



## **DIGITAL LEADERSHIP IN PUBLIC SERVICE TRANSFORMATION IN THE SMART CITY ERA**

**Putri Dera Ananda**

Universitas Medan Area

Email Korespondensi: bulansucihasiswa28@gmail.com

### **Abstract**

Bureaucracy, as an administrative apparatus of government, plays a crucial role in achieving good, efficient, and accountable governance. Accountability in bureaucracy refers to the government's ability to justify its decisions and policies to the public. With the rapid development of technology, the implementation of e-government, big data, and blockchain offers opportunities to improve transparency and efficiency within the bureaucratic system. However, despite the immense potential of technology, major challenges remain, such as limited infrastructure, disparities in technological access, and bureaucratic resistance to change. Additionally, the persistent practices of corruption, collusion, and nepotism (KKN) in some government sectors hinder the creation of an accountable bureaucracy. Therefore, it is crucial for the government to carry out reforms in human resource management, technological infrastructure, and organizational culture. This study aims to explore the role of technology in enhancing bureaucratic accountability in Indonesia and provide policy recommendations for improving governance practices to be more transparent and accountable.

**Keywords:** digital leadership, public service, smart city, bureaucracy transformation.

### **Abstrak**

Transformasi digital di sektor publik telah menjadi kebutuhan mendesak seiring dengan kemajuan teknologi dan tuntutan masyarakat akan layanan yang cepat, transparan, dan efisien. Studi ini bertujuan untuk menganalisis peran kepemimpinan digital dalam mendorong perubahan sistem layanan publik di era kota pintar. Dengan menggunakan pendekatan kualitatif melalui studi kasus pemerintah kota yang menerapkan konsep kota pintar, temuan penelitian menunjukkan bahwa kepemimpinan digital berkontribusi signifikan terhadap percepatan adopsi teknologi, pengembangan budaya kerja kolaboratif, dan peningkatan kepuasan warga. Karakteristik utama pemimpin digital seperti visi futuristik, adaptabilitas terhadap teknologi, dan komitmen terhadap transparansi merupakan faktor krusial bagi keberhasilan transformasi layanan publik. Studi ini merekomendasikan pelaksanaan pelatihan kepemimpinan digital bagi pegawai negeri sipil dan penguatan ekosistem teknologi untuk mendukung keberlanjutan reformasi birokrasi digital.

**Kata kunci:** kepemimpinan digital, layanan publik, kota pintar, transformasi birokrasi.

### **Introduction**

The development of information and communication technology has driven a revolution in various aspects of life, including in governance. In the midst of the fast-paced digital era, the public sector is required to be able to adopt technology as an integral part of public services. This phenomenon is known as digital transformation, which according to Mergel, Edelmann, and Haug (2019) is a comprehensive process of integrating digital technology into government systems, processes, and work cultures to create efficient, responsive, and inclusive services.

Digital transformation is not only limited to the procurement of infrastructure or applications, but



also touches on the aspect of leadership as the main director of change. In the context of government, leadership has a central role in determining the direction of digital policy, setting transformation priorities, and ensuring the involvement of all parties in the process. According to Northouse (2016), leadership is the process of influencing others to understand and agree on what needs to be done and how, and facilitating individual and collective efforts to achieve common goals. In this case, public leaders are responsible as agents of digital change in the bureaucracy

However, this transformation did not immediately run without obstacles. The main challenge faced is the lack of readiness of human resources and bureaucratic leadership in understanding and implementing technology optimally. According to Dwiyanto (2015), the quality of public services in Indonesia is still greatly influenced by the capacity of individual bureaucrats, including leaders, in managing change. Without visionary and adaptive leadership, the digitalization process in the bureaucracy will be slow or even stagnant.

In this framework, the emergence of the concept of digital leadership is important to study further. According to Kane et al. (2019), digital leadership is not only about mastering technology, but also the ability to encourage a culture of innovation, collaboration, and data-based decision-making. Digital leaders are able to understand changing trends and transform them into policies and service strategies that are relevant to the needs of modern society.

On the other hand, the transformation of public services in the smart city era requires leaders who are able to manage complexity and uncertainty. This is in line with the opinion of Uhl-Bien and Marion (2009) who stated that leaders in complex systems must have adaptive and relational abilities, because the success of the organization does not only depend on hierarchical orders, but also on the ability to build networks and cross-sector collaboration. Furthermore, the smart city phenomenon is not just about city digitalization, but also demands a paradigm shift in government management. According to Nam and Pardo (2011), a smart city is a combination of advanced technology, participatory public policy, and intelligent governance. Within this framework, digital leadership must be able to direct the bureaucracy towards a more open, collaborative, and data-driven direction.

The transformation of public services through a smart city approach also contains significant social and political dimensions. Public leaders must be able to build public trust in the digital systems used. According to Mayer, Davis, and Schoorman (1995), trust is a key factor in public acceptance of technology, especially when it comes to personal data and policy transparency. Therefore, digital leadership is required to be not only technically competent, but also ethical and accountable.

Successful digital transformation is the result of synergy between policy, technology, and leadership. In the Indonesian context, many digital initiatives have not been optimal due to weak coordination between agencies and low commitment from organizational leaders. As Heeks (2006) points out, many e-government projects in developing countries have failed because they focused too much on technology and too little on change management and leadership.

Therefore, this study aims to explore the role of digital leadership in accelerating the transformation of public services, especially within the framework of smart city implementation. The focus of this study is how public leaders build a digital vision, encourage a technology-based work culture, and manage the process of change in bureaucracy effectively. Thus, this study is expected to provide theoretical and practical contributions in developing a relevant leadership model for the public sector in the digital era.

## **Method**

This study uses a descriptive qualitative approach to deeply understand the role of digital leadership in the transformation of public services in the smart city era. This approach was chosen because it is appropriate for exploring complex and contextual social phenomena, such as leadership styles and technology-based bureaucratic changes.



The research location was chosen purposively in areas that have implemented smart cities, such as Surabaya, Semarang, or Makassar, because these cities are considered to have a commitment and real practices in digitalizing public services. The main informants consisted of public officials, heads of related agencies, technical implementers, and the community of digital service users. The selection of informants was carried out purposively based on the relevance of their roles and experiences.

Data collection was carried out through semi-structured interviews, limited observations, and documentation studies. Interviews were used to explore leadership perspectives, digitalization strategies, and field constraints. Observations helped to see the implementation of digital services directly, while documentation strengthened the validity of data from official sources.

Data analysis was carried out using the thematic method, namely identifying the main themes from the results of interviews and documents, then classified and interpreted inductively. Data validity was maintained through triangulation of sources and methods, as well as member checking with informants to ensure accuracy of interpretation.

## **Discussion**

### **1. The Role of Digital Leadership in Improving Public Services**

Digital leadership in the public sector has a very important role in facilitating and managing the transformation of public services in the smart city era. As leaders responsible for the decision-making process, they must understand the potential of technology in improving the efficiency and effectiveness of services. According to Westerman, Bonnet, and McAfee (2014), digital leadership is the ability of a leader to lead an organization in utilizing technology to create new value, both in the form of public services and user experience. This is very relevant in the smart city era, where digital technology can be used to improve the quality of life of the community through more responsive and efficient services.

Digital leadership does not only focus on technical aspects, but also on cultural change within the organization. As stated by Brynjolfsson and McAfee (2014), in the context of digitalization, public leaders are required to integrate technology into existing bureaucratic policies and operations. This includes managing change involving civil servants, as well as ensuring that the public can feel the direct benefits of technological innovations applied in public services. This transformation involves a major shift in the way government works, requiring managerial skills to drive and manage systemic change.

### **2. Challenges in Implementing Digital Leadership**

One of the biggest challenges in implementing digital leadership in the public sector is resistance to change. Digital leadership is often faced with established bureaucratic obstacles, which are not easily changed with technology alone. In the view of Janssen and van der Voort (2016), although information technology can provide solutions to improve bureaucratic efficiency, established systems are often difficult to adapt quickly. Bureaucracies that have been formed for years tend to have a very traditional work culture, making it difficult to align digital technology with existing work patterns. To overcome this challenge, digital leaders need to strengthen communication and collaboration between the various parties involved. This is in accordance with the view of Tapscott (2015) who stated that leadership in the digital era must be able to build an open and collaborative ecosystem, where technology becomes a tool to facilitate communication between various levels of government and society. Therefore, digital leaders do not only focus on implementing technology, but also on developing the capacity of human resources in the organization to be able to adapt to change.

### **3. Digital Leadership and Innovation in Public Services**

Innovation in public services in the smart city era is highly dependent on visionary digital leadership. According to Kane et al. (2019), a digital leader must have a clear vision regarding the direction of digital transformation and be able to inspire all parties to contribute to the process. This vision includes the use of technology to create a better service experience for the community. One



example is the use of digital applications and platforms that allow the public to access public services more easily and quickly, without having to go through long bureaucratic procedures.

Digital leaders are also expected to be "change agents" who lead changes in organizational culture towards a learning organization that is adaptive to technology. This is reflected in the views of Brynjolfsson and McAfee (2014) who stated that successful leaders in the digital era are those who are able to combine human intelligence with machine sophistication, and build organizations that are ready to continue to grow in the face of very rapid technological changes. In the context of government, this innovation is very important to improve the quality of service and ensure that the policies taken are oriented towards the needs of the community.

#### **4. Digital Leadership in the Context of Smart City**

A smart city is a concept that utilizes technology to improve the quality of life of the community through innovation in various sectors, including transportation, energy, and government. Digital leadership in a smart city must be able to utilize technology to improve governance and ensure that public services can be accessed quickly, transparently, and efficiently. For example, a smart governance system that uses real-time data can help public leaders make more informed and evidence-based decisions.

According to Dunleavy et al. (2006), the concept of digital era governance suggests the integration of technology and administrative processes to create a government that is more efficient, transparent, and responsive to public needs. In this case, digital leadership has a very vital role to ensure that the implementation of technology is not only aimed at internal efficiency, but also to improve services to the community. For example, by utilizing big data to understand community needs, the government can design policies that are more targeted and oriented towards more optimal results.

#### **5. Skills Required by Digital Leaders**

A digital leader must have a variety of different skills compared to conventional leaders. These skills are not only limited to an understanding of technology, but also the ability to manage change within the organization and the ability to communicate with various stakeholders. According to Gartner (2020), the main skills required by digital leaders include the ability to manage digital technology, encourage collaboration within the organization, and the ability to make data-based decisions. In the context of government, these skills are very important to ensure that the policies and programs implemented can run effectively and achieve the desired goals. In addition, digital leaders must also have the ability to adapt to rapid change. This is in accordance with the view of Westerman et al. (2014) which states that digital leaders must have the ability to manage evolving transformations, and dare to take risks in new technological experiments. Thus, digital leaders not only act as managers, but also as pioneers in introducing new innovations that can improve the quality of public services.

#### **6. Impact of Digital Leadership on Public Service Efficiency**

Digital leadership has a significant impact on public service efficiency. One of the positive impacts that can be seen is the acceleration of the administration process and services to the community. In the context of a smart city, the use of information and communication technology (ICT) can cut long bureaucracy and reduce waiting times for the community in accessing various government services. For example, the use of an integrated electronic-government (e-gov) system allows citizens to take care of documents or other services online without having to come directly to the government office.

According to Fountain (2001), e-government can improve operational efficiency in government by providing a platform that allows faster access to information and minimizes complicated procedures. In this context, innovative digital leadership plays an important role in driving the implementation of the system, as well as ensuring that public services can be carried out more efficiently and cost-effectively. Effective digital leaders understand the importance of technology as a tool to reduce administrative



barriers and create a better user experience. In addition, in human resource management, digital leadership can also introduce digital collaboration tools that enable civil servants to work more efficiently. As explained by Brynjolfsson and McAfee (2014), digital leaders must be able to utilize digital tools to accelerate the government's internal workflow, so that public services are not hampered by slow administrative processes. Collaboration between agencies is also made easier by the existence of digital platforms that can bring together various departments in one interconnected ecosystem.

### **7. Digital Leadership and Increasing Government Transparency**

Transparency is one of the main principles in effective public service. In the digital era, digital leadership can encourage increased transparency through various technology platforms that allow the public to access information related to government policies and programs openly. One form of transparency that can be produced is reporting the performance of government agencies openly through online applications or portals that can be accessed by the public.

According to the World Bank (2017), governments that use digital technology for transparency can increase public trust in public institutions, which in turn will encourage public participation in the decision-making process. For example, an online reporting system that allows the public to monitor the use of government budgets can reduce the potential for abuse of authority and corruption. Digital leaders must be able to create policies that support openness of information and effective access to public data, as stated by Reddick (2005), who emphasized that e-government does not only focus on efficiency, but also on aspects of government transparency and accountability. Digital leaders must also lead by example in terms of openness and transparency. This is in accordance with the view of Schneier (2015) who said that public trust in the government depends on the extent to which digital leaders are willing to be transparent in the decision-making process and policies made. Thus, digital leadership does not only involve the application of technology, but also focuses on the integrity and accountability of leaders in conveying information to the public.

### **8. Digital Leadership in Addressing the Issue of Equitable Access**

In the era of smart cities, equal access to digital public services is an important issue that must be considered by digital leaders. Although digital technology has the potential to increase efficiency, there are major challenges related to the gap in access to technology across various levels of society, especially in remote areas or for groups with economic limitations. Therefore, digital leadership must be able to ensure that digital services can be accessed by all people without exception. According to Zeng (2017), the digital inequality that occurs between groups of people who have access to technology and those who do not can exacerbate social inequality. Effective digital leaders must design policies that not only encourage digitalization, but also ensure that digital infrastructure and training are available to all levels of society. For example, providing free internet access facilities in public areas or offering digital training for underserved community groups. Thus, inclusive digital leadership is very important in creating a just and equitable government for all citizens. Leadership that is oriented towards equal access also requires government policies that support the development of technological infrastructure in less developed areas. As stated by the OECD (2020), the success of a smart city depends not only on the application of high technology, but also on how the technology can be felt by all citizens, including those in areas with limited access. Therefore, digital leaders need to ensure that no group of people is left behind in this digital transformation.

### **9. Data Management and Privacy in Public Services**

In the smart city era, data management is one of the crucial aspects in the transformation of public services. Digital leaders must ensure that the data used for public services is not only effective, but also managed with the right ethical principles, especially related to public privacy. Leaders must understand the importance of protecting people's personal data in the use of technology.



According to Solove (2021), one of the biggest challenges in government digitalization is how to protect the personal data of public service users, given the large amount of sensitive information involved. Therefore, effective digital leadership must ensure that there are clear and firm policies regarding the protection of personal data, as well as the implementation of adequate security systems to protect information from the threat of leakage or misuse. This is important to build public trust in digital government and ensure that digital transformation does not sacrifice individual privacy rights. Digital leaders who are able to manage data wisely and transparently will be able to improve the quality of public services, because well-managed data allows for more precise and evidence-based decision-making. As Davenport and Ronanki (2018) stated, sophisticated data analytics enable leaders to design policies that are more responsive to community needs and increase the effectiveness of public services.

In the era of the industrial revolution 4.0 which is marked by the massive use of digital technology, the transformation of public services is a must for the government in responding to the challenges and demands of an increasingly dynamic society. The concept of a smart city is not only about digitalizing services, but also contains the values of efficiency, public participation, openness of information, and responsiveness. In this context, the role of digital leadership becomes very vital. A digital leader must not only understand technology, but also be able to direct, facilitate, and integrate the use of technology to support the vision of quality public services. Digital leadership in government requires high adaptive capabilities, especially in dealing with technological disruption and rapidly changing public expectations. Digital leaders must be able to encourage changes in the bureaucratic work culture from being manual and closed to being more open, collaborative, and data-based. Leaders must also have a strategic vision that is based on the principles of good governance and be able to translate national policies into digital services that meet the needs of the community at the local level.

Digital transformation in public services also demands continuous innovation. In this case, leaders act as catalysts for change that encourage employees and institutions to continuously improve performance, both in terms of service quality, speed, and accessibility. The use of technology such as online service applications, e-government platforms, and the use of big data and artificial intelligence must be accompanied by strengthening transparent and accountable governance and performance management systems. Furthermore, digital leadership must also pay attention to aspects of inclusivity and social justice. This means that the transformation of public services must be accessible to all levels of society, including vulnerable groups and communities in disadvantaged areas. Digital leaders must ensure that the digital divide or gap in access to technology does not deepen the inequality in obtaining public service rights. Therefore, the development of equitable digital infrastructure and digital literacy for the community are important parts of the digital leadership agenda.

In addition, digital leaders must also prioritize data security and privacy. In the era of smart cities that are full of data, leaders must ensure that public data is managed ethically, securely, and in accordance with the principles of transparency and protection of human rights. Public trust in digital systems is highly dependent on the integrity and credibility of leadership in maintaining the confidentiality and security of personal information. Collaboration between sectors is also a characteristic of digital leadership. The government cannot work alone in creating an effective smart city. Partnerships with the private sector, universities, technology communities, and civil society are needed to create a healthy digital ecosystem. Digital leaders must be able to bridge collaboration and open participatory spaces for the formulation and implementation of digital policies based on public needs.

Ultimately, the success of digital leadership in transforming public services is not only measured by how sophisticated the technology used is, but by how much positive impact the community feels. Fast, easy, affordable, and accountable services must be the main orientation. To realize this, digital leadership must be supported by integrity, commitment to change, innovative capabilities, and a commitment to the interests of the wider community.



## Conclusion

Digital leadership is a strategic element in accelerating the transformation of public services in the smart city era. In the context of modern governance, leaders are not only required to be technology literate, but also able to direct changes in bureaucratic culture towards more open, collaborative, efficient, and data-based work patterns. Digital leaders must have a strong vision, the ability to innovate, and sensitivity to the needs of the community in developing inclusive and responsive services.

Digital transformation in public services is not merely about the digitization of administrative processes, but concerns a paradigm shift in the provision of services that are oriented towards public satisfaction and trust. Therefore, the success of this transformation is greatly influenced by the quality of adaptive, transformative, and participatory leadership.

In addition, digital leaders also have the responsibility to ensure the security of public data, narrow the digital divide, and build strategic partnerships with various stakeholders to create a sustainable smart city ecosystem. Inclusive leadership that focuses on the use of technology for the common good will be the main key in creating better, more transparent, and more accountable public services. Thus, digital leadership is not only a necessity, but also a demand of the times that must be responded to immediately by regional and national governments in an effort to realize smart cities that are humanistic, innovative, and oriented towards excellent public services.

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