# E-GOVERNMENT ISSUES: THE GOVERNANCE OF PUBLIC UNIVERSITIES TOWARD WORLD-CLASS UNIVERSITIES

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#### Abstract

One measure of organizational performance is how the organization can realize excellent governance. The issue of e-government services in public university organizations is becoming increasingly important to improve efficiency, transparency, and accountability. However, the transformation process for adapting to technological developments that support business processes and work systems in higher education requires special attention because it is different from profit-oriented organizations. This study aims to describe and evaluate electronic-based governance in public universities in Indonesia towards a world-class university. The research method used is a qualitative approach with interviews and observations to explore the portrait of the governance of the state Islamic universities regarding e-government implementation. From the findings, bibliometric analysis was conducted using VOS Viewer software to evaluate and understand the trend of studies on e-government in higher education organizations. The results showed that the implementation of e-government in public universities, in Indonesia has been running quite well. Because of their management system, infrastructure, and resource facilities, the government supports them. Meanwhile, the bibliometric analysis results show that the e-government trend in higher education studies emphasizes aspects of information systems, service quality, and implementation and development.

# Keywords: Governance, E-Government, Public Universities, State Islamic University, Bibliometric Analysis

#### 1. Introduction

State Islamic Universities, or public universities in Indonesia, have played an important role in developing quality higher education with a strong diversity approach that goes hand in hand with technological advances. Currently, Indonesia has 59 public Islamic universities. One of the characteristics of Islamic universities is that they teach religious knowledge and the principles of morality and ethics in life. However, there is a wide range of majors, including religious, economic, social, technological, and medical majors. Several public Islamic universities. However, become international universities. However, becoming a world-class university requires responsive governance to support global needs and competitiveness (Kyeong et al., 2023).

The Government of the Republic of Indonesia, through the Ministry of Religious Affairs as the government agency that oversees it, also encourages state Islamic universities to become independent public universities. This concept requires universities and private companies to be able to innovate and implement managerial governance (Amrozi et al., 2024). The shift in the quality of universities today is driven by the desire to become more independent so that they can become superior and competitive universities. With the spirit of independence, it will be easy to set policies, practice more flexible financial management, and open study programs (Nata, 2023). This will be easily realized by being supported by an established electronic system to be able to meet higher performance targets from the government.

On the other hand, the concept of an electronic-based government system (e-government) is a new paradigm in organizing government that utilizes information and communication technology to improve performance and public services. E-government is expected to realize a more transparent, accountable, efficient, and effective government. The government of Indonesia has shown its commitment to developing e-government through various policies and programs. In 2010, the Government of Indonesia launched the e-government Roadmap, which contains the vision, mission, and strategy of e-government development until 2025 (Slamet, 2022). Indeed, the implementation of e-government in Indonesia still faces challenges in terms of uneven IT infrastructure, limited human resources, a lack of coordination with government agencies, and the low level of digital literacy in the community. Therefore, e-government implementation is a key factor in supporting the transformation of state Islamic universities into world-class universities, the implementation of e-government is a key factor.

State Islamic University, as a religious university under the Ministry of Religious Affairs, has the potential and advantages for developing this e-government. This is indicated by competent human resources in the fields of information technology and religious knowledge. In addition, the adequate infrastructure owned is expected to help improve student competence. State Islamic universities must be able to adapt to technological developments that support business processes and work systems in higher education. The superiority of competent resources is the main capital in developing information systems.

Several state Islamic universities (in Bahasa: Universitas Islam Negeri/UIN) in Indonesia have excelled. For example, UIN Syarif Hidayatullah Jakarta has successfully entered the QS World University Rankings (QS-WUR). Then UIN Sunan Gunung Djati Bandung, which managed to become the first UIN in Indonesia to achieve webometrics, This achievement will strengthen our position in attracting investment and collaboration in global academia, thus opening up opportunities for collaboration and the reputation of state Islamic universities in the global arena. On the other hand, research on e-government in higher education is important as a response to the development of technology to improve efficient university operations. Several early studies have shown that e-government can assist universities in increasing their competitiveness by improving service quality and the modern image of the organization (Putra, 2021).

Although research on e-government in government agencies already exists, no research specifically examines the evaluation of the implementation of electronic-based governance at a state Islamic university, where IT has been used for online learning to manage information systems. Therefore, universities need to have a framework that enables seamless data exchange between each layer of the institution.

The urgency of this research is to capture the implementation of electronic-based governance at UIN towards more independent higher education governance. This study also wants to understand the trend of research studies through bibliometrics on issues that are considered important related to e-government, especially in public universities.

#### 2. Literature review

Electronic government, abbreviated as e-government, according to Aryanti et al. (2021) is one of the information technologies used by government organizations in providing services and delivering information to citizens, as well as government and everything related to government affairs. Then, according to the World Bank Group, the definition of e-government is an effort to utilize information and communication technology by government institutions that can form relationships with citizens, business people, and other institutions in government (Ali, 2003).

Another definition of e-government was also put forward by Batista et al. (2022), namely, services that connect the government with its stakeholders (citizens, businesses, employees, and other government agencies) using information and communication technology. From the various definitions that have been presented above, three characteristics are common in each definition of electronic government. First, e-government is a new modern interaction mechanism between the government and various parties with interests (stakeholders). Second, it links the use of information technology, especially the internet. Third, the main goal is to improve the quality of service to the community.

In general, e-government refers to the utilization of information technology to strengthen interactions between government and stakeholders, such as the public, the business sector, and other governments, both at the same level and at higher levels (Siddiquee, 2016). E-government can improve communication between government institutions and their constituents by providing access to information and services online, such as public services through websites, at a relatively lower cost. Combining information and communication technology and citizen participation will create the concept of e-participation that allows citizens to play a more active role in running the government.

#### 2.1 Electronic-Based Governance System

The Electronic-Based Governance System is a framework derived from the academic concept of e-government that is used to facilitate the application of information and communication technology in the government system in Indonesia. Referring to the Presidential Regulation of the Republic of Indonesia Number 95 of 2018 concerning electronic-based government systems, e-government is a derivative of e-government. With this policy, the Electronic-Based Government System is a response to the rapid development in the digital world.

According to Article 1, paragraph 1, of the Presidential Regulation, the electronic-based government system is defined as the implementation of government using information and communication technology to provide services to the public. To achieve common goals, the government needs to use an electronic-based government system to facilitate cooperation between government agencies in carrying out their duties and responsibilities. The use of existing applications becomes an integral part of its use. It is a tool to support government agencies are required to implement e-government (Bouty et al., 2019).

The Electronic-Based Government System aims to harmonize all existing infrastructure in ministries, agencies, and local governments to be integrated. In addition, this system aims to improve the quality of its implementation and ensure that system evaluations at central and regional government agencies remain of high quality (Pratiwi et al., 2020). With the evaluation of the electronic-based government system, it is hoped that it can improve the ability of processes and the use of information and communication technology in the bureaucratic system so that services to local communities can be improved.

#### 2.2. State Islamic University

Islamic education in Indonesia has been going on since the entry of Islam in Indonesia. As the largest Muslim country in the world, it is not surprising that Islamic education is excellent among Indonesians, including at the higher education level. Yahya (2017) revealed that there are various factors behind the formation of Islamic higher education in Indonesia, including the development of Islamic higher education to increase the development of da'wah, tenderize religious scholars and functionaries, and carry out activities of study and development of Islamic science at a higher level in a systematic and directed manner.

Efforts to establish Islamic higher education became one of the focuses of attention in the Islamic community. The organization Majelis Syura Muslimin Indonesia (Masyumi) at that time became the pioneer of the establishment of Islamic higher education. In April 1945, a meeting was held by the leaders of this organization to discuss the planning of establishing an Islamic university. The meeting was chaired by Moh. Hatta and M. Natsir. The first Islamic university to be established in Indonesia was the Islamic College in Jakarta, the capital of Indonesia, in 1945. The university was later transformed into the Indonesian Islamic University in the city of Yogyakarta. In 1951, there was a development with the establishment of several religious faculties. While in the national capital, Jakarta, in 1957, the government also established the Academy of Religious Sciences Service (Yahya, 2017).

The results of institutional acculturation between Islamic colleges and the Service Academy of Religious Sciences produced an Islamic higher education institution, which in Arabic is called al-Jamiah al-Islamiyah al-Hukumiyah, on August 24, 1960, in Yogyakarta. al-Jamiah al-Islamiyah al-Hukumiyah is the State Islamic Institute. Bahasa: Institut Agama Islam Negeri/IAIN. IAIN was established by decree of the Minister of Religion No. 43 of 1961. IAIN was initially divided into two faculties in Yogyakarta and two faculties in Jakarta, each of which had a three-year lecture policy complemented by a two-year specialization. As an Islamic higher education institution, IAIN focuses on advanced Islamic religious learning (Pairin, 2012).

Then, in 1997, the government of the Republic of Indonesia also expanded Islamic universities in many cities throughout Indonesia. Furthermore, there was a significant development starting in 2002 when several IAINs were converted into State Islamic Universities (UIN). UIN is a form of state Islamic university that organizes academic education in various disciplines. The first IAIN to change its status to UIN was IAIN Syarif Hidayatullah in Jakarta (Pairin, 2012). Currently, there are 59 public Islamic religious universities, of which 29 are state Islamic universities. As for why the target of this research is UIN, because UIN is a new state university but has achievements towards world-class universities.

#### 3. Research Methods

The research method used in this study is a qualitative method, where the method is used to explore the readiness, plans, or things that have been prepared by UIN leaders to become an independent university in terms of governance. In that case, the electronic-based governance practices that have been in place need to be identified. Therefore, the focus of this research is to explore the implementation of e-government in UIN and to examine the trend of egovernment studies in public universities.

Data collection was conducted through semi-structured interviews and discussions with several UIN leaders, namely: UIN Jakarta, UIN Semarang, UIN Yogyakarta, UIN Surabaya, and UIN Malang. The resource persons are the rector or vice-rector in charge or related officials who are aligned with the research topic.

The analysis phase began with data presentation, data reduction, data classification, and conclusion drawing. To produce better research quality, several focus group discussions with resource persons or other parties were conducted. On the other hand, literature studies are used to strengthen the scientific arguments of previous research. The data obtained through interviews and discussions with some state Islamic university leaders and other relevant officials was analyzed to answer the research formulation above. From the findings of stage one above, a stage two analysis was conducted. This stage-two analysis was carried out using the bibliometric analysis method using VOS Viewers software.

Bibliometric analysis is part of a research evaluation method that draws on a large body of literature (Ellegaard & Wallin, 2015). In other words, bibliometrics is a method of measuring literature with a statistical approach. Bibliometric mapping will make it easier for readers or

the public at large to understand the content of research because bibliometrics can help turn metadata into a visualization (Sidiq, 2019). In this study, bibliometric analysis serves to assist in evaluating research on trends in e-government studies in higher education. Thus, the findings in stage one of the research will be confirmed with the findings in stage two of this research. The five UINs targeted for this research are UIN Jakarta, UIN Semarang, UIN Yogyakarta, UIN Surabaya, and UIN Malang. The naming of the UINs is based on the location in the city where the campus is based.

# 4. Result And Discussion

#### 4.1. The Governance of E-Government in UIN Jakarta

From the results of field research, a portrait of e-government implementation in several UINs was obtained. The first is UIN Jakarta. UIN Jakarta has formed a special team to accelerate the implementation of an electronic-based government system to increase autonomy and flexibility in financial and academic management, improve governance towards good university governance, and strengthen competitiveness. The Head of the Academic and Student Affairs Bureau of UIN Jakarta, Priyono, explained that IT infrastructure must be developed regarding Presidential Regulation No. 81 of 2010, which encourages universities to adopt and implement electronic-based government systems. The urgency of this system lies in its ability to increase efficiency, transparency, and accountability in the management of higher education and to provide better services to students and the entire academic community (Hikmat et al., 2022).

In the context of the implementation of the Electronic-Based Government System, Vice Rector of UIN Jakarta Ahmad Tholabi provides full support for strengthening IT infrastructure to realize the electronic-based management of UIN Jakarta. Almost all sectors owned by UIN Jakarta have adopted information systems to support their respective needs. For example, in academic activities, an academic information system has been implemented to support academic administration activities. The Technology and Database Center Unit, owned by UIN Jakarta, continues to develop this system to realize electronic-based UIN management. In addition to this, UIN Jakarta strives to improve cybersecurity while increasing access to information technology (Hakiem, 2022).

UIN Jakarta's commitment to improving electronic-based management can be seen by its achievement as the first rank for filling in the Electronic Strategic Management System (e-SMS) in 2021 with a score of 3,511.73. The achievement includes details of the GUG (Good University Governance) score of 1,621.73, UPI (University's Performance Improvement) score of 949.98, CAU (Competitive Advantages University) score of 657.33, and GRU (Global Recognition University) score of 282.52.

#### 4.2. The Governance of E-Government in UIN Semarang

In 2021, UIN Semarang was ranked second after UIN Jakarta in terms of filling the Electronic Strategic Management System (e-SMS) used by the Ministry of Religious Affairs in measuring UIN governance. UIN Semarang achieved a total score of 3,355.55 with a GUG (Good University Governance) score of 1,599.68, a UPI (University's Performance Improvement) score of 899.86, a CAU (Competitive Advantages University) score of 597.47, and a GRU (Global Recognition University) score of 258.56.

In the interview, UIN Semarang continues to strive to strengthen academic and nonacademic pillars to improve university governance towards independent public universities. Investment in investment technology has also been implemented to support various elements within UIN Semarang. IT investments will continue to be made to be one of the most efficient solutions for the implementation of e-government. The investment is proven by the availability of various electronic-based services at UIN Semarang, ranging from academic information systems and new student admission systems to the availability of massive open online courses that can be utilized by students and the general public.

# 4.3. The Governance of E-Government in UIN Yogyakarta

To transform into a superior university, UIN Yogyakarta has conducted visits to various universities in Indonesia and abroad. Various preparations have been made, both academic and non-academic. According to the rector of UIN Yogyakarta, Al Makin, many aspects must be strengthened, such as entrepreneurship, strengthening networks, strengthening facilities and infrastructure, and so on.

In encouraging the improvement of university performance and assisting in more professional governance, the implementation of electronic-based university governance, or e-government, is needed. According to Al Makin, the implementation of e-government in UIN Yogyakarta is quite adequate. Various elements have implemented electronic-based information systems ranging from financial aspects to planning, staffing, academic activities, and other general services. In the requirements for new employee recruitment, computer skills are also added to support the implementation of campus digitalization.

# 4.5. The Governance of E-Government in UIN Surabaya

As one of the state Islamic universities, UIN Surabaya has made various preparations to become an international-standard university. This is in line with the vision and mission of the university. Various breakthroughs have been made to strengthen governance aspects, including financial management. Several existing units have been targeted to become leading sector income generators, such as the Publishing Center Unit and Business Center Unit, as well as faculties and departments. The Business Center is designed to be the main income center. In addition, existing laboratories are also encouraged to be included in the leading sector income. For UIN Surabaya, to support good governance, organizational health in terms of finance is seen as important. This will have an impact on e-government investment.

To implement e-government, UIN Surabaya has digitized services in various work units. This digitization is not only in academic services but also includes non-academic services. For example, correspondence has been mobilized with the AMIRA application to facilitate the process of submitting student letters. In addition, SIFASUM is also provided, which provides room lending services. UIN Surabaya has also provided the entire academic community with the UINSA Mail service, with 25GB of storage support for each account.

In the scope of employee performance management and monitoring, UIN Surabaya has an e-Kinerja application for employee performance management and monitoring. Not only that, UINSA has also implemented SIMPEG (employee information system), which is used to support personnel administration within the scope of university work. In addition to some other electronic applications, In an interview conducted with one of the deans, the strengthening of information systems is still being carried out by the Information Technology and Database Center to develop a more integrated system.

#### 4.6. The Governance of E-Government in UIN Malang

UIN Malang is also one of the state Islamic universities that is also encouraged to become a superior university. According to an interview conducted with the expert staff of the Rector of UIN Malang Segaf, UIN Malang is also making various efforts to mature and plan to become an international university. This is because internationalization must be done to boost the reputation of the university. With a note that operations must run efficiently, One of them is with the support of established e-government.

UIN Malang already has three campuses with different locations. However, they are managed centrally by being interconnected through high-speed fiber optics that support fast

and reliable data access. All buildings in UIN Malang are covered by 2.4 GHz and 5 GHz WiFi networks. UIN Malang continues to improve reliability related to the data center and conducts annual downtime for power backup, data center cooling redundancy, installation, fire suppression, dual-homing ISP, data backup, and web hosting service.

In the aspect of implementing electronic-based services, UIN Malang has been served by various electronic-based information systems, such as the Academic Information System, the New Student Admission System, Personnel, and so on. UIN Malang has established a website called the Main Application and Data Center. This application accommodates a variety of information systems, such as social media, profiles, agendas, academic information systems, finance, personnel, libraries, research, and infrastructure facilities.

# 4.7. Bibliometric Analysis and Discussion

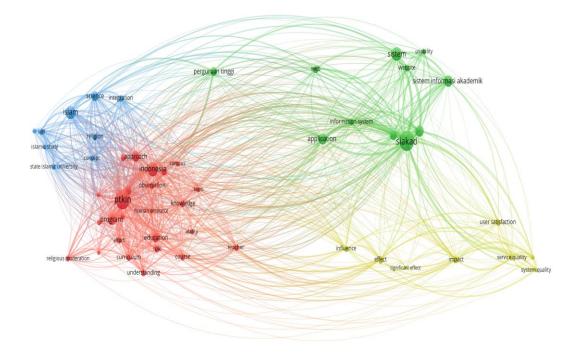
Some previous studies are in line with this research, including research conducted by Aritonang (2017) entitled "The Impact of the E-Government System on Public Service Quality in Indonesia." The study explains the development of the e-government system implemented in Indonesia. This is based on the application of the e-government concept by the central and local governments as a minimum standard and a new approach to public service delivery. However, the implementation is still at the level of adaptation to new technologies and simple organizational structures. This research also tries to describe the government's efforts to improve the quality of public services through the implementation of e-government systems.

Furthermore, there is research conducted by Kuswati et al. (2022) entitled "Implementation of E-government-Based Policies in Improving Public Service Satisfaction in the Majalengka Regency Local Government. The study generally analyzes and examines the role of e-government implementation in efforts to improve public service satisfaction. This research is motivated by the importance of public satisfaction as an output of public service activities. This is in line with the initial objective of implementing e-government, which is to improve the effectiveness and efficiency of government performance to improve public services.

Further research from Ongena and Davids (2023) entitled "Big Data Analytics Capability and Governmental Performance: An Empirical Examination". This research aims to explain how much impact data analytics has on government performance. The background of this research is the drive to increase computationally accessible infrastructure with the acquisition of large data volumes that accumulate into big data. It is considered one of the most valuable strategic business sources in the coming years. Big data analytics has great potential to provide advantages in terms of smart services, smart adaptation, and predictive service delivery to citizens if used efficiently and effectively.

The difference between our research and previous research is that previous studies examined the development of e-government systems in general or only in the field of public services in government organizations, not in the field of education. Our research assesses the development of e-government systems in higher education organizations, especially in state Islamic universities in Indonesia.

Based on the output of the VOS Viewers application, it shows that the terminology used to reach related themes on e-government in higher education found several keywords. A number of these keywords are, for example, "SIAKAD" and "PTKIN." SIAKAD (in Bahasa: academic information system) and PTKIN (in Bahasa: state Islamic religious college) are two of the topics. From this extraction process, up to 40 topics were obtained. From the VOS Viewers visibility, some topics represent other keywords. In addition, other topics relevant to the research were obtained that can be used as external factors that influence the research. Therefore, this article describes the three main topic groupings to explain the trend of e-government research in higher education.



**Figure 1. VOS Viewer Analysis Results** 

First, the topic of information systems represents keywords such as "information system," "application," "website," "usability," "web," and "college." Information systems highlight the importance of SIAKAD as the main information platform in operational management at UIN. The existence of strong internal controls in the state Islamic religious universities will support the implementation of academic and administrative activities more efficiently, effectively, and accurately (Jalilah, 2019). This will facilitate the academic and administrative activities of UIN to be more efficient.

Second, service quality includes the keywords "user satisfaction," "impact," "influence," "effect," "system quality," "service quality," and "significant effect." This topic shows the focus on the quality of service provided by SIAKAD and its impact on user satisfaction and overall system effectiveness. UIN requires high academic and operational success by ensuring service quality and a positive user experience.

Third, it relates to implementation and development, which includes the keywords "Indonesia", "approach", "program", "observation", "campus", "term", "knowledge", "human resources", "effort", "religious moderation", "curriculum", "understanding", "course", "education", "role", "ability", "teacher", "concept", "religion", "public Islamic university", "Islamic studies", "UIN", "Islam", "science", and "integration". Some of these aspects are descriptions related to implementation and development, including academic program strategies and human resource management. In addition, it emphasizes the importance of religious moderation, curriculum development, and integration of science in Islamic education at UIN (Harahap, 2022).

Thus, in general, the results of this study indicate that the implementation of academic information systems, or e-government, in public Islamic universities includes three things, namely: information systems, service quality, and the implementation and development of academic programs. To strengthen these findings, we conducted further confirmation and

linkage with relevant theories. For example, information management theory (McLeod, 2004) highlights the importance of integration and efficiency in information systems, and service quality theory emphasizes user satisfaction (Delone & McLean, 2020) as an indicator of system success. In addition, technology implementation theory (Gunasinghe et al., 2019) can help understand the factors that influence the adoption and success of e-government in public universities. The integration of these theories will provide a strong foundation for the research findings and ensure their relevance and validity in an academic context.

# 5. Conclusion

From the results of the research conducted, it can be concluded that the governance portrait of e-government at the five UIN targets, namely: UIN Jakarta, UIN Semarang, UIN Yogyakarta, UIN Surabaya, and UIN Malang, has implemented e-government due to the support of resources from the parties related to the management system and infrastructure. However, there are several problems, such as the lack of integration of several applications into the existing e-government ecosystem.

The bibliometric analysis identified 40 related topics, which can be grouped into three categories: information systems, service quality, and academic program implementation. Thus, these bibliometric findings also confirm the findings of field interviews related to the implementation of e-government in public Islamic universities in Indonesia.

Managerial suggestions that can be offered for the development of e-government in public universities include the importance of strengthening IT infrastructure, system integration, improving service quality, training human resources, and exchanging resources through cooperation between universities.

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