Review Article

E-Government Transformation Towards E-Governance in Public Service Processes at the Population and Civil Registration Office of Gresik Regency

Baharuddin Kasim[1], Dian Ferriswara[2*], Enny Haryati[3], Sri Kamariyah[4]

[1] Prodi Ilmu Administrasi Jenjang S2, Fakultas Ilmu Administrasi, Universitas Dr. Soetomo Surabaya, Indonesia: llabastum@gmail.com

[2] Prodi Ilmu Administrasi Jenjang S2, Fakultas Ilmu Administrasi, Universitas Dr. Soetomo Surabaya, Indonesia: dianferriswara@unitomo.ac.id

[3] Prodi Ilmu Administrasi Jenjang S2, Fakultas Ilmu Administrasi, Universitas Dr. Soetomo Surabaya, Indonesia: enny.haryati@unitomo.ac.id

[4] Prodi Ilmu Administrasi Negara S1, Fakultas Ilmu Administrasi, Universitas Dr. Soetomo Surabaya, Indonesia: sri.kamariyah@unitomo.ac.id

* Corresponding Author: dianferriswara@unitomo.ac.id

Abstract: This study aims to analyze the Transformation of E-Government Towards E-Governance in the Public Service Process at the Population and Civil Registration Office of Gresik Regency. The utilization of information technology in public services is one of the government's efforts to improve administrative efficiency, transparency, and the quality of services provided to the public. This research employs a qualitative approach with a descriptive method to provide an in-depth depiction of the implementation of E-Governance in population administration services. Data collection techniques include interviews, observations, and documentation, while data analysis follows the stages of Grouping the data according to key constructs, Identifying bases for interpretation, Developing generalizations from the data, Testing alternative interpretations, and Forming and/or refining generalizable theory from the case study. The results indicate that the implementation of the Transformation of E-Government Towards E-Governance in the Public Service Process at the Population and Civil Registration Office of Gresik Regency is carried out through several key dimensions, namely E-Administration, E-Service, and E-Society. The E-Administration dimension is reflected in the use of digital-based administrative systems for managing population data and processing document applications electronically. The E-Service dimension shows that online services provide easier access for the public to manage population documents more quickly and efficiently. Meanwhile, the E-Society dimension demonstrates an increased utilization of information technology by the public in accessing population administration services. Nevertheless, the implementation of digital services still faces several challenges, such as limited digital literacy among the public and uneven internet access. This study concludes that the application of E-Governance in population administration services in Gresik Regency has made a positive contribution to improving the quality of public services through the utilization of information technology.

Keywords: E-Governance; Local Government; Online Service; Population Administration; Public Service.

1. Introduction

The development of information and communication technology (ICT) has brought significant changes to various aspects of society, including the system of government administration. The rapid advancement of information and communication technology (ICT) has triggered a digital transformation that shifts human life patterns from analog to digital across various sectors such as business, education, healthcare, and governance. This revolution enhances efficiency, global connectivity, and easier access to information. However, digital transformation also presents serious challenges, including data security risks, technology dependency, and potential disparities.

Digital transformation has emerged as a key catalyst for reform in contemporary public administration, reshaping how governments design, deliver, and evaluate public services. It has become one of the strategic agendas in global public administration. Digitalization is not only understood as a technical change but as a transformational process that affects organizational structures, work patterns, and the relationship between government and society. Recent literature emphasizes that digital technology has become a major driver of bureaucratic reform in the era of digital governance (Kasim et al., 2025).

Governments worldwide are required to leverage digital technology to improve governance effectiveness and the quality of public services. The use of information technology in government administration is known as electronic government (E-Government), which involves employing digital technology, particularly the internet and information systems, to provide government services to citizens more quickly, efficiently, and transparently. E-Government is a crucial strategy for bureaucratic reform and public administration modernization. Through E-Government, governments can improve public service processes, accelerate information flow, and enhance interaction with citizens, businesses, and other governmental institutions. E-Government implementation also enables digital interactions between government and citizens (Government to Citizen/G2C), government and businesses (Government to Business/G2B), government and other government institutions (Government to Government/G2G), and government and its employees (Government to Employee/G2E).

In Indonesia, E-Government implementation has become an important agenda within bureaucratic reform. This is marked by the issuance of Presidential Instruction Number 3 of 2003 on National Policy and Strategy for E-Government Development, which emphasizes the importance of using information technology to improve public service quality. This policy aims to create good governance through increased efficiency, effectiveness, transparency, and accountability in government administration.

Alongside technological developments and growing public demand for fast and transparent services, the concept of E-Government has evolved toward a broader concept, E-Governance. While E-Government focuses on using information technology for administrative services, E-Governance emphasizes using digital technology to enhance citizen participation, inter-agency collaboration, and transparency in governmental decision-making processes. According to Heeks (2006), E-Governance involves using information technology not only to improve government service efficiency but also to strengthen relationships between government, citizens, and the private sector in governance processes.

In the context of modern public administration, E-Government implementation is not only oriented toward digitalizing administrative services but also toward broader governance transformation. This concept then evolves into E-Governance, which uses information technology to improve interaction, participation, transparency, and collaboration between government, citizens, and the private sector in governance processes. Heeks (2006) identifies three main objectives of E-Governance: increasing government process efficiency (e-administration), strengthening relationships between government and citizens through digital services (e-services), and fostering broader interaction between government and civil society (e-society). Thus, E-Government can be seen as part of E-Governance focused on administrative services, while E-Governance encompasses a broader dimension of digital governance.

Agangiba and Agangiba (2013) explain that E-Governance is essentially an extension of E-Government that prioritizes citizen-oriented governance, bringing citizens closer to government decision-making. This expansion of E-Government capacity indicates a transformation from providing information and services toward accommodating citizen participation from department-oriented E-Government to citizen-focused E-Government all

of which represents the transition from E-Government to E-Governance, emphasizing citizen participation and addressing citizen needs (Anthopoulos & Reddick, 2015).

The development of E-Government toward E-Governance can also be seen through the E-Government development model proposed by Layne and Lee (2001). This model describes that E-Government implementation generally progresses through four main stages: cataloguing (information), transaction (service transactions), vertical integration (integration across government levels), and horizontal integration (integration across government functions). At the horizontal integration stage, government service systems are fully interconnected, enabling integrated public services oriented toward citizen needs.

The transformation from E-Government to E-Governance reflects a paradigm shift in governance, from a traditional hierarchical bureaucratic model to a more open, participatory, and collaborative governance model. In this context, digital technology functions not only as an administrative tool but also as a means to enhance the quality of interaction between government and citizens. The transition toward E-Governance becomes increasingly important as public demands for fast, transparent, and accessible services grow. Citizens today not only expect administrative efficiency but also demand transparency, participation in decision-making processes, and government accountability in public service delivery.

One vital public service sector is population administration, managed by the Population and Civil Registration Office (Disdukcapil). Population administration services include critical documents such as Identity Cards (KTP), Family Cards (KK), birth certificates, death certificates, and other civil registration documents. These documents are strategic because they serve as the basis for citizens to access other public services, including education, healthcare, banking, and social services. In practice, population administration services in various regions still face issues such as slow service processes, complex bureaucratic procedures, limited information access, and low transparency in service delivery. These conditions can result in public dissatisfaction with government services.

To address these problems, the government, through Disdukcapil, has begun developing digital service innovations through E-Government implementation. Digitalizing population administration services allows citizens to access services online without visiting service offices physically. Moreover, utilizing population information systems improves data accuracy, speeds up service processes, and minimizes the potential for maladministration. In the context of population administration services, the transformation toward E-Governance is crucial to ensure that public services are not only administratively efficient but also transparent, accountable, and responsive to citizen needs. This aligns with good governance principles, emphasizing transparency, participation, accountability, and effectiveness in government administration.

Therefore, research on the transformation from E-Government to E-Governance in public service processes at Disdukcapil is essential. This study aims to provide insights into the extent to which E-Government implementation has evolved into E-Governance in population administration services and to identify factors influencing the success of this transformation. The study is also expected to contribute to the development of government policies and strategies to enhance the quality of digital public services, particularly in population administration.

Studies on E-Government have been conducted across various disciplines, including public administration. However, field research in E-Governance, which emerged later, remains relatively limited. Previous studies indicate that E-Government in public services can increase service efficiency and accelerate administrative processes. Additionally, digital public services can improve information transparency and facilitate public access to government services. Nonetheless, E-Government implementation still faces challenges such as limited ICT infrastructure, low digital literacy among citizens, and constraints in human resources managing digital systems (Waloni et al., 2025).

Digital platforms have improved accessibility to population administration services. However, challenges remain, including limited public understanding of digital applications and the need to improve service system quality (Kurniawan et al., 2022). E-Government implementation has progressed well, supported by value (value) and policy support (support). Yet, weaknesses in capacity such as limited human resources and ICT infrastructure need improvement to optimize public services (Nurjanna & Ivanna, 2025). Digital population administration services have accelerated public service delivery, though issues remain, including insufficient public outreach and infrastructure limitations affecting service optimization (Yusron et al., 2022).

In the E-Governance domain, Siar (2005) notes that in the Philippines, there was a significant increase in municipal government websites to accelerate development. Websites are crucial for E-Governance because they can support service quality, speed, transparency, citizen participation in decision-making, and engagement of government, citizens, businesses, and civil society in governance processes. However, website adoption for E-Governance was minimal, and features for promoting citizen engagement in policymaking were largely neglected, limiting citizen interaction with the government.

While Siar (2005) highlights government-side issues in E-Governance, Zeka (2014) shows that Istanbul municipal government attempted a hybrid service system (online, phone, and in-person) as part of E-Governance initiatives. Yet, citizen participation electronically remained low, as people preferred conventional methods. Zeka's study evaluated city websites from three perspectives: information sharing, e-service delivery, and public participation in decision-making. Analysis showed high efficiency in providing information, service descriptions, news, projects, planning, investment, and budgeting, positively affecting institutional transparency. However, transactional and participatory interactions between government and citizens were still very low despite available service facilities.

From this discussion, a research gap remains regarding how E-Government can effectively improve public service quality in population administration. Therefore, this study aims to analyze in-depth the implementation of E-Government public services and how these systems enhance service quality at Disdukcapil. The study is expected to provide a comprehensive understanding of factors influencing successful E-Government implementation in improving public service quality in population administration.

Given this context, improving public service quality through E-Government implementation is crucial, especially in population administration. This study aims to analyze how E-Government is applied to enhance public service quality in government agencies providing population administration services. Additionally, the study seeks to identify factors that support or hinder the implementation of E-Government-based public services.

2.   Literature Review

2.1 Transformasi

The term transformation is closely related to reformation. According to Ackoff (2004), the two terms have distinct meanings: "Reformations and transformations are not the same thing. Reformations are concerned with changing the means systems employ to pursue their objectives. Transformations involve changes in the objectives they pursue." Ackoff links the concept of transformation and reformation to "doing the right thing", which represents the purpose of transformation, versus "doing things right", which represents the purpose of reformation. Therefore, reformation is necessary when the implementation of a policy or program deviates from its predetermined objectives, whereas transformation is needed to ensure that the system of objectives (including direction or vision, supporting resources, and approaches used to achieve the objectives) is correct, relevant, and contextual.

A perspective on transformation in terms of its nature was proposed by O'Neill (2009). According to him, the concept of transformation includes instrumental transformation and systematic transformation. In instrumental transformation, changes are easily observed in the public sector and are more focused on operational and management practices, aiming to improve efficiency. The emphasis is on ensuring service convenience, quality, and citizen satisfaction. Instrumental transformation essentially means doing the same thing in a different way. In contrast, systematic transformation involves radical changes in public management governance, including constitutional responsibilities and accountability, fiscal management, regulation and decision-making, as well as rights to public resources.

The concept of systematic transformation, from an organizational change perspective, is referred to by Zafar and Naveed (2014) as transformational change, which includes structural and cultural changes, making it large-scale and qualitative. This differs from instrumental change, which is functional and small-scale, such as changes in cost aspects.

Transformation is a process of change, a gradual transition from an existing form to a new one, often multiplying through iterative cycles of re-creation. Some categories of transformation proposed by Laseau (Sembiring, 2006) are as follows:
a) Typological transformation (geometric form) – changes occur with the same composition and spatial function;
b) Grammatical transformation (ornamental) – achieved by shifting, rotating, or folding;

c) Reference transformation (inversion) – where an object's image on a map is transformed into an inverted image;

d) Distortion transformation (confusing) – involves the designer's freedom in their activities.

Transformation toward modern bureaucracy involves changes in organizational culture, a more flexible organizational structure, the use of advanced information technology, and the development of employee competencies. In modern bureaucracy, decisions and actions are based on well-defined procedures and rules, rather than subjective or authoritative judgment. Modern bureaucracy is also characterized by a clear hierarchy, where every individual has well-defined roles and responsibilities. Moreover, it seeks to achieve efficiency and productivity through technology use, clear work standards, and objective performance measurement.

In the transformation process, there are dimensions of time and socio-cultural change within society. These dimensions occur through a series of long-term processes and are related to activities happening at that time. Handayani (2011) describes transformation as changes in appearance, form, nature, and so on. The changes discussed involve socio-cultural aspects, implying that the transformation concerns changes in societal behavior and culture. The transformation process occurs gradually and slowly. Humans cannot predict when the transformation will begin or end. This situation depends on several continuous aspects of the transformation process, which are closely related to the system of social values. The transformation process encompasses dimensions of time and socio-cultural transfiguration, unfolding over extended periods and linked to ongoing activities.

2.2 E-Government Concept

In general, E-Government is understood as an information management and public service system based on the internet. This service is provided by the government to the public. By utilizing the internet, many new modes of service can be developed by the government, enabling active citizen participation. Citizens are expected to independently register for permits, monitor the progress of their applications, and directly complete all types of permits and other public services. With the help of internet technology, all of these activities can be performed anywhere and anytime (Hardiyansyah, 2003).

Belanger and Carter (2012) define E-Government as the use of information technology to enable and enhance the efficiency of government services provided to citizens, employees, businesses, and institutions. According to the UNDP (United Nations Development Programme): "E-Government is the application of Information and Communication Technology (ICT) by government agencies. E-Government is the use of ICT to promote more efficient and cost-effective government, facilitate more convenient government services, allow greater public access to information, and make government more accountable to citizens" (Indrajit, 2004).

E-Government refers to the use of information technology by government agencies with the capacity to transform relationships with citizens, businesses, and other government units. The technology used can serve various objectives, such as: improving services for citizens, enhancing interaction with business and industry, empowering citizens through access to information, or achieving more efficient government management. The expected outcomes include reduced corruption, increased transparency, greater convenience, higher state revenue, and/or reduced costs (Grönlund, 2008). E-Government represents the frontline of government efforts to provide information and services to the public, business groups, government employees, and civil society organizations (Yu-Che & Perry, 2003).

Furthermore, Awan (2015) states that E-Government is electronic interaction (transactions and information exchange) between the government, citizens (individuals and businesses), and employees. Through E-Government, many objectives can be better achieved, including the provision of government services to citizens, improved communication with businesses and industry, citizen empowerment through access to information, and more competent government management. The most prominent E-Government service is the provision and use of information pages on the internet, known as the World Wide Web (WWW).

The essence of the objectives of E-Government is to provide online services that are easily accessible by everyone, at any time and from any location. Additionally, E-Government aims to deliver services without intervention from public institution employees and without long, convoluted queues. Therefore, the fundamental goals are: Improve the quality of public services through the use of IT in government administration; Establish clean, transparent

governance that can effectively respond to changing demands; and Enhance organizational structure, management systems, and government work processes (Blueprint of E-Government Application System, 2004).

2.3 E-Governance Concept

The development of information and communication technology has brought significant changes to modern government systems. Governments in various countries have begun leveraging digital technology to improve governance effectiveness, transparency, and the quality of public services. The utilization of such technology is not limited to the digitalization of government services but also encompasses transformations in decision-making processes, interactions with society, and collaboration between government agencies. This concept is known as E-Governance. E-Governance represents an advanced development of the E-Government concept. While E-Government focuses on the use of information technology to provide public services electronically, E-Governance has a broader scope, as it includes participatory, transparent, and collaborative governance through digital technology. Thus, E-Governance is not only related to digital service provision but also to the transformation of government systems as a whole.

According to Heeks (2006), E-Governance is the use of information and communication technology by governments to enhance relationships with citizens, the business sector, and other government institutions to improve efficiency, transparency, and participation in governance processes. In this view, digital technology serves as a means to strengthen interactions between government and stakeholders in public administration. Similarly, Rodríguez (2015) explains that E-Governance involves using digital technology to support governance processes that are more transparent, participatory, and collaborative between governments, citizens, and the private sector. This concept emphasizes the integration of information technology in public decision-making processes and increasing citizen participation in governance.

According to Janssen and Estevez (2013), E-Governance is the utilization of information technology to enhance coordination, collaboration, and integration within government systems, enabling more effective and responsive public services. From this perspective, digital technology is not only a tool for administrative services but also a means to improve the overall quality of governance. Furthermore, Jeremy Millard (2008) states that E-Governance is an approach to public administration that uses information technology to strengthen the relationship between government and citizens and improve public information openness. Through E-Governance implementation, citizens have greater opportunities to participate in governmental decision-making processes.

Additionally, Indrajit (2006) defines E-Governance as a government governance system that leverages information technology to enhance bureaucratic efficiency, public service quality, and citizen participation in governance. In this context, E-Governance focuses not only on the use of technology in public services but also on transforming government organizational culture toward more open and accountable governance. Based on these various definitions, it can be concluded that E-Governance involves the use of information and communication technology in government systems to enhance efficiency, transparency, accountability, and citizen participation in governance and public service delivery. The concept emphasizes that digital technology is not only an administrative tool but also a means to realize more democratic governance that is responsive to citizen needs.

In the context of modern public administration, E-Governance is closely related to the concept of good governance, which is governance that is transparent, accountable, participatory, and oriented toward public interests. By utilizing digital technology, governments can increase public access to information and expand citizen participation in governmental decision-making processes. According to Heeks (2006), E-Governance can be understood through three main dimensions:

a. E-Administration

E-Administration refers to the use of information technology to enhance the efficiency and effectiveness of government administrative processes. In this dimension, digital technology supports government management, data administration, and coordination between government agencies. Through e-administration, administrative processes that were previously manual can be conducted electronically, thereby increasing bureaucratic efficiency. Additionally, digital administration systems allow for data integration across government agencies, enabling faster and more accurate decision-making. In the context

of population administration, e-administration is evident in the use of integrated population information systems for managing citizen data, producing population documents, and digitally archiving records.

b.   E-Services
E-Services refer to the provision of public services through information technology. In this dimension, digital technology facilitates citizen access to government services online. According to West (2004), digital public services improve government service quality because citizens can access services anytime and anywhere, without having to visit government offices in person. E-services enable the government to provide faster, more transparent, and more efficient public services. Digital services also help reduce bureaucratic red tape and enhance accountability in public service delivery. In the context of population administration, e-services are implemented through online document issuance, digital registration systems for population services, and the provision of service information via websites or local government applications.

c.   E-Society
The e-society dimension involves the use of digital technology to enhance citizen participation in governance. In this dimension, information technology acts as a communication channel between the government and citizens, strengthening their relationship. Through e-society, citizens can provide feedback, criticism, and input on government policies via digital platforms such as social media, citizen complaint portals, or online discussion forums. According to Janssen and Estevez (2013), citizen participation in digital government systems is a key element in achieving democratic and transparent governance. Digital technology allows citizens to access government information more easily and participate in monitoring government performance. In the context of public services, e-society enables citizens to provide feedback on service quality, allowing the government to implement continuous improvements.

2.4 E-Government in Public Service

In general, the purpose of E-Government is to enhance service relationships between the government and various stakeholders, such as citizens, the private sector, tourists, and other government institutions. Globally, E-Government is associated with efforts to increase connectivity, accessibility, and interaction models between the government and citizens. It is also related to the transformation of current government services, particularly in efforts to improve efficiency, streamline processes, and automate tasks previously performed by government employees.

The main goal of E-Government services is to meet the needs and demands of stakeholders. This is not driven by internal mechanisms but rather by external factors—for example, citizens' demands and expectations are collected and used as the basis for decision-making regarding the provision of information technology. If the government's E-Government services are truly for the benefit of citizens, it is logical that the government needs to understand the desires and expectations of citizens regarding E-Government services (Mundy & Musa, 2010).

E-Government also represents a way for governments to use new technology to provide citizens with convenient access to government information and services, improve service quality, and provide greater opportunities for participation in democratic processes and institutions. Holmes defines E-Government as: "…the use of information technology, in particular the internet, to deliver public services in a much more convenient, customer-oriented, cost-effective, and altogether different and better way. It affects an agency's dealings with citizens, businesses, and other public agencies as well as its internal business processes and employees" (Holmes, 2001).

The implementation of E-Government has become a societal demand for better services, and due to regional autonomy requirements, governments (central or local) must implement it despite existing limitations. According to Rasyid (2000), in the context of good governance and E-Government implementation, there are four basic principles that need attention: legal certainty, transparency, accountability, and professionalism to improve services and empower citizens. Hardijanto (2000) further states that the improvement of public services must continuously be pursued through role changes and optimization of service standards, adhering to principles of speed, accuracy, satisfaction, transparency, non-discrimination, accountability, and efficiency.

Parasuraman et al. (1988) note that public services supported by information technology are currently crucial, as one dimension of service quality is speed of service. The shift in communication models caused by the development of information and communication technology has not only occurred in the private sector but has also begun in the public sector. A concrete manifestation of the government's commitment is E-Government, which can transform interaction patterns between the government and citizens. Services that were previously queue-based (in-line) have now shifted to online services accessible via government websites.

The E-Government model applied in various countries often uses a four-stage development model in long-term planning. For example, the E-Government staging implemented in New Zealand consists of four stages:

1) Phase One: Web Presence – the government website is established;
2) Phase Two: Interaction – interaction capabilities between the public and the government are provided;
3) Phase Three: Transaction – online service transactions are enabled;
4) Phase Four: Transformation – services are improved in an integrated manner (Simangunsong, 2010).

To develop E-Government, the World Bank (2002) proposed four phases: Presence, Interaction, Transaction, and Transformation (Yustianto, 2006). The same model was proposed by Gartner Research (Gupta, 2004) as The Value Chain of E-Service, which establishes four stages specifically developed in the context of E-Governance. When contextualized for the development of E-Government websites in Indonesia, the four stages include:

o Presence – establishing local government websites online, providing basic information needed by the public;
o Interaction – local government websites offer interactive facilities for citizens, including downloadable content and email communication;
o Transaction – in addition to interaction, local government websites provide online public service transactions;
o Transformation – government services are improved and integrated for better efficiency and accessibility (Gupta, 2004).

2.5 Public Service Innovation

Innovation relates to something new for individuals, organizations, society, or a specific situation. Innovation itself encompasses the development and implementation of something new. The term "new" here does not necessarily mean a completely original product but rather refers to "newness." This newness implies that innovation involves creating and implementing something that already exists into a new combination. Newness is also related to the dimensions of space and time (Prabowo et al., 2022). Innovation consists of generating new ideas and implementing them into new product, process, or service innovations through a long and cumulative process involving numerous organizational decision-making processes, from the idea generation phase to its implementation (Urabe et al., 1988).

Innovation is viewed as the process of adopting or implementing a new idea, where new ideas are transformed into actual products or services (Godin, 2014; Osborne, 2013). Innovation has traditionally developed more in the private sector because it is able to escape various traps that hinder innovation. The private sector has embraced the motto "innovate or die," whereas the public sector still considers innovation as optional, discretionary, or non-essential. Public institutions never feel threatened by the absence of innovation. Without innovation, governments may not "die" or be dissolved, but they will certainly lose legitimacy and public trust (Prabowo et al., 2022).

The potential benefits of public sector innovation are significant, though the size of the public sector varies by country. On average, the public sector accounts for about one-third of a country's economy. Such a scale indicates that innovation in the public sector has the potential to contribute significantly to economic growth and national prosperity—directly by reducing public service delivery costs and improving the quality and structure of services, and indirectly by enhancing the productivity of the private sector through expanded and improved public infrastructure upon which the private sector depends (Osborne & Brown, 2012).

Innovation is needed to improve and even enhance the quality, efficiency, and effectiveness of public service delivery. Through innovation, systems, methods, and technologies can be created that reduce costs, shorten service time, streamline bureaucracy,

and, most importantly, build public trust in government performance. Public service innovation represents a breakthrough in public services, whether through original creative ideas or adaptations/modifications that provide benefits to society directly or indirectly. Original creative ideas are a positive value of public service providers in delivering novelty in their services (Prabowo et al., 2022).

Public sector innovation has emerged from studies historically dominated by private sector innovation (Moore & Hartley, 2008; Torfing et al., 2020). Innovation is also essential for effective public service management in dynamic societies, increasingly diverse populations, and in response to individuals' growing demands for public services. New ICT and communication technologies, new work practices, new forms of social and family organizations, and societal changes have caused previously homogeneous social groups to become more fragmented and diverse.

According to Kuratko (2007), innovation consists of four types:

- Invention: The creation of a new product, service, or process that has never existed before. This concept is often described as revolutionary.
- Extension: The development of an existing product, service, or process. This involves applying an existing idea in a new or different way.
- Duplication: The imitation of an existing product, service, or process. Duplication is not mere copying; it adds a creative touch to improve the concept to remain competitive.
- Synthesis: The combination of existing concepts and factors into a new formulation. This process involves taking multiple ideas or products that already exist and shaping them into a product that can be applied in a new way.

Public sector innovation can relate to new outcomes (e.g., new services), the processes used to achieve those outcomes (e.g., co-design approaches), and the support provided to facilitate these processes (e.g., innovation labs supporting teams in co-design processes to achieve innovative results) (Nählinder & Eriksson, 2019). Public sector innovation is often driven by public sector agents (e.g., civil servants, public institutions, state-owned enterprises, etc.) and, as noted, frequently involves or affects actors across the entire ecosystem. However, at times, public sector innovation may also be driven by actors outside the public sector rather than within it.

3. Materials and Method

Based on the objectives of this study, which are to describe, explain, or depict the research results comprehensively and in depth, the type of research employed is qualitative research. The study, Transformation of E-Government Towards E-Governance in the Public Service Process, is a qualitative study using a case study approach, specifically at the Department of Population and Civil Registration of Gresik Regency. Yin (2015) states that case studies are particularly suitable for tracing contemporary events when the events under investigation cannot be manipulated. The data collection techniques in this study include interviews, observations, documentation, and literature review. Informants in this research are determined continuously using purposive sampling techniques, including the Head of the Department of Population and Civil Registration of Gresik Regency, the Secretary of the Department, and the Heads of Divisions/Sections.

The data analysis technique used in this study follows the method developed by McNabb (2002), which involves: grouping the data according to key constructs, identifying bases for interpretation, developing generalizations from the data, testing alternative interpretations, and forming and/or refining generalizable theory from the case study. The model used in this study is the E-Governance Model according to Heeks (2006), which can be observed through three main dimensions: e-administration, e-services, and e-society.

4. Results and Discussion

E-government is part of the bureaucratic modernization effort to improve the quality of public services through the use of information and communication technology. In this study, the analysis is based on the e-government stage model, which illustrates the development of digital technology utilization in the delivery of public services at the Department of Population and Civil Registration. The transformation process from E-Government to E-Governance in public service at the Department of Population and Civil Registration of Gresik Regency began with the launch of the Online Population Administration Registration Service application. This web-based application can be accessed directly by the residents of Gresik Regency to obtain population administration services without having to visit the

office. The innovation in service through the Online Population Administration Registration Service application, which was implemented on September 14, 2021, provides direct access for the community to process population administration requests digitally, quickly, and accurately.

The public service transformation process through e-government in this application requires several adjustment stages to operate optimally. These stages follow the Gartner Group model, where each step focuses on changes in e-government implementation to allow for more mature development than before. The stages include:

a. Presence (Preparation) Stage: At this stage, the Department of Population and Civil Registration of Gresik Regency uses a website as an online information platform accessible to the public.

b. Interaction Stage: Interaction is demonstrated through two-way communication between the agency and the public. The Department utilizes social media platforms—such as Instagram, Facebook, Twitter, and WhatsApp—to convey information and communicate with the community.

c. Transaction Stage: Services at this stage can be delivered in various ways. According to the Regulation of the Minister of Home Affairs Number 7 of 2019 on Online Population Administration Services, Article 8 Paragraph 4, online self-service applications for population administration can be accessed via web or mobile applications. The Department uses a web-based application called POEDAK, which stands for Pelayanan Online Pendaftaran Administrasi Kependudukan (Online Population Administration Registration Service).

At the transformation stage, collaboration with other parties through technology utilization is highlighted. Inter-sectoral cooperation is a key strategy for improving public service quality. The Department of Population and Civil Registration of Gresik Regency has implemented this integration concept through partnerships with other institutions, as seen in programs such as cooperation with hospitals, health clinics, and community health centers. For example, after childbirth, parents can immediately receive birth certificates, family cards, and child identity cards thanks to hospital assistance in the application process.

The integration with various sectors makes this transformation stage more complex compared to previous stages, increasing the costs involved. However, these higher costs are justified by the benefits obtained. According to Sio, Lai, and Pires in Hardjaloka (2014), e-government is comprehensively defined as a broad transformational initiative that enables high-quality, easy, and integrated services while enhancing the relationship between government and other stakeholders. The E-Governance model resulting from the transformation of E-Government to E-Governance in the Online Population Administration Registration Service can be observed through three main dimensions: e-administration, e-services, and e-society.

a) E-administration

The E-Administration dimension in the E-Governance concept relates to the use of information technology by the government to improve administrative efficiency, data management, and coordination among work units in public service delivery. In the population administration registration services at the Department of Population and Civil Registration of Gresik Regency, the implementation of E-Administration is realized through the use of an online service system that allows residents to register population documents digitally. Based on the research findings, the implementation of the E-Administration dimension in population administration services at the Department of Population and Civil Registration of Gresik Regency has been carried out through several key aspects: digitalization of administrative processes, electronic population data management, integration of service systems, and increased service process efficiency.

1) Digitalization of administrative processes: Population administration processes are digitalized through an online service system that allows residents to request documents such as Family Cards, electronic ID cards (e-KTP), birth certificates, and other population documents without visiting the office in person. Applications are submitted via the digital service portal provided by the Department of Population and Civil Registration of Gresik Regency. This system enables residents to upload required documents online, allowing administrative verification to be carried out more quickly by the officers.

2) Electronic population data management: Managing population data electronically is a crucial part of E-Administration implementation. Residents' data are stored in an integrated database system, making it easier for officers to search, verify, and process

administrative documents. This digital system makes administrative processes more efficient compared to the previous manual system, which relied heavily on physical documents.

3) Integration of administrative service systems: System integration is also an important indicator of the E-Administration dimension. The population administration service system in Gresik Regency is connected to the national population information system, allowing residents' data to be managed in an integrated manner. This integration enables administrative services to be delivered faster and minimizes data errors because the system automatically performs verification.

4) Increased service efficiency: The implementation of E-Administration also improves the efficiency of service processes. With the online service system, service times are shorter because most administrative processes can be carried out digitally. Additionally, the use of information technology helps reduce queues at the Disdukcapil office and increases transparency in administrative processes.

However, the research also indicates that the implementation of E-Administration still faces several challenges, such as limited digital literacy among residents, internet connectivity issues, and some residents preferring in-person services at the office. Therefore, efforts to increase socialization and further develop digital service systems are needed to optimize E-Administration implementation. These findings are consistent with the E-Governance theory proposed by Heeks (2002), which states that E-Administration involves the use of information technology by the government to improve the efficiency of internal administrative processes, data management, and the provision of more effective public services. According to Heeks, implementing electronic administrative systems can help the government enhance public service quality through faster, more accurate, and transparent information management.

Furthermore, these research findings align with the theory proposed by Indrajit (2006), which explains that E-Administration is a key component in E-Government implementation. It functions to digitalize government administrative processes, including document management, information systems, and coordination among government institutions. The digitalization of administration aims to increase bureaucratic efficiency and accelerate service delivery to the public. Thus, the online implementation of population administration services at the Department of Population and Civil Registration of Gresik Regency demonstrates that the E-Administration dimension has been applied through the use of digital information systems in government administration and public service processes.

b) E-Services

The E-Service dimension in E-Governance relates to the use of information technology by the government to provide public services electronically to the community. In the population administration services at the Department of Population and Civil Registration of Gresik Regency, the implementation of E-Service is evident through the provision of online population document registration services, which can be accessed by residents via digital platforms provided by the local government. Based on the research findings, the implementation of the E-Service dimension in population administration services in Gresik Regency has facilitated easier access to public services for the community. Residents can submit requests for various population documents, such as Family Cards, electronic ID cards (e-KTP), birth certificates, and other administrative documents, through the online service system without having to visit the office in person. In addition to providing easier access, the online service system also increases service efficiency. Document submissions can be made anytime and anywhere as long as residents have internet access. This benefits the public by reducing waiting times and transportation costs previously incurred to visit the service office.

In terms of service quality, the implementation of E-Service also improves transparency in service processes. Residents can monitor the status of their document requests online, making the service process more open and accountable. The system also helps service officers verify data more quickly and systematically. However, the research also shows that the utilization of digital services still faces several challenges, such as limited public understanding of how to use the online service system and limited internet access in certain areas. Therefore, efforts are needed to increase socialization and further develop digital service systems so that the utilization of E-Service can operate optimally.

These findings align with the theory proposed by Zeithaml, Parasuraman, and Malhotra (2002), which states that E-Service is the provision of services through electronic media aimed at improving service quality for users by offering easy access, time efficiency, and increased public satisfaction. Furthermore, the findings are consistent with the E-Government concept proposed by Heeks (2006), which asserts that the use of information technology in public services can enhance service effectiveness and broaden public access to government services.

c) E-Society

The E-Society dimension in E-Governance relates to the relationship between the government and society in utilizing information technology to support social development and improve the quality of life for the community. In the context of population administration services in Gresik Regency, this dimension is reflected in the local government's efforts to provide digital services that enhance public access to services.

Based on the research findings, the implementation of E-Society is evident in the increased public awareness of using digital population administration services. The presence of an online service system provides opportunities for the community to access public services more easily and quickly. Furthermore, the use of information technology in population administration services positively impacts the efficiency of public service delivery. Citizens no longer need to visit the service office in person for certain administrative processes, as most services are now accessible online.

However, the E-Society dimension still faces several challenges, particularly related to the digital divide within society. Not all residents have sufficient skills or access to technology to utilize digital services optimally. Therefore, the government needs to undertake various initiatives such as socialization, digital literacy training, and provision of supporting facilities so that all community segments can benefit from the available digital services.

These findings align with the theory proposed by Fang (2002), which states that E-Governance is not only about the use of technology in government but also encompasses the relationship between the government and society in leveraging information technology to improve social welfare. Additionally, the findings are consistent with the concept presented by Indrajit (2006), which explains that the implementation of E-Governance aims to create a digital society capable of utilizing information technology in various aspects of life, including access to public services.

5. Conclusion

Based on the research findings regarding the implementation of the transformation from E-Government to E-Governance in the online population administration registration services at the Department of Population and Civil Registration of Gresik Regency, several conclusions can be drawn:

The E-Administration dimension in population administration services has been implemented through the use of a digital service system that enables the management of population data and submission of administrative documents electronically. This system helps increase administrative process efficiency, accelerates data verification, and facilitates more structured and integrated management of population documents.

The E-Service dimension in population administration services shows that the online service system provided by the local government has facilitated public access to various population documents, such as Family Cards, electronic ID cards (e-KTP), and birth certificates. This digital service enhances service efficiency and reduces queues at the service offices.

The E-Society dimension indicates that the use of information technology in population administration services has encouraged the public to engage more actively with digital services in obtaining public services. However, the implementation of this dimension still faces several challenges, such as limited digital literacy among the community and uneven internet access.

This study contributes to the development of public administration research, particularly in the field of E-Governance. The findings demonstrate that the implementation of E-Administration, E-Service, and E-Society dimensions is a critical component in improving the quality of digital-based public services. The study also reinforces Richard Heeks' (2006) E-Governance theory, which states that the utilization of information technology in government can enhance administrative efficiency, public service quality, and the relationship between the government and society. Additionally, the findings support Indrajit's (2006) concept of E-Government, which explains that the digitalization of public services is part of bureaucratic reform efforts to create a more effective, transparent, and responsive governance system.

Practically, this study provides several implications for managing population administration services at the local government level. The local government needs to continue developing digital service systems so that population administration services can be accessed more easily and quickly by the public. The Department of Population and Civil Registration should increase public socialization regarding the use of online services so that residents can utilize the digital service system optimally. The local government should also enhance information technology infrastructure and internet networks to ensure that digital service systems operate more stably and efficiently. Increasing public digital literacy is also necessary through various educational programs and training, enabling residents to use digital population administration services more effectively. Furthermore, the government should strengthen digital complaint and communication systems so that the public can participate more actively in providing feedback to improve public service quality.

This study has several limitations that should be considered for future research. First, the research was conducted at only one local government agency, the Department of Population and Civil Registration of Gresik Regency, so the findings cannot yet be generalized to other regions in Indonesia. Second, the study focuses primarily on analyzing the implementation of E-Governance dimensions in population administration services, without exploring in depth other factors that may influence the success of E-Governance implementation. Third, most research data were obtained through interviews and observations, which may introduce some subjectivity in interpreting the findings. Finally, this study did not thoroughly analyze the public's satisfaction level with digital services, suggesting that future research could develop a more comprehensive study using quantitative approaches or mixed methods.

References

Ackoff, R. L. (2004). A systemic view of transformational leadership. *Systemic Practice and Action Research, 11*, 23–36. https://doi.org/10.1023/A:1022960804854

Agangiba, W. A., & Agangiba, M. A. (2013). E-governance justified. *International Journal of Advanced Computer Science and Applications, 4*(2), 223–225.

Anthopoulos, L., & Reddick, C. G. (Eds.). (2015). *Information and communication technologies in public administration: Innovations from developed countries.* CRC Press.

Awan, O. (2015). E-governance and volunteerism: A factsheet. In *State of the World Volunteerism Report: Transforming Governance*. United Nations Volunteers.

Belanger, F., & Carter, L. (2012). Digitizing government interactions with constituents: An historical review of e-government research in information systems. *Journal of the Association for Information Systems, 13*(5), 363–394. https://doi.org/10.17705/1jais.00295

Bertot, J. C., Jaeger, P. T., & Grimes, J. M. (2010). Using ICTs to create a culture of transparency. *Government Information Quarterly*. https://doi.org/10.1016/j.giq.2010.03.001

Fang, Z. (2002). E-government in digital era: Concept, practice and development. *International Journal of the Computer, the Internet and Management, 10*(2), 1–22.

Godin, B. (2014). *The vocabulary of innovation: A lexicon* (Working Paper No. 20). Project on the Intellectual History of Innovation.

Gronlund, Å. (2008). Electronic government. In A. Anttiroiko & M. Mälkiä (Eds.), *Encyclopedia of digital government* (Vol. 1). Idea Group Reference.

Gupta, M. P. (2004). *Toward e-government: Management challenges*. McGraw Hill.

Handayani, B. L. (2011). Transformasi perilaku keagamaan (Analisis terhadap upaya purifikasi aqidah melalui ruqyah syar'iyah pada komunitas Muslim Jember). *The Sociology of Islam, 1*(2), 71–86.

Hardiyansyah. (2003). E-government: Upaya meningkatkan kualitas pelayanan publik pada era otonomi daerah melalui penggunaan teknologi web. *Jurnal Ilmiah Matrik, 5*(3).

Hardjaloka, L. (2014). Studi penerapan e-government di Indonesia dan negara lainnya sebagai solusi pemberantasan korupsi di sektor publik. *Jurnal Rechtsvinding, 3*(3). https://doi.org/10.33331/rechtsvinding.v3i3.35

Heeks, R. (2002). *eGovernment in Africa: Promise and practice* (i-Government Working Paper Series). Institute for Development Policy and Management, University of Manchester. https://doi.org/10.2139/ssrn.3540054

Holmes, D. (2001). *e-Gov: eBusiness strategies for government*. Nicholas Brealey Publishing.

Indrajit, R. E. (2006). *Electronic government: Strategi pembangunan dan pengembangan sistem pelayanan publik berbasis teknologi digital*. Andi.

Janssen, M., & Estevez, E. (2013). Lean government and platform-based governance: Doing more with less. *Government Information Quarterly*. https://doi.org/10.1016/j.giq.2012.11.003

Kasim, B., Ferriswara, D., & Haryati, E. (2025). Digital transformation in public services: A literature review on bureaucratic innovation and adaptation in the era of digital government. *International Journal of Social Science and Humanity, 2*(4), 105–110. https://doi.org/10.62951/ijss.v2i4.523

Kurniawan, I. A., Yusman, D., Kultsum, G. U., & Junianto, A. (2022). *Jurnal Administrasi Negara, 10*(2), 256–265. https://doi.org/10.30656/sawala.v10i2.5476

Layne, K., & Lee, J. (2001). Developing fully functional e-government: A four-stage model. *Government Information Quarterly, 18*, 122–136. https://doi.org/10.1016/S0740-624X(01)00066-1

Lee, J. (2010). 10-year retrospect on stage models of e-government: A qualitative meta-synthesis. *Government Information Quarterly, 27*, 220–230. https://doi.org/10.1016/j.giq.2009.12.009

Millard, J. (2008). E-government for an inclusive society. *European Journal of ePractice*.

Mundy, D., & Musa, B. (2010). Towards a framework for e-government development in Nigeria. *Electronic Journal of e-Government, 8*(2), 148–161.

McNabb, D. E. (2002). *Research methods in public administration and nonprofit management: Quantitative and qualitative approaches*.

Moore, M., & Hartley, J. (2008). Innovations in governance. *Public Management Review, 10*(1), 3–20. https://doi.org/10.1080/14719030701763161

Nurjanna, & Ivanna, J. (2025). Implementasi e-government dalam meningkatkan pelayanan publik di Dinas Kependudukan dan Catatan Sipil Kota Pematangsiantar. *Jurnal Pendidikan Kewarganegaraan, 9*(1), 293–298. https://doi.org/10.31571/jpkn.v9i1

O'Neill, S., & Nicholson-Cole, S. (2009). "Fear won't do it": Promoting positive engagement with climate change through visual and iconic representations. *Science Communication, 30*(3), 355–379. https://doi.org/10.1177/1075547008329201

Osborne, S. P. (2013). *Voluntary organizations and innovation in public services*. Routledge. https://doi.org/10.4324/9780203068014

Osborne, S. P., & Brown, K. (2012). *Managing change and innovation in public service organizations*. Routledge. https://doi.org/10.4324/9780203391129

Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1998). *Delivering quality service: Balancing customer perceptions and expectations*. The Free Press.

Prabowo, H., Suwanda, D., & Syafri, W. (2022). *Inovasi pelayanan pada organisasi publik*. PT Remaja Rosdakarya.

Rasyid, M. R. (2000). *Makna pemerintahan*. PT Mutiara Sumber Widya.

Rodríguez Bolívar, M. P. (2015). *Transforming city governments for successful smart cities*. Springer. https://doi.org/10.1007/978-3-319-03167-5

Siar, S. V. (2005). E-governance at the local government level in the Philippines: An assessment of city government websites. *Philippine Journal of Development, 32*(2), 135–168.

Torfing, J., Andersen, L. B., Greve, C., & Klausen, K. K. (2020). *Public governance paradigms: Competing and co-existing*. Edward Elgar Publishing. https://doi.org/10.4337/9781788971225

Urabe, K., Child, J., & Kagono, T. (1988). *Innovation and management: International comparisons*. De Gruyter. https://doi.org/10.1515/9783110864519

United Nations. (2020). *E-government survey 2020: Digital government in the decade of action*. United Nations.

Undang-Undang Republik Indonesia Nomor 25 Tahun 2009 tentang Pelayanan Publik.

Waloni, P. F., Bida, O., & Zubaidah, I. (2025). Penerapan e-government di bidang pelayanan publik pada bidang pelayanan hukum Kanwil Kemenkumham Sulut. *Jurnal Ilmiah Manajemen Bisnis dan Inovasi Universitas Sam Ratulangi, 12*(2), 566–575. https://doi.org/10.35794/jmbi.v12i2.62254

West, D. (2004). E-government and the transformation of public service delivery. *Public Administration Review.* https://doi.org/10.1111/j.1540-6210.2004.00343.x

World Bank. (2016). *Digital dividends: World development report*. World Bank.

Yusron, A., Ramdani, R., & Sugiarti, C. (2022). Digital governance dalam pelaksanaan program e-Dukcapil di Dinas Kependudukan dan Pencatatan Sipil Kabupaten Karawang. *Jurnal Pemerintahan dan Politik, 7*(1), 11–18. https://doi.org/10.36982/jpg.v7i1.1988

Yustianto, P. (2006). Manajemen pembangunan teknologi informasi: Transformasi menuju e-government. In S. H. Supangkat, J. Sembiring, & Y. Romansyah (Eds.), *Prosiding Konferensi Nasional Teknologi Informasi dan Komunikasi untuk Indonesia* (pp. 67–72).

Zafar, F., & Naveed, K. (2014). Organizational change and dealing with employees resistance. *International Journal of Management Excellence, 2*(3), 237–246. https://doi.org/10.17722/ijme.v2i3.101

Zeithaml, V. A., Parasuraman, A., & Malhotra, A. (2002). Service quality delivery through web sites: A critical review of extant knowledge. *Journal of the Academy of Marketing Science, 30*(4), 362–375. https://doi.org/10.1177/009207002236911

Zeka, E. (2014). ICT and e-governance: The web portals of Istanbul Metropolitan Municipality. *Planlama, 24*(1), 35–41.