Conference Paper

Bureaucratic Reform Based on E-Procurement: Opportunities and Challenges

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Abstract.

This study aims to discuss the opportunities and challenges in implementing bureaucratic reform in the procurement of goods and services based on e-procurement. The method used was literature review (library research). Data were obtained from various sources such as books, journals, online platforms, legislation, and other relevant sources related to the research topic. Data analysis was conducted through data reduction, data presentation, and drawing of conclusions. The results of this study show that e-procurement is part of bureaucratic reform, particularly in the procurement of goods and services. E-procurement can enhance the efficiency and effectiveness of the procurement process, reduce costs, and promote competition to ensure equal opportunities and treatment. Overall, the goal is to ensure integrity, public trust, and transparency in the procurement of goods and services. However, there are challenges in implementing e-procurement, including infrastructure, the digital divide, and inadequate human resource support. The adoption of e-procurement as a manifestation of government procurement reform is not without resistance from organizational, group, and individual factors. As a recommendation, regular socialization of the importance of e-procurement is necessary. Equally important is the need for change management to build shared perceptions, commitment, consistency, and engagement in implementing bureaucratic reform programs and activities, especially in the procurement of goods and services.

Keywords: bureaucracy, e-procurement, goods and services, reform

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1. Introduction

Reform brings about changes in various aspects of human life, particularly in public services. One outcome of the reform is the establishment of regional autonomy, which is highly anticipated by the government and the people in the regions. Regional autonomy is viewed as providing welfare for people [1]. The regional governments' ability to provide good public services is an indicator of the successful implementation of regional autonomy, where the public can easily, affordably, quickly, and friendly access services that ultimately achieve the desired level of public satisfaction. Public services play a crucial role in a nation's lives [2].

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One transformative effort to support bureaucratic reform is the utilization of information technology. This is because changes in patterns and lifestyles are so significant that the bureaucracy must also be able to keep up with all changes in the existing conditions. This is considered to be effective in improving Indonesia's bureaucracy. The progress of bureaucratic reform in Indonesia is becoming increasingly evident each year, and one of the driving factors behind this acceleration is information technology. Information technology enables transparent governance and communication between the government and the public. The public can use technology to monitor and supervise government performance. Owing to information technology, the government can reach the public more efficiently. This is in line with Yusriadi's [3] opinion that information technology can make the government work more efficient. The public can also directly control the performance of public officials, which has a positive impact on Indonesia's bureaucracy.

The Indonesian Government's efforts to realize good governance include reforms in all government activities and public services through the use of information technology, commonly known as e-government [4]. One model of e-government delivery is government-to-business [5]. This model is an electronic transaction system in which the government provides the necessary information for businesses to transact with it [6]. Technological developments have been marked by the emergence of various applications. The development of applications in the field of government for service purposes reflects the implementation of e-government. One of its applications is government-to-business e-procurement, which involves online procurement of goods and services through the Internet and is considered an appropriate solution.

Based on North Kalimantan Governor Regulation Number 16 of 2017 concerning the Government Goods/Services Procurement Unit of North Kalimantan Province, procurement of goods/services is defined as an activity to obtain goods/services by Regional Work Units, starting from needs planning until the completion of all activities to obtain goods/services. Based on the description above, this research focuses on discussing e-process-based bureaucratic reform: What are the opportunities and challenges faced?

This research is important because bureaucratic reform is one of the government's efforts to realize good governance and carry out reforms and fundamental changes to the governance system, especially regarding the institutional (organizational) aspects, management, and human resources of the apparatus. An effective and efficient government administration system was implemented through bureaucratic reform. Bureaucratic

reform is the backbone of changing the life of the nation and state, so the authors consider it important to further examine the opportunities and challenges faced, particularly regarding e-procurement in goods and services procurement agencies.

2. Literature Review

2.1. Review of Bureaucratic Reform

The term bureaucracy is commonly known as administrative reform. The term administrative reform, according to Fred W. Riggs in his book Frontiers of Development Administration, is a concept used by developing countries in order to make efforts to reform government administration [7]. In Indonesia, the condition of administrative reform as stated by Satria [8], where the changes made have not made any significant progress for this nation, is more circular and not going anywhere. Bureaucratic reform carried out in various countries is generally driven by complex problems within the bureaucracy that cause dysfunctions in task performance. The concept of bureaucratic reform can be traced back to two main groups. The first group comes from within the bureaucracy itself and aims to create positive changes. The second group consists of individuals outside the bureaucracy who hope for clean, transparent, and accountable bureaucracy in governance [9]. This second group, both from the private sector and the community, hopes that the government can implement good governance, namely effective, efficient, transparent, accountable, and responsible government [10].

Reform can be defined as a gradual agenda of change through various strategies to achieve desired results and targets for promising improvements. Reform can be seen as a transformation from a previously unfavorable state to a better one or as part of an ongoing evolution in line with the progress of time and the demands of the future, which require improvements as a benchmark for achieving satisfaction or success [11]. Based on this definition, bureaucratic reform is an effort to bring about fundamental renewal and changes in the governance system, particularly in terms of implementing excellent services. The reform aimed to move towards a better condition and state. The changes made in reform should lead to a better quality of life for people in all aspects, including politics, economy, social, cultural, and religious life. In other words, reform should aim to enhance society's dignity and welfare [12].

Sedarmayanti [13] states that bureaucratic reform is the government's effort to improve performance through various means, aiming for effectiveness, efficiency, and accountability. There are five lines of thought in bureaucratic reform: institutional arrangement,

management arrangement, human resources/apparatus arrangement, accountability, and public service [13]. Mohamad Thahir Haning, a professor at Hasanuddin University, as cited by Yusuf [14], offers three strategies for comprehensive bureaucratic reform:

1. A government bureaucracy institution, which refers to the structure or institutional arrangement of the state in a specific region, aims to create a cohesive structure that aligns with the conditions of the local population. This reconstruction of institutional structures provides a strong foundation for the smooth implementation of programs that serve the interests of the people.

2. The government administrative system arrangement, which involves the management process and functions within the dynamics of public and private entities (business and society), aims to establish an egalitarian system that prioritizes positive performance in serving the public.

3. Apparatus resources, which focus on renewal strategies to enhance the professionalism and specific capacities of the apparatus, build a governance system based on the specialization of positions and the skills possessed by each individual.

4. **Information Technology**

   The use of information technology is important in the current digital era [15]. Technological advancements have targeted various sectors of human life. Advances in technology are marked by the emergence of modern facilities that facilitate access to information [16].

   The development of Information Technology has driven a new way of life, known as e-life, from the beginning to the end, meaning that life is now influenced by various electronic needs. Referring to Suryana [17], the development of information technology has led to various technology-based activities. Currently, there is a buzz around various words starting with the prefix "e" such as e-commerce, e-government, e-education, e-library, e-journal, e-medicine, e-laboratory, e-biodiversity, and others that are based on electronics [18]. According to Naibaho [19], information technology is used to process data, including processing, obtaining, organizing, storing, and manipulating data in various ways to generate quality information. This information is relevant, accurate, and timely and is used for personal, business, and governmental purposes. This is strategic information for decision-making.

5. **Electronic Procurement (E-Procurement)**

Electronic procurement of goods/services enhances transparency and accountability, improves market access and healthy competition, enhances the efficiency of procurement processes, supports monitoring and auditing, and meets the real-time information access needs to achieve clean and good government procurement. Referring to Hafidz [20], various formulations of the definition of procurement of goods and services have been proposed by experts. Procurement is an activity to obtain goods or services transparently, effectively, and efficiently according to the needs and desires of users. The term "goods" includes equipment and buildings for both public and private interests. Public means that the use of goods is related to the interests of the general public, either in groups or generally, whereas private means that goods and services are used individually or by specific groups.

The legal basis for the establishment of Electronic Procurement Services is Article 73 of Law Number 16 of 2018 concerning the government procurement of goods/services, with operational technical provisions regulated by the Government Procurement Policy Institution Regulation Number 14 of 2018 concerning Electronic Procurement Services. Electronic Procurement Services, in organizing the electronic procurement system, must also meet the requirements as stipulated in Law Number 11 of 2008 concerning Electronic Information and Transactions.

Referring to the official website of the Government Goods/Services Procurement Policy Institution, the government procurement of goods and services electronically can be carried out through e-tendering or e-purchasing:

1. E-Tendering is the procedure for selecting goods/services providers conducted openly and can be participated by all registered goods/services providers in the electronic procurement system by submitting a single bid within the specified time frame.

2. E-purchasing is a procedure for purchasing goods and services through an electronic catalog system.

Changes in regulations regarding e-purchasing are necessary to expedite the Electronic Catalog process. Based on this, Head Regulation of the Government Goods/Services Procurement Policy Institution Number 14 of 2015 concerning e-purchasing was issued. In this regulation, the Electronic Catalog (E-Catalogue) is an electronic information system that contains a list, types, technical specifications, and prices of specific goods/services from various Government Goods/Services Providers. Meanwhile, e-purchasing is defined as the procedure for purchasing goods and services through an electronic catalog system.

The emergence of this policy demands technological advancements, in which information technology plays an important role in implementing bureaucratic reforms. Bureaucratic reform is an essential element of governance for the realization of quality public services and good governance. One of the services provided is the procurement of goods and services, which is carried out using information technology. This is referred to as Electronic Procurement Services, which are the management of information technology to facilitate the implementation of electronic procurement of goods and services. According to the North Kalimantan Governor Regulation Number 16 of 2017, electronic procurement or E-Procurement is the procurement of goods/services carried out using information technology and electronic transactions in accordance with the provisions of the legislation. It is further mentioned that the Electronic Procurement Service, also known as LPSE, is the working unit of a government institution formed to implement the electronic procurement system.

3. Methods

This study uses a literature review method (library research). Referring to Hamzah, library research is part of qualitative research, as this type of research has strong roots in post-positivist philosophy. Therefore, the characteristics of qualitative research need to be transformed into the context of library research by shifting the field setting to the library space, including changing interview and observation activities to text and discourse analysis. According to Hadi et al, library research should be comprehensive, holistic, complete, and thorough. Data collection was conducted by searching library sources, such as books, journals, newspapers, online platforms, and other sources deemed relevant to the research topic. Cross-checking was then performed to test the data validity [21].

Data analysis was conducted from the beginning of data collection based on three main stages: reduction, presentation, and data verification. The final conclusion was drawn only when no further information about the studied case was found. The conclusions drawn will then be verified thoroughly, serving as a framework for the researcher's thinking process and aligning with the available data, reaching optimal consensus among the researcher, information sources, and research team to ensure validity and accuracy [22].

4. Results and Discussion

4.1. Results

The implementation of e-procurement systems has encouraged local governments to innovate to facilitate the public's knowledge and access to the procurement of goods and services through the Internet. According to Purwanto and Habibi [23], e-procurement is a part of bureaucratic reform, particularly in the procurement of goods and services. The most important purpose of e-procurement is to achieve good governance within government institutions. Politically, e-procurement has transformed the relationship between government and its citizens. In the past, the relationship between the state and its citizens was difficult to identify; however, with the presence of e-procurement, the state has become closer and more tangible. Government decisions regarding the procurement of goods and services can now spread easily and quickly, allowing them to be heard and responded to by the public even before decisions are made [24].

Referring to Harjito [25], various benefits have been observed from the implementation of e-procurement systems in local governments, including (1) cost reduction in transactions, which is clearly experienced by local governments. Previously, the procurement or bidding process for goods and services required numerous physical documents. With the implementation of e-procurement, the necessary documents can be uploaded as soft files on the website provided by the Electronic Procurement Service Unit (LPSE), and this process can be conducted anywhere as long as there is internet access. (2) The faster ordering process, as before the implementation of e-procurement, required strict adherence to deadlines and involved lengthy negotiations that often required multiple discussions. With e-procurement, the ordering process is expedited, because information is provided through the website and can be quickly received by the relevant parties. (3) Greater selection of vendors and partners as the government's requirements for goods/services are uploaded online on the LPSE website. This allows all potential providers, regardless of their location, to participate in government procurement. (4) A more efficient and standardized procurement process, as the system only accepts providers who upload the required documents specified by the government agency. (5) Increased control over procurement expenses and employee compliance, as all necessary information is accessible to the public. If there are indications of irregularities in the procurement process, the public can easily evaluate them by accessing the LPSE website. (6) Improved Internet accessibility for buyers, as e-procurement enables buyers from anywhere to easily access information about the government's need for goods/services. (7) Reduction of repetitive administrative procedure documents, as

sometimes the required documents are not only for one official handling procurement within the government agency but also involve other authorized officials who need to be informed about procurement information. With e-procurement, when an official needs information, they can simply open the uploaded files provided by providers, thereby reducing unnecessary administrative procedures.

TABLE 1: Comparison before and after implementing e-procurement.

Application of e-procurement	
Before	After
There are too many physical documents that need to be taken care of. Supplier management will take longer. Recording inventory data becomes long. There are many processes that will overlap each other. Time becomes inefficient.	Automatic. This makes it easier for them because the time allocation becomes more efficient. The whole buying process is even faster. No longer providing physical documents thereby saving employee labor. All descriptions regarding the product can be seen clearly starting from the name, type, size, to the price of the product. Consumers are also easier to find.

Source (Processed, 2023)

The implementation of e-procurement is expected to minimize the potential for fraud in the procurement of government goods and services. This aligns with the goal of implementing Bureaucratic Reform 2020-2024, which aims to create a clean and transparent government. The expected outcomes of Bureaucratic Reform are the establishment of a clean, accountable, and capable government that can serve the public promptly, accurately, professionally, and free from practices of Corruption, Collusion, and Nepotism, as reflected in the three main outcomes of the Bureaucratic Reform program. The three main outcomes of the Bureaucratic Reform 2020-2024 are:1) Clean and Accountable Bureaucracy, 2) Capable Bureaucracy, and 3) Excellent Public Service (Circular Letter from the Head of the Government Procurement Policy Agency of the Republic of Indonesia, Number 4 of 2021).

The implementation of e-procurement can enhance efficiency and effectiveness in the procurement of public goods/services, reduce costs, and increase competition to ensure equal opportunities and treatment. In general, its goal is to ensure integrity, public trust, and transparency in the procedures for procuring public goods/services. According to Kalakota and Robinson [26] e-procurement benefits can be divided into two categories: efficiency and effectiveness. Efficiency in e-procurement includes lower costs, faster procurement processes, better control over purchasing processes, provision of information reports, and the integration of procurement functions as key components of the back-office system. On the other hand, effectiveness in e-procurement

refers to improved control over the value chain, proper management of critical data, and enhanced decision-making quality in the procurement process within organizations.

The benefits of e-procurement are not limited to government agencies or system developers but also extend to goods/services providers and the general public, who wish to have open access to the government's procurement processes. With e-procurement, procurement agencies can receive more bidding offers and simplify administrative processes, while goods/services providers can expand business opportunities, foster healthy competition, provide open opportunities for interested parties, and reduce administrative costs. According to Udoyono [27], the implementation of e-procurement increases the number of procurement participants, leading to increased competition and more accurate market-based pricing. It also reduces the risks faced by the procurement committee, as technology helps to minimize the possibility of intentional or unintentional procedural errors. Furthermore, e-procurement affects the interaction between businesses and the government, changing the way they interact by increasing communication frequency through the e-procurement system while reducing face-to-face meetings.

The adoption of e-procurement as a manifestation of government procurement reform has not been resistant to the bureaucracy itself. Resistance can arise from organizational, group, or individual factors. Organizational factors include structural inertia, threats to established power relationships (conflict and power), and threats to resources. Group factors that cause resistance include workgroup inertia and threats to resource allocation. Individual factors stem from threats to expertise and resource allocation [28]. Tri Djoko Waluyo, the Secretary of the Construction Development Board (BP Konstruksi) at the Ministry of Public Works, stated that the desired changes in bureaucratic reform are not simple (with 8 areas of change) and are likely to evoke individual/group resistance. Therefore, change management is necessary, which involves managing organizational resources to improve performance and addressing the impact on individuals affected by the change process [29].

Referring to the study by Prihastuti [30], technology, human resources, and legal factors are identified as barriers to the implementation of e-procurement. To minimize the influence of these inhibiting factors, readiness of human resources involved in e-procurement and the improvement of facilities and infrastructure are required. Furthermore, according to Soetanto et al [31], significant constraints during the implementation of electronic procurement/e-procurement are observed from a technical perspective. This technical aspect encompasses the facilities, infrastructure, and systems owned by a contracting company for e-procurement implementation. The main challenge

encountered during the procurement process through e-procurement is safeguarding against security system disruptions (viruses or hackers).

Harjito [25] also outlined several challenges that local governments must face in the implementation of e-procurement: (1) technical complexity in terms of privacy, security, standardization, etc.. Online systems are susceptible to system breaches and crimes. Therefore, system security must be a primary concern to ensure that the e-procurement system functions properly and can operate according to its intended purpose, which is to reduce fraudulent activities such as corruption, collusion, and nepotism. (2) Legal issues, such as web information, such as public notifications and digital signatures for procurement documents, require system management expertise and government policies to ensure the legality of documents. These system-related issues can be resolved with the expertise of e-procurement system managers. Therefore, there is a need to enhance human resources in local governments or acquire the necessary expertise to develop an implemented e-procurement system. (3) Payment methods for potential initial development costs and operational expenses, which also pose challenges to system development. Once resources are ready and controlled to manage and develop the e-procurement system, local governments can easily resolve these challenges. (4) Maintain relationships with online vendors and application service providers. It is crucial for government entities that require goods and services to maintain good relationships with suppliers. Professionalism is essential because any special relationship between suppliers and online system providers may lead to fraudulent activities that contradict the purpose of implementing the e-procurement system. (5) Digital divide for small- and minority-owned businesses. Large-scale companies typically participate in government projects. This indirectly excludes small and minority-owned businesses. This poses a challenge for the government to ensure that the e-procurement system is fair and accessible to all individuals and businesses that wish to participate in eradicating corruption within the government.

Quoting Hapiah [32], obstacles in bureaucratic reform through e-procurement include the lack of intensive education and IT literacy among providers of goods and services (contractors) and government officials. Inadequate resources, including human resources, facilities, infrastructure, and budgets, contribute to suboptimal implementation of e-procurement. In terms of human resources, there is limited availability of network and program experts as well as staff acting as administrators, verifiers, helpdesk operators, trainers, and administrative personnel. Regarding facilities and infrastructure, the available servers in the e-procurement system (LPSE) remain insufficient because of the increasing number of districts and municipalities using LPSE. This leads to delays in

downloading bidding and uploading tender documents. In terms of bureaucratic structure, there are weaknesses in the authority of districts and municipalities, particularly in creating operational technical policies, despite the decentralization of e-procurement policy implementation. Finally, many users of LPSE, committees, and contractors lack technological literacy or a comprehensive understanding of the electronic procurement process.

4.2. Discussion

E-procurement is part of bureaucratic reform, particularly in the procurement of goods and services, with the main purpose being to achieve good governance within government institutions. The implementation of e-procurement is expected to minimize the potential for fraud in government procurement processes. E-procurement can improve the efficiency and effectiveness of public procurement, reduce costs, enhance competition, and ensure equal opportunities and treatment. In general, the goal is to ensure integrity, public trust, and transparency in public procurement procedures.

The findings of this study can be seen in the comparison before and after the implementation of e-procurement. 1) Before, there are too many physical documents that need to be considered, supplier management will take longer, recording inventory data becomes long, there are many processes that will overlap each other, and time becomes inefficient. 2) After: Automatic. This makes it easier for them because the time allocation becomes more efficient. The whole buying process is even faster, no longer providing physical documents, thereby saving employee labor; all descriptions regarding the product can be seen clearly starting from the name, type, size, to the price of the product, and consumers are also easier to find.

The benefits of e-procurement are not only for the institutions and system developers themselves but also for the providers of goods and services and the general public, who wish to access information about government procurement processes.

Although its application has several benefits, it also faces obstacles. This is in line with the results of Soetanto et al. [31] , who state that the implementation of e-procurement cannot be separated from the obstacles that must be faced. In this study that the author conducted, the obstacles encountered in the implementation of e-procurement can be described as follows:

The adoption of e-procurement as a form of government procurement reform is not without resistance from the bureaucracy itself. Resistance can arise from organizational, group, or individual factors. Organizational factors may manifest as structural inertia,

threats to established power relationships (conflicts and power struggles), or threats to resources. Group factors that contribute to resistance include workgroup inertia and threats to resource allocation. Individual factors stem from threats to expertise and resource allocation.

Several challenges faced by local governments in implementing e-procurement include technical complexities related to privacy, security, standardization, and others. Online systems are vulnerable to system breaches and criminal activity. Legal issues, such as web information as public notifications and digital signatures for procurement documents, require system management expertise and government policies to ensure the legality of documents. Payment methods for initial development costs and operational expenses also pose challenges to system development. Additionally, the digital divide presents a challenge, as small and minority-owned businesses are generally unable to participate in government projects, which are mostly undertaken by large-scale companies. This indirectly excludes small and minority-owned businesses. It is a challenge for the government to maintain and design an e-procurement system that is fair and accessible to the entire population who wish to participate in combating corruption within the government.

The significant constraints during the implementation of electronic procurement (e-procurement) are primarily related to technical aspects. These technical aspects include the facilities, infrastructure, and resources possessed by a contracting company to carry out e-procurement. The main constraint that occurs during the procurement process through e-procurement is protection against system application security breaches (viruses or hackers).

5. Conclusion

E-procurement is part of bureaucratic reform, particularly in the procurement of goods and services, with the main purpose being to achieve good governance within government institutions. The implementation of e-procurement is expected to minimize the potential for fraud in government procurement processes. E-procurement can improve the efficiency and effectiveness of public procurement, reduce costs, enhance competition, and ensure equal opportunities and treatment. Overall, the goal is to ensure integrity, public trust, and transparency in public procurement procedures.

The significant challenges in implementing e-procurement during the electronic procurement of goods and services are mainly related to technical aspects, including facilities, infrastructure, and protection against system application security breaches

(viruses or hackers). Other challenges include the digital divide and inadequate human resource support. The adoption of e-procurement as a form of government procurement reform is not without resistance from the bureaucracy itself. Resistance can arise from organizational factors, such as structural inertia, threats to established power relationships (conflicts and power struggles), and threats to resources. Group factors that contribute to resistance include workgroup inertia and threats to resource allocation. Individual factors stem from threats to expertise and resource allocation.

Based on the findings of this study, recommendations include the provision of facilities and infrastructure to support the implementation of bureaucratic reform in procurement, periodic socialization of the importance of e-procurement, and the need to design e-procurement systems that are fair and accessible to the entire population, wishing to participate in combating corruption within the government. Greater commitment from policymakers involved in the electronic procurement of goods and services is necessary, and equally important is change management, aimed at building common perceptions, commitment, consistency, and engagement in the implementation of bureaucratic reform programs and activities.

Departing from these constraints, it is important to provide facilities and infrastructure for the implementation of bureaucratic reform in the field of procurement, regular outreach about the importance of e-procurement, and the need to design an e-procurement system that is fair and accessible to the public. For this reason, greater commitment is needed from policymakers involved in the procurement of goods and services electronically, including change management, which aims to build a common perception, commitment, consistency, and involvement in the implementation of bureaucratic reform programs and activities.

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