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ARTIFICIAL INTELLIGENCE IN BUREAUCRATIC TRANSFORMATION: AN ANALYSIS OF ITS UTILIZATION AMONG CIVIL SERVANTS IN GOWA REGENCY

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Abstract

This study aims to analyze the use of Artificial Intelligence (AI) in the completion of the work of the State Civil Apparatus (ASN) in Gowa Regency. The approach used was descriptive quantitative with data collection through questionnaires and semi-structured interviews. The research was carried out from January to March 2025 in several Regional Apparatus Organizations (OPDs) that have adopted digital systems. The results of the study show that most civil servants have utilized AI, especially in simplifying administrative tasks, data processing, and automated reporting systems. The use of AI has been proven to increase the efficiency and productivity of civil servants. However, AI implementation still faces obstacles, such as low digital literacy, limited infrastructure, resistance to work culture, and the absence of comprehensive supportive regulations. This study recommends increasing technical training, strengthening digital infrastructure, and formulating internal policies as strategies to strengthen the use of AI in the government environment. With optimal utilization, AI can become an instrument of bureaucratic transformation that is more adaptive, responsive, and oriented towards high-performance public services.

Keywords: Artificial Intelligence, ASN, work efficiency, digital transformation, Gowa Regency

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INTRODUCTION

The rapid development of digital technology has brought significant changes in various sectors of life, including the government sector. One of the technological innovations that has received great attention in the past decade is Artificial Intelligence (AI). This technology has proven its ability to automate work processes, improve operational efficiency, and support more accurate and faster decision-making (Irdawati et al., 2021). The government as a large bureaucratic entity cannot avoid this trend. In fact, the application of AI in the public sector is very strategic to improve the quality of services to the community and optimize the performance of the State Civil Apparatus (ASN).

Gowa Regency as one of the buffer areas of Makassar City in South Sulawesi Province has complex challenges in managing governance and public services. With a large area and an ever-increasing population, the need for fast, efficient, and accountable public services has become increasingly urgent. In this context, the use of AI-based technology can be a potential solution to support the completion of ASN work, both in administrative aspects, public services, and internal management of local governments (Dewi et al., 2025).

ASN as the spearhead of the implementation of public policies at the regional level is required to work more adaptively to the changing times. The completion of ASN work, which used to rely heavily on manual and administrative processes, is now starting to transform towards digital. However, the adoption of digital technology in the ASN environment does not necessarily eliminate various classic problems, such as slow bureaucracy, duplication of tasks, lack of data accuracy, and weak internal supervision systems. Therefore, AI integration is expected to be able to change the work pattern of civil servants to be more responsive, data-based, and performance-oriented (Ansar et al., 2024).

In practice, AI can be used in various aspects of completing ASN work. Examples are the automation of correspondence and personnel administration through chatbots, population data processing through machine learning, and the use of predictive analytics systems for strategic decision-making (Nas et al., 2025). This technology can also increase efficiency in reporting systems, financial supervision, and the delivery of public services that are more personalized and responsive to the needs of the community. AI is even able to help detect irregularities in budget management or abuse of authority, which in turn can strengthen the principles of good governance (McCarthy, 2007).

Even so, the implementation of AI in the government bureaucratic environment is not without challenges. First, the low digital literacy among civil servants causes resistance to technology adoption. Second, the lack of comprehensive regulations related to the use of AI in the public sector can raise doubts in its use. Third, uneven digital infrastructure and limited budgets for digital transformation also hinder the acceleration of AI utilization. In addition, the aspect of data security and the ethics of using AI are also important issues that must be considered so that the application of this technology does not cause negative effects in the future (Rhena J & Hardiyono, 2022).

So far, research related to the use of AI in the public sector in Indonesia is still relatively minimal, especially at the regional level such as Gowa Regency. Most studies are still focused on big cities or central government agencies. Therefore, this research is important to provide a more specific and contextual picture of how AI is used in the completion of ASN

work in the local government environment, as well as the extent to which this technology has an impact on the efficiency and effectiveness of ASN performance.

This research also answers the need to present evidence-based policies in the development of digitization of public services. By understanding the real conditions of AI implementation in Gowa Regency, it will be easier for policymakers to determine the direction and strategy of technology implementation in accordance with regional needs and capacity. In addition, this research can also make a theoretical contribution to the development of e-government studies and public sector performance management in the digital era (Latief et al., 2024).

Conceptually, this study combines information technology approaches and public performance management to see the relationship between variables such as the level of AI utilization, the work efficiency of ASN, ASN's perception of technology, as well as supporting and inhibiting factors in the technology adoption process. The data obtained can later be the basis for designing ASN capacity development strategies, improving digital infrastructure, and drafting regulations that support the responsible and sustainable use of AI (Fatmawaty et al., 2024).

Furthermore, the context of Gowa Regency as the object of research is also very relevant. The Gowa Regency Government in recent years has shown a commitment to bureaucratic digitalization through programs such as e-offices, smart villages, and command centers. However, the effectiveness of these programs in supporting the performance of civil servants still needs to be studied more deeply, especially in the context of the use of AI as a driver of efficiency and accountability. This research can be used as an evaluation material for digitalization programs that have been and are running, as well as the basis for the development of innovations in the future (Amurullah et al., 2025).

Based on this description, this study aims to analyze the extent of the use of AI in the completion of ASN work in Gowa Regency, including the form of implementation, its impact on ASN performance, and the obstacles faced. It is hoped that the results of this research can provide applicable and strategic policy recommendations for strengthening the digital transformation of regional bureaucracy, as well as become a reference for future research in the same field.

METHODOLOGY

This study uses a descriptive quantitative approach with the aim of analyzing the use of Artificial Intelligence (AI) in the completion of the work of the State Civil Apparatus (ASN) in Gowa Regency. This approach was chosen because it allows researchers to describe systematically, factually, and accurately the phenomenon being studied based on numerical data obtained from respondents.

The research locations were carried out in several government agencies within the scope of the Gowa Regency Government, such as the Regional Secretariat, the Communication and Information Service, the Personnel and Human Resources Development Agency (BKPSDM), as well as technical agencies that have started to implement AI-based digital systems. The research implementation time lasted for three months, namely from January to March 2025.

The population in this study is all civil servants who work within the Gowa Regency Government. The sampling technique uses the purposive sampling method, which is by selecting civil servants who are directly involved in the use of technology-based work systems, especially those related to AI. The sample taken is estimated to be as many as 100 respondents from various agencies, positions, and different work units to ensure data representation.

The data collection instrument used a questionnaire with a 5-point Likert scale to measure perception, intensity of AI utilization, and its impact on work efficiency. In addition, semi-structured interviews were also conducted with several key informants such as the head of the agency and information technology management officials to dig up in-depth information related to AI implementation strategies and obstacles.

The data obtained was analyzed using descriptive statistical techniques to see the frequency, percentage, and average distribution of each indicator. To support the accuracy of the results, a validity and reliability test was carried out on the research instrument. The results of the analysis will be presented in the form of tables, graphs, and narrative interpretations to provide a comprehensive picture of the use of AI in supporting the completion of ASN work in Gowa Regency

RESULTS AND DISCUSSION

The results of the study show that the use of *Artificial Intelligence* (AI) in completing ASN work in Gowa Regency has begun to be implemented, although it is still in the early stages and limited to several fields and certain work functions. In general, the use of AI is focused on the efficiency of administration, data processing, and automation-based digital public services.

From the quantitative data collected through the questionnaire, it is known that most civil servants (78%) stated that they have used AI-based systems in certain tasks such as digital document management, automatic report preparation, and cloud-based archiving with a recommendation system. Respondents also confirmed that the most commonly used AI-based applications are *chatbots*, staffing services, and *e-office systems*, which are integrated with automatic reminder and work activity analytics features.

In terms of work efficiency, more than 65% of civil servants stated that AI technology helps them complete work faster and more accurately than conventional methods. The use of AI allows for a significant reduction in administrative burden. For example, the process of creating monthly reports that used to take 2-3 days can now be completed in just a matter of hours with the help of an automated recommendation system.

However, the results of interviews with information technology management officials in several agencies show that the effectiveness of the use of AI is highly dependent on the readiness of infrastructure and the competence of civil servants. Some civil servants still do not understand the optimal use of AI, in fact, most only use basic features without exploring the potential of AI further such as *predictive analytics* or system integration between work units.

Thematically, the discussion of the results of this research is classified into five main aspects: the level of technology adoption, the perception of ASN towards AI, the impact on work efficiency, implementation constraints, and future development strategies.

1. Adoption Rate of AI Technology

The level of AI adoption in the Gowa Regency ASN environment can be said to be still at a medium level. Several agencies that are classified as proactive such as the Communication and Informatics Service and BKPSDM have adopted AI in the reporting system, electronic attendance, and personnel data management. However, other technical agencies such as the Department of Agriculture and the Department of Trade are still limited to the use of applications based on ordinary information systems, not specific AI.

This study found that the difference in adoption rates was influenced by the level of digital literacy of employees and the initiatives of OPD leaders. OPDs led by digitally literate service heads tend to be more open to the use of AI and accelerate the adoption process. This is in line with the *Technology Acceptance Model* (TAM) theory which states that the perception of convenience and benefits affects the intention of technology adoption.

2. ASN's Perception of the Utilization of AI

Most ASN in Gowa have a positive perception of the use of AI. They consider that AI is an effective work tool and is able to reduce repetitive workloads. In the survey, as many as 70% of respondents said that AI makes it easier to complete routine tasks and improves the accuracy of work results. However, there are still around 20% who are worried that AI can replace the role of humans in some administrative functions, especially for civil servants with certain functional positions.

These varied perceptions point to the need for an educational approach and continuous training for civil servants so that they not only become passive users, but also understand the potential of AI as a collaborative work tool, not a substitute for humans.

3. The Impact of AI on Work Efficiency and Productivity

The real impact of AI on the work efficiency of civil servants can be seen from several performance indicators. For example, the duration of routine task completion time such as correspondence, minutes, and data recapitulation decreased significantly. Based on the survey results, as many as 68% of civil servants admitted that they were able to complete daily work faster since using an AI-based system. In addition, work productivity also increases as AI helps reduce manual errors, speed up the information retrieval process, and improve collaboration across work units through integrated systems. These findings support previous research showing that the adoption of AI-based technologies positively correlates with improved performance of public sector organizations.

4. Obstacles in AI Implementation

Although AI brings many benefits, its implementation cannot be separated from a number of challenges. The results of the interviews show four main obstacles, namely:

- 1) Lack of technical training and assistance: Many civil servants are not equipped with technical understanding related to the operation of AI systems.
- 2) Limited digital infrastructure: Unstable internet networks and outdated hardware hinder the smooth use of the system.
- 3) Resistance to work culture: There are still civil servants who are reluctant to change and are more comfortable with the conventional work system.
- 4) There is no clear regulatory policy yet: The use of AI has not been supported by an internal legal umbrella that governs operational standards and data accountability.

These obstacles are an inhibiting factor in optimizing the use of AI as a work tool for civil servants in Gowa Regency.

5. Future AI Development Strategies

Based on the results of the study, several strategies are recommended to increase the use of AI, including:

- 1) Continuous training and strengthening of ASN digital literacy through collaboration with universities or technology providers.
- 2) The development of digital infrastructure evenly across all OPDs to ensure the availability of adequate access and devices.
- 3) The implementation of a reward system for work units that successfully implement AI optimally to encourage innovation.
- 4) Formulation of internal regulations that regulate the use of AI, data security, and ethical principles in the use of technology in the public sector.

The implementation of this strategy is believed to accelerate the digital transformation of civil servants in Gowa Regency while improving overall bureaucratic performance.

CONCLUSION

This study shows that the use of Artificial Intelligence (AI) in completing ASN work in Gowa Regency has made a positive contribution to work efficiency and productivity. ASN feels significant benefits in completing administrative tasks more quickly, accurately, and systematically. However, AI implementation still faces various challenges, such as limited digital literacy, suboptimal infrastructure, and the absence of comprehensive supporting regulations. The level of AI adoption also varies between agencies, depending on leadership readiness and technology support. Therefore, a sustainable strategy is needed in the form of training, internal policy development, and digital infrastructure investment to optimize the use of AI in the government sector. With the right approach, AI has the potential to become a catalyst for bureaucratic transformation that is more adaptive, responsive, and oriented towards effective public services in Gowa Regency.

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