in the ninth century AD, is carefully examined against major Arabic sources on the subject as well as recent contemporary international literature. This study would then go beyond the existing narrative in Bayt al-Hikma to state that it was the 'academy of sciences' preceded by the Academia dei Lincei of Rome, considered by many scholars to be the world's first academy of sciences founded in 1603.

Word Dynamic

Figure 5: Word Dynamic

Word Growth

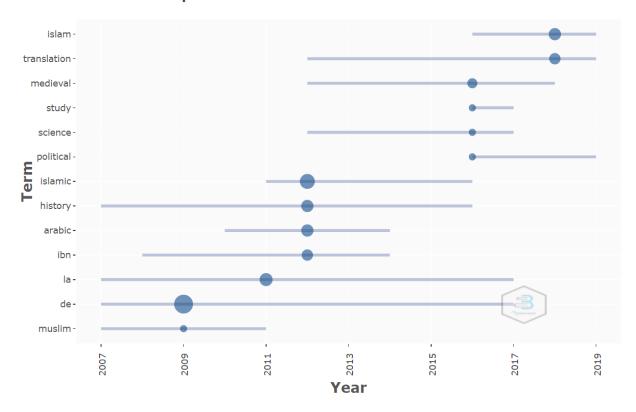


Based on the image of the analysis of the document title, in the research with the theme Bayt Al-Hikma, words that often appear are also described in the form of a development curve each year with an annual occurrence value. These results show the average quantity of these keywords in the data collection studied in research with the theme of Bayt Al-Hikma every year. Figure 4 shows that most words that appear frequently and began to develop since 1977 and continue to increase until 2021. From the picture above, it can be concluded that the research with the most significant increase in occurrence is the title related to Bayt Al-Hikma and has great potential. Very significant to continue to grow.

Trend Topics

Figure 6: Trend Topics

Trend Topics



Based on the image of the analysis of the title of the document in the research with the theme of Bayt Al-Hikma, the topic trend is also an important part of this research. The picture above shows an overview of the development of topics related to Bayt Al-Hikma from time to time with the division per year, so it is known what topics have been used for a long time and what topics have been used recently. The trend of this topic also considers the frequency value of each word indicated by the log axis.

So, in addition to looking at annual trends, the emergence of topics is also adjusted to the frequency of the number of words appearing in research themes related to Bayt Al-Hikma. The higher indicates, the more the word is used, and the further to the right, the more recently the word has been used. The development of the Bayt Al-Hikma theme began to experience a significant increase since 2007.

Based on the description of the data above, the most recent and most widely used topics are related to the theme of Bayt Al-Hikma, namely Islam, Translation, Political. The journal entitled "Ethical rights of animals in Islam," written by Ghotbi S. (2020), discusses Islamic Traditions, including teachings on animal rights, including the rights of four legs, birds, and insects, which Muslims must obey. According to this teaching, those who violate these rights and behave aggressively towards animals will be held accountable before their Creator and face the consequences of their wrong actions. This article is an attempt to examine the ethical rights of animals in the Qur'an and figh traditions and demonstrate the role of these two sources in emphasizing the ethical rights of animals. The research findings show that the ethical rights of

animals in the Qur'an and jurisprudential traditions cover various aspects of their existence, including but not limited to the rights to life, nutrition, health, and reproduction.

Co-occurrence Network

muslims research
relationship books
religious
centuries university study
intellectual tradition
studies article greekworld
translation
scholars century
knowledger period
arabic
history
inghts culture
science
book
development
classical

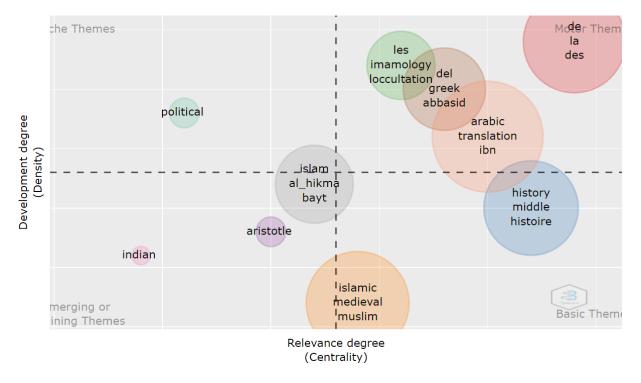
Figure 7: Co-occurrence Network

The co-occurrence network displays words related to document abstracts related to the Bayt Al-Hikma theme in the form of colored clusters by considering the relationship between one abstract and another abstract. Some abstracts that often appear in research with the theme of Bayt Al-Hikma are divided into 4 clusters, namely:

- Cluster 1 in red consists of abstracts: Translation, Greek, World, Century, Scholar, Period, Knowledge, Article, Studies, Intellectual, Tradition, Literature.
- Green Cluster 2 consists of abstracts: History, Reserved, Rights, Modern, Culture, Book, Classical, Development, Concepts, Mathematics.
- Cluster 3 purple colors consist of abstracts: University, Centuries, Religious, Muslims, Research, Relationship, Books, Religion, Health.
- Clusters of 4 blue colors consist of abstracts: Islamic, Study, Muslim, Meaning, Political, Society, Context, Paper, Islam, East, Time, Middle

Thematic Map

Figure 8: Thematic Map



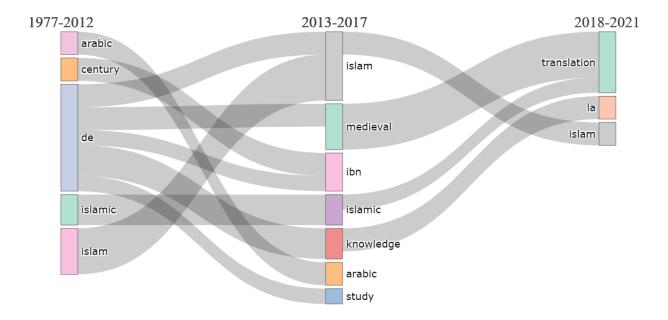
In this study, a thematic map analysis that appears based on density and centrality will also be analyzed based on the title of the document with the research theme of Bayt Al-Hikma, which is divided into 4 quadrants. This result is obtained from a semi-automatic algorithm by reviewing the titles of all references to the object of research.

The upper left quadrant is a highly developed and isolated theme. Quadrants show specific themes and are rarely studied but have high development, which is indicated by high density but low centrality. The themes in this quadrant are Political, Islam, Al-Hikma, Bayt. While the lower left quadrant represents emerging or declining themes, this quadrant shows themes that have been used for a long time but experience an increasing or decreasing trend with low density and centrality. The theme in this quadrant is Indian Aristotle. Seeing developments with the Bayt Al-Hikma sub-theme in recent years, the trend of words in this quadrant has increased.

While the upper right quadrant is a motor theme or a driving theme characterized by high density and centrality, it needs to be developed and is important to be studied in further research. The themes in this quadrant are De, La, Des, Les, Imamology, Loccultation, Del, Greek, Abbasid, Arabic, Translation, Ibn. Finally, the lower right quadrant is the basic and transverse theme characterized by high centrality but low density. These themes are important to be included in the research because they are general topics that are commonly used. The themes in this quadrant are History, Middle, Histoire, Islamic, Medieval, Muslim.

Thematic Evolution

Figure 9: Thematic Evolution



The theme used in the paper that is the object of research continues to change, especially from papers that have been recently published when compared to papers that have been published for a long time. The picture above shows the evolution, which is analyzed by theme with research related to Bayt Al-Hikma, which consists of themes depicted as rectangles with a larger size, the more widely used. Although the theme of this research is Bayt Al-Hikma, the data obtained show that several sub-themes are widely used.

The Thematic Evolution is divided into 3 parts. The left side shows several themes that were widely used from 1977 to 2012. There are 5 themes listed with different sizes depending on the quantity of use of these themes. The "De" theme ranks first, followed by the "Islam" theme.

The second or middle section shows the most frequently used themes in the period between 2013-2017. There are 7 themes listed, of which 3 themes are an evolution of the themes that emerged in the previous period, namely the theme of "Islam," "Islamic," "Arabic," which is an extension of several themes shown by colorful plots.

The last or right section shows the most widely used themes from 2018-2021. There are 3 themes where there is 1 theme of evolution from the previous period, namely "Islam," which is an extension of several themes shown by colorful plots.

Conclusion

This study tries to evaluate the topic of Bayt Al-Hikma using text analysis from 1977-2021. The conceptual structure of R 'biblioshiny' provides the network and the main research themes. We have identified two research networks in the Bayt Al-Hikma literature using the co-occurrence network. This research network is "Islamic" and "Study." Combining the two networks in this study will solve many environmental problems.

Furthermore, in conceptual structure, this research has spread thematic maps to place themes and subthemes on the graph and divided them into four clusters (dropping or emerging themes, basic themes, highly developed and isolated themes, motor themes). The highly developed and isolated themes quadrant is represented by the themes of Political, Islam, Al-Hikma, Bayt. Furthermore, the themes in the emerging or declining themes quadrant are Indian, Aristotle. The motor themes quadrant or the driving themes that appear are De, La, Des, Les, Imamology, Loccultation, Del, Greek, Abbasid, Arabic, Translation, Ibn. Finally, the basic and transverse themes are represented by History, Middle, Histoire, Islamic, Medieval, Muslim.

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