E-Government Innovation Model in Improving the Quality of Public Administration Service in Deli Serdang Regency

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Abstract

The development of information technology has encouraged local governments to undertake digital transformation in public service delivery. E-Government has emerged as an innovative strategy to improve the quality of public administrative services, ensuring they are effective, efficient, transparent, and accountable. This study is a conceptual research aimed at analyzing E-Government innovation models in enhancing the quality of public administrative services in Deli Serdang Regency. The research method employed is a literature study with a conceptual approach to E-Government theory, public service innovation, information system quality, and digital government policy. The results of the study indicate that the implementation of E-Government in Deli Serdang Regency contributes to the acceleration of administrative processes, improvement of bureaucratic work efficiency, and enhancement of service quality for the community. Nevertheless, E-Government implementation still faces challenges such as limited human resources, digital literacy, and system integration. Therefore, strengthening apparatus capacity and developing integrated systems are crucial factors in supporting the success of E-Government innovation in Deli Serdang Regency.

Keywords: *E-Government, Public Service Innovation, Public Administration, Service Quality, Local Government.*

I. INTRODUCTION

Public service is a core aspect of service for state officials according to the 1945 Constitution, paragraph 4, which is to protect the entire Indonesian nation and all of Indonesia's homeland, promote the general welfare, educate the nation's life, and carry out world order based on independence, eternal peace, and social justice (Putu & Widanti, 2022). One effort undertaken is the implementation of E-Government as part of bureaucratic reform and digital transformation in governance. Ongoing developments in information and communication technology continue to drive activities toward constant change. The government implements E-Government as a stage in facing the changes that occur in delivering public services to the community. This form of service becomes more flexible and increases satisfaction for both users—the public—and the government itself. Services provided within the E-Government system make service operations and government processes more transparent and effective for the public and businesses, while offering numerous benefits such as reduced service time and easier access to government information (Kassim et al., 2021)

E-Government is the use of information and communication technology (ICT) in government administration aimed at encouraging active public participation in public decision-making (Ramadhani et al., 2024)

The implementation of E-Government is understood as a strategic instrument to improve bureaucratic performance. The main focus is not just on the availability of applications, but on the ability of technology to break the rigid bureaucratic chains so that public services become more agile and transparent (Yamin & Nur Fietroh, 2024)

Deli Serdang Regency, as one of the regions with high levels of governmental activity and public services, has developed various E-Government innovations to improve the quality of public administration services. The implementation of digital-based information systems in various administrative sectors is part of the local government's efforts to support modern and responsive public services. The implementation of digital information systems is not merely about replacing paper with PDF files but involves dematerialization (Ramadhani et al., 2024)

Although E-Government innovation has been implemented, the effectiveness and quality of public administration services produced still require conceptual study. Therefore, this research is important to analyze E-Government innovation models and their contribution to improving the quality of public administration services in Deli Serdang Regency.

This study is expected to provide a deeper understanding of E-Government innovation models as well as contribute to the development of policies and public service practices in the community sector.

II. RESEARCH METHODOLOGY

A. Public Administration

Public administration is the process of running government with the aim of regulating and serving the interests of the community through policies and public services. According to (Ditasman dan Amrulah, 2023), the quality of public administration reflects the extent to which the government is able to meet the needs of society effectively and efficiently. Therefore, public service becomes an important indicator in assessing the performance of local government.

The government, as a provider of public services needed by the community, must be responsible and continuously strive to provide the best services for the improvement of public services (Rukayat, 2018)

B. Public Service

Quality public services are characterized by clear procedures, fast service times, transparent costs, and a professional attitude of the personnel (Pundenswari et al., n.d.). However, in practice, public administration services still often face problems such as complicated bureaucracy and slow service processes, thus requiring innovation in the delivery of public services.

C. E-Government Concepts And Innovations

E-Government is the utilization of information and communication technology by the government to improve the quality of public services, administrative efficiency, as well as governmental transparency and accountability. According to (Ramadhani et al., 2024), e-government not only functions as an information medium but also as a means of delivering public administrative services digitally that can be widely accessed by the public.

The implementation of E-Government at the regional government level aims to accelerate service processes, reduce face-to-face interactions, and minimize the potential for maladministration (Iryanto et al., 2021). Thus, E-Government becomes an important instrument in supporting bureaucratic reform and enhancing public trust in the government.

D. E-Government Innovation Model

The E-Government innovation model explains the stages of developing digital services within government. (Noman & Emanuel, 2024) state that the E-Government maturity model depicts the development of digital services, starting from providing information, interaction between the government and the public, to integration of services across agencies.

In addition, the smart governance approach is also an E-Government innovation model that emphasizes inter-agency collaboration, the use of digital technology, as well as public participation in public services (Al-Kafiah & Khaerani, 2022). Through this model, public administration services are expected to become more transparent, responsive, and oriented towards the needs of the community.

E. Quality Of Public Administration Services Based On E-Government

The quality of public administration services based on E-government can be measured through service speed, ease of access, clarity of procedures, data security, and public satisfaction. (Pundenswari et al., n.d.) states that implementing digital service systems can increase time efficiency and reduce bureaucratic obstacles in public administration services. The Servqual approach is also often used to assess the quality of digital public services, which includes aspects of reliability, responsiveness, assurance, empathy, and physical evidence of services (Ramadhani et al., 2024). With the implementation of innovative E-Government, the quality of public administration services can significantly improve, although challenges such as limited infrastructure and public digital literacy still exist.

The indicators used to measure the quality of e-health public services based on electronic government are: ease of use (personalization, navigation, and technical efficiency), trust, reliability, content and information display, and citizen support. The method used in the study was qualitative with a literature review. The results of the study indicate that, based on analysis using the E-GovQual indicators which include ease of use (navigation, personalization, technical efficiency), trust, reliability, content and information display, and citizen support, the E-Health program has been able to improve the quality of public health services in Surabaya City and can address existing problems Dhani et al n.d, 2021).

F. Research Type And Approach

This research uses a conceptual research method with a literature study approach. Research data were obtained from various bibliographic sources, such as textbooks, scientific journals, official government reports, as well as laws and regulations related to E-Government and public services. The data analysis technique was carried out descriptively and qualitatively by reviewing, comparing, and interpreting concepts, theories, and findings from previous research to gain a comprehensive understanding of E-Government innovation in improving the quality of public administration services.
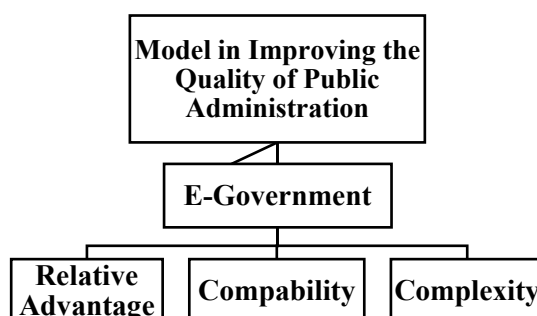
G. Operational Definitions

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Tabel 1 Operational Definitions Table

Variable/ Dimension	Definition	Research Instruments
E-Government Innovation Mode	The transformatio n of government business processes from manual to digital that is integrative, inclusive, and adaptive to the needs of the Deli Serdang community.	Reliability of servers, public internet networks, and integrated applications.
Quality of Public Administratio n Services	The degree of alignment between the digital services provided by the Regency Government and the expectations and satisfaction of the beneficiary community	Ease of interface navigation (UI/UX) of the service applications/ websites.

Source: Processed Data, 2025

H. CONCEPTUAL FRAMEWORK

Gambar 1 Conceptual Framework

III. DICSUSSION

A. E-Government Innovation Model

Based on a literature review, the E-Government innovation model in Deli Serdang Regency not only focuses on document digitalization but also encompasses three main pillars of innovation:

1. Process Innovation (Back-Office), Modernization of internal bureaucracy through an electronic correspondence system and data integration between agencies. This aims to shorten the long bureaucratic chain.

2. Service Innovation (Front-Office), Development of platforms such as online population document ordering applications or digital one-stop services that allow the public to access services without having to be physically present.

3. Conceptual Innovation, A paradigm shift from a "government that is served" to a "government that serves" through transparency in tracking the status of applications in real-time.

B. The Role of E-Government in Service Quality

The implementation of E-Government can accelerate administrative processes, reduce the use of physical documents, and improve the efficiency of government personnel. E-Government plays a central role as a catalyst for efficiency in the bureaucracy of the Deli Serdang Regency government. Efficiency here not only means cost savings but also the optimization of time and human resources. Conceptually, E-Government innovation transforms paper-based administration into digital (paperless) administration. For example, savings on the budget for office stationery procurement and physical archive space. And the logistics costs of document delivery and the community's efficiency in spending transportation costs also play a very important role. The role of E-Government also overcomes the barriers of distance and office operational time, where E-Government functions in 24/7 Services and Process Automation. In this E-Government, it also provides Transparency and Elimination in administration closely related to the removal of unofficial costs such as extortion or 'broker' services, because every stage of the process is transparently monitored through a tracking system.

C. The Impact of E-Government on the Quality of Public Services

The implementation of this innovation model conceptually has a significant impact on four dimensions of service quality:

1. Efficiency, Reduction in waiting time (more definite SOPs) and reduction in operational costs for the public (transportation costs).
2. Transparency, Reduces the practice of illegal fees (extortion) because face-to-face interactions between officials and applicants are drastically minimized.
3. Accountability, Every administrative process is recorded in the system log (digital footprint),

making it easier to audit and supervise the performance of officials.

4. Accessibility, Services can be accessed 24/7 via mobile devices, reaching remote areas in Deli Serdang as long as there is internet access.

D. Challenges in Implementing E-Government

The challenges in implementing E-Government include:

1. Gap

People, especially in rural areas of Deli Serdang, have difficulty accessing services due to inadequate network coverage compared to residents of Deli Serdang who live close to the city.

2. Digital Literacy

The ability of the public and government officials to operate the system.

3. Silo Mentality

The difficulty of integrating data between different departments due to differing data formats.

IV. CONCLUSION

Conceptually, the E-government innovation model in Deli Serdang Regency plays an important role in improving the quality of public administration services. The application of information technology can enhance efficiency, transparency, and service effectiveness. However, the success of E-Government largely depends on the readiness of human resources, technological infrastructure, and the commitment of local government policies.

V. RECOMMENDATIONS

Conceptually, efforts by local governments are needed to improve the capacity and competence of officials in managing E-Government. The development of the E-Government system must be carried out in an integrated manner. The implementation of cybersecurity, considering service quality and data security, requires the government to ensure a data protection system. The community is assured to boost public trust. Strengthening automatic features in public service application processes so that the public can truly access services anytime without being limited by working hours. Thus, the implementation of E-Government is expected to create a more effective and efficient service ecosystem for the community. However, there are several strategic recommendations to improve the quality of public administration services:

1. Integrated System (Single Sign-On), It recommended that the Deli Serdang Regency government consolidate various service applications, which are still sectoral, into a single integrated platform. This is important to avoid data redundancy and make it easier for the public to access various services with just one user account.

2. Enhancing Digital Infrastructure in Rural Areas, Given the vast area of Deli Serdang, there needs to be a strengthening of internet network infrastructure, especially in rural areas. Providing public hotspots or enhancing the role of village offices as digital service centers (e-villages) will greatly help communities with limited access to devices.

3. Community Digital Literacy: Technological innovation must be accompanied by continuous education. Massive socialization regarding the proper use of public service applications needs to be conducted to prevent a digital divide.

4. Data Security and Periodic Evaluation: There is a need to strengthen cybersecurity systems to protect citizens' personal data. In addition, the government should open real-time feedback channels to periodically evaluate the effectiveness of innovations based on user experiences.

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