

## Evaluating The Impact of E-Governance on Public Service Delivery: A Case Study of Bangladesh

Mengzhong Zhang<sup>1\*</sup>, Biswanath Bhattacharjee<sup>2</sup>

<sup>1</sup>Gannon University, PA 16541, USA.

Email: Zhang038@gannon.edu

<sup>2</sup>Gannon University, PA 16541, USA.

Email: bhattach005@gannon.edu

### CORRESPONDING

#### AUTHOR (\*):

Mengzhong Zhang  
(Zhang038@gannon.edu)

### KEYWORDS:

E-governance  
Digital Bangladesh  
Good governance  
Bangladesh Civil Service  
Public Administration in  
Bangladesh

### CITATION:

Zhang, M. & Bhattacharjee, B. (2024).  
Evaluating The Impact of E-Governance on  
Public Service Delivery: A Case Study of  
Bangladesh. *Malaysian Journal of Social  
Sciences and Humanities (MJSSH)*, 9(9),  
e002960.  
<https://doi.org/10.47405/mjssh.v9i9.2960>

### ABSTRACT

This study examines the impact of electronic governance (e-governance) on public service delivery in Bangladesh, focusing on the benefits and challenges of implementing e-governance initiatives. E-governance has enabled citizens to participate in decision-making, improved communication within government agencies, and enhanced transparency and accountability. The Bangladesh government has taken initiatives to enhance public services through ICT, aligning with the "Digital Bangladesh" vision. However, obstacles in implementing e-governance include a lack of infrastructure, skilled manpower, and public awareness. The study recommends addressing these challenges to enhance ICT-induced public service delivery. The study highlights the interrelation between e-governance and good governance, emphasizing the importance of ICT in achieving accountability and transparency in public administration. Overall, the study underscores the need to overcome barriers and leverage e-governance for effective public service delivery and digital transformation in Bangladesh.

**Contribution/Originality:** This study contributes to the existing literature by integrating Good Governance Theory, Diffusion of Innovations Theory, and Digital Divide Theory to develop a holistic framework for analyzing e-governance. It is one of the few studies that explore the interplay between governance principles, technology adoption, and socio-economic disparities in e-governance contexts.

## 1. Introduction

There is a growing consensus among governments across the world of the need to revitalize public administration to facilitate customer-centered, cost-efficient, and user-friendly delivery of services to citizens and businesses, thereby improving the quality of governmental functions (Bhuiyan, 2011). For bolstering government efficiency, accountability, and enhancing service delivery while engaging the public across all facets of governmental activities, the adoption of e-Governance becomes imperative (Alam, 2012). As mentioned in Al-Hossienie and Barua (2013), "E-Governance can accomplish the mandate of government in formulating a new vision of how government views its

*citizens, employees and businesses, and building a citizen-centered, service-oriented, public-participative government with efficient, accountable, transparent and performance government system.”*

In recent years, Bangladesh has made significant strides in implementing electronic governance (e-governance) initiatives aimed at improving public service delivery, enhancing transparency, and promoting citizen participation (Islam, Hossain, Islam, & Aziz, 2023). E-governance has the potential to revolutionize how citizens interact with government institutions, reducing barriers and increasing access to essential services. By leveraging technology, Bangladesh can streamline public services, reduce bureaucratic bottlenecks, and enhance accountability (Ahmad, 2021). According to Sarker, Wu, Liu, and Ma (2019), enhancing information management within the public sector can foster transparency, thereby curbing corruption, expediting service delivery, minimizing public inconvenience, facilitating easier access to public services, diminishing errors, and ultimately alleviating poverty.

As mentioned in Samsor (2020) *“the concept of e-Government can save time and resources through facilitating communication among the public and government institutions. In the public sector, the terms of digital government, electronic government (e-Government) and electronic governance (e-Governance) are representing the use of Information and Communication Technology (ICT) as a time-needed mechanism for the gathering and dissemination of government information and the delivery of governmental services”*.

E-governance offers the potential for transparency, expedited service delivery, poverty alleviation, corruption reduction, democracy reinforcement, and the implementation of good governance principles (Chowdhury & Satter, 2013).

### **1.1. Research Objective**

This research aims to explore the impact of e-governance initiatives on governance outcomes, citizen satisfaction, and socio-economic development in Bangladesh. It seeks to understand the successes and challenges in implementing e-governance initiatives, including their effects on public service delivery, transparency, accountability, and citizen engagement.

### **1.2. Problem Statement**

In a country like Bangladesh, the populace often faces poverty, illiteracy, and inadequate governance infrastructures. In such circumstances, delivering government services to citizens becomes exceedingly challenging (Rashid & Islam, 2011).

Despite the potential benefits of e-governance, there remain challenges in its effective implementation in Bangladesh. The successes and challenges encountered in implementing e-governance initiatives, including digital infrastructure development, citizen awareness, and institutional capacity building, need thorough examination.

### **1.3. Significance of the Study**

Furthermore, this study will investigate the impact of e-governance on various aspects of governance, such as transparency, corruption, and citizen engagement. Additionally, it

will explore the effects on socio-economic development indicators like poverty reduction, employment generation, and inequality. By examining the intersection of technology and governance in the Bangladeshi context, this research aims to provide actionable insights for policymakers, practitioners, and researchers alike. Ultimately, it seeks to contribute to harnessing the potential of e-governance in promoting inclusive, sustainable, and people-centric development in Bangladesh.

#### 1.4. Research Questions

- i. How does the implementation of e-governance influence the accessibility and efficiency of public service delivery in Bangladesh?
- ii. To what extent does e-governance contribute to transparency, accountability, and reduced corruption in government processes?
- iii. How do citizens perceive and engage with e-governance initiatives, and what are the factors influencing their acceptance and usage?

## 2. Literature Review

E-governance in Bangladesh, driven by the vision of "*Digital Bangladesh*," has shown improvements in citizen participation, transparency, and accountability (Ahmed et al., 2020; Kamruzzaman & Ahmed, 2017; Khan & Alam, 2012). Over four decades, Bangladesh has made significant strides in ICT utilization, particularly in the past decade, leading to a surge in Internet usage and the popularity of various technologies (Rashid, 2022). This technological advancement has propelled e-governance initiatives, aiming to simplify governance for all parties involved (Mishra & Mishra, 2012; Basu, 2004). These e-government services encompass various types, from basic to highly advanced, categorized into G2C, G2B, G2G, and G2E (Mundia, 2016). Despite progress, challenges such as infrastructure, skilled manpower, public awareness, and inclusivity persist, hindering effective implementation (Ahmed, 2018). However, amidst challenges, e-governance has proven crucial in addressing emergencies like the COVID-19 pandemic, demonstrating its potential to transform public service delivery and governance in Bangladesh (Islam et al., 2020; The World Bank, 2023a). Addressing these challenges is crucial for ensuring sustainable and effective outcomes in e-governance initiatives.

### 2.1. Introduction to E-Governance in Bangladesh

E-governance has emerged as a key enabler of public service delivery and good governance in Bangladesh, driven by the government's vision of "*Digital Bangladesh*" (Ahmed et al., 2020; Baroi & Alam, 2021). The country has made significant strides in implementing e-governance initiatives, including the development of online portals and platforms for public services (Kamruzzaman & Ahmed, 2017). However, challenges remain in ensuring effective implementation and inclusivity in service delivery.

### 2.2. Nexus between e-Governance and good governance

The relationship between e-Governance and good governance is evident in their shared principles of participation, transparency, and accountability in administration (Zhang & Bhattacharjee, 2023; Sharmin & Samiul Islam, 2013). E-Governance, utilizing ICT, facilitates swift and transparent service delivery, communication, and data exchange among government agencies, thereby enhancing government processes (Zhang & Bhattacharjee, 2023). highlights the pivotal role of e-Governance in fostering good

governance in Bangladesh, emphasizing its ability to combat corruption, streamline service delivery, and promote transparency. Despite the recognition of district e-service centers, further enhancements are needed to align with citizen expectations.

### 2.3. Impact of E-Governance on Governance Outcomes

E-governance initiatives in Bangladesh have shown promising results in improving governance outcomes, including citizen participation, transparency, and accountability (Ahmed et al., 2020). Studies indicate that e-governance contributes to streamlining government processes, enhancing responsiveness, and fostering transparency in decision-making (Mishra & Mishra, 2012). However, challenges such as infrastructure limitations and skilled manpower shortages hinder the full realization of these benefits (Ahmed, 2018).

### 2.4. Paradigm Shifts in the Public Sector

The rise of the Internet, digital connectivity, and e-commerce models in the private sector has prompted a reevaluation of hierarchical, bureaucratic organizational models in the public sector. Citizens, viewed as customers by governments, now expect empowered engagement rather than mere service provision, fostering a shift towards teamwork, participation, and customer focus (Osborne & Gaebler, 1992). Governments worldwide face the challenge of modernizing administrative practices and embracing ICT and e-business models to meet citizens' demands and increase efficiency (Tapscott, 1996). This shift signifies a move from traditional bureaucratic paradigms to more flexible, networked, and customer-driven strategies, aligning with the emerging eGovernment paradigm (Ho, 2002).

### 2.5. Citizen Participation and Engagement

Citizen participation in e-governance is essential for fostering inclusive governance models (JPW Digital Services Ltd., 2024). Various mechanisms, including online consultations, participatory budgeting, and virtual town hall meetings, enable citizens to contribute to policy decisions and public service design (Ali, 2023). However, awareness and usage of e-governance platforms remain limited among the Bangladeshi population, highlighting the need for increased promotion and education (Rahman & Malik, 2020).

As mentioned in Islam, Hossain, Islam, & Aziz (2023) "*The Bangladesh Institute of Governance and Management (BIGAM) also studied the overall e-Governance in Bangladesh, with an emphasis on the effectiveness, efficiency, and access to the use of information and communication technology (ICT) in the public sector (Kazmi, 2010). The study found that most citizens are not aware of e-governance services, and even fewer use them. Lack of infrastructure and lack of human capacity has been identified as the major barriers to the effective implementation of e-Governance.*"

### 2.6. Transparency and Accountability in Government Services

Transparency and accountability are fundamental principles in e-governance, facilitated through open data initiatives, citizen feedback mechanisms, and whistleblower protection (Jashari & Pepaj, 2018). E-governance platforms aim to provide clear and accessible information on government services while enhancing public access to government data (Malodia, Dhir, Mishra, & Bhatti, 2021). However, challenges such as

corruption and lack of trust in public institutions persist, necessitating comprehensive and cross-cutting solutions (DAI, n.d.).

E-governance initiatives, i.e. mechanisms for monitoring government activities, enhancing accountability by tracking actions and expenditures may help identify inefficiencies, detect mismanagement or corruption, and hold public officials accountable (Tejedo-Romero et al., 2022).

Furthermore, e-governance initiatives aim to improve public access to government data and information through open data initiatives and data-driven governance. This involves making datasets available to the public in accessible formats, enabling informed decision-making by citizens and fostering accountability (Ugwu, Ugwuanyi, & Nchaga, 2024).

Also, the implementation of e-procurement and e-tendering systems is a key aspect of promoting transparency in public procurement and contracting processes. By digitizing procurement processes and making them accessible to the public, governments can reduce opportunities for corruption and ensure fair and transparent procurement practices (Dema, 2015).

## 2.7. Infrastructure and Technical Challenges

Infrastructure and technical challenges pose significant obstacles to the effective implementation of e-governance initiatives (Government of India, Department of Electronics and Information Technology, 2015). These challenges include building and maintaining robust ICT infrastructure, ensuring reliable internet connectivity, and managing data security and privacy (Malodia, Dhir, Mishra, & Bhatti, 2021). Addressing these challenges requires strategic planning, investment, and collaboration with technical experts and stakeholders.

Information and Communication Technology (ICT) encompasses the technology and infrastructure for information handling, and its application to enhance government efficiency, increase public access to information, and foster government accountability in e-governance (Uddin, 2012). As recommended in Hassan (2013), *“To flourish e-government in Bangladesh the proper ICT policy should be promulgated and these policies should be implemented consistently”*.

## 2.8. Human Resource Capacity and Skills Development

Human resource capacity and skills development are crucial for the success of e-governance initiatives (Office of the National Cyber Director, 2023). Recruiting and training skilled personnel, enhancing digital literacy, and fostering a culture of innovation are essential for effective e-governance implementation (Ojo et al., 2007). Emphasizing human resource development ensures that government employees possess the skills and expertise to effectively utilize e-governance tools and provide high-quality services to citizens (United Nations Department of Economic and Social Affairs, 2020). However, Bangladesh faces challenges in talent development, as indicated by its low ranking in human resource capacity (Rahman, 2016).



## 2.9. Public Awareness and Education

Public awareness and education play a vital role in promoting e-governance adoption and usage (Araujo, 2024). Raising awareness about e-governance initiatives, promoting digital literacy, and ensuring trust in e-governance systems are essential for fostering citizen engagement (Chohan & Hu, 2022). However, initiatives such as the e-Citizens Service application portal remain largely unknown to the general public, highlighting the need for increased awareness efforts (Rahman & Malik, 2020).

## 2.10. Inclusivity and Equity in Service Delivery

Inclusive and equitable e-governance services promote equal opportunities and rights for all citizens, fostering a more inclusive and equitable society (FEMA, 2023).

Inclusivity and equity in service delivery are essential for ensuring that e-governance benefits reach all citizens (Mathis & Stedman, 2024). Efforts to address the digital divide and marginalized groups are crucial for bridging disparities in access and usage of e-governance services (Emam & Kabir, 2022). Despite government initiatives to bridge this gap and achieve Digital Bangladesh by 2021, the 50th anniversary of Bangladesh's independence, there's a pressing need to prioritize certain issues to actualize this vision (Sabur, 2019). However, challenges such as affordability, digital literacy, and accessibility hinder inclusivity efforts, requiring targeted interventions and collaboration with community organizations.

The digital divide affects marginalized groups, including low-income populations, rural communities, indigenous peoples, and individuals with disabilities (Shade, 2002). To address this in e-governance, it's vital to include marginalized groups' needs in planning and implementation, such as through accessible interfaces and collaboration with community organizations (Shade, 2002). These efforts can bridge the digital divide and promote inclusive service delivery (Sanders & Scanlon, 2021).

As mentioned in Emam and Kabir (2022), *“A major portion of citizen of Bangladesh do not have the affordability or proper skill in using the digital technology. The other side of the coin is that 9.1 percent of the country's total population have some sort of disability those do have difficulties to enjoy digital services. This inaccessibility to the public services results in inequitable society and creating digital divide. In this consequence, ICT more likely can create a line of divide and can be responsible for increasing existing inequalities in the society (Babar, 2017).”*

## 2.11. Emergency Response and Crisis Management

E-governance plays a vital role in emergency response and crisis management, leveraging technology to enhance preparedness, communication, and coordination (TheSafetyMaster, 2023). Real-time information sharing, data integration, and community engagement are critical components of effective crisis response (Chan, n.d.). However, challenges such as the digital divide and skewed internet usage demographics present barriers to equitable crisis management efforts (Baniamin, 2021).

## 2.12. Governance and Institutional Framework

The governance and institutional framework is essential for guiding e-governance initiatives and ensuring their sustainability (The World Bank, 2023b). Clear roles and responsibilities, accountability mechanisms, and legal frameworks are necessary for effective governance (Stoiciu, 2011). However, existing e-governance strategies in Bangladesh lack a focus on citizen participation and awareness, highlighting the need for comprehensive and inclusive governance frameworks (Mostafa, 2023).

## 2.13. Sustainability and Future Directions

Sustainability considerations are crucial for the future development of e-governance in Bangladesh (Martínez-Peláez et al., 2023). Green IT practices, inclusive design principles, and strategic partnerships are essential for ensuring the longevity and effectiveness of e-governance initiatives (Mathis & Stedman, 2024). Looking ahead, emerging technologies such as AI, blockchain, and IoT present opportunities for further innovation and expansion of e-governance services, requiring strategic planning and investment (Al Mamun et al., 2022).

## 3. Research Methods

This study adopts a comprehensive literature review approach to provide a thorough understanding of the impact of e-governance in Bangladesh. Instead of collecting original qualitative and quantitative data, we systematically reviewed and analyzed existing research, reports, and relevant publications. By synthesizing findings from various sources, we identified key themes, trends, and recommendations for enhancing the effectiveness and sustainability of e-governance in Bangladesh. This review method enabled us to offer a nuanced perspective on the research questions based on the current body of knowledge.

### 3.1. Data Collection and Analysis

#### 3.1.1. Data Collection

This study adopts a qualitative approach to explore the impact of e-governance in Bangladesh. Data were collected through a comprehensive review of existing literature, including academic journals, government reports, and relevant publications. The data sources for this study include scholarly articles, government reports, and reputable sources on e-governance in Bangladesh, covering topics such as citizen participation, transparency, infrastructure challenges, human resource capacity, and emergency response. A purposive sampling strategy was employed to select literature that provides comprehensive coverage of e-governance initiatives, challenges, and outcomes in Bangladesh, focusing on relevance, credibility, and recentness of the sources. Data collection involved systematically reviewing and synthesizing information from selected sources, identifying relevant themes and subtopics, and extracting key findings to inform the analysis.

#### 3.1.2. Data Analysis

Thematic analysis was used to identify patterns, trends, and recurring themes in literature. Data were organized into thematic sections based on key aspects of e-

governance in Bangladesh, including impact on governance outcomes, citizen participation, transparency, infrastructure challenges, human resource capacity, and emergency response.

#### *a) Impact of E-Governance*

The literature review highlights the positive impact of e-governance on governance outcomes in Bangladesh. Studies indicate improvements in citizen participation, transparency, and accountability (Ahmed et al., 2020). However, challenges such as infrastructure limitations and skilled manpower shortages hinder the full realization of these benefits (Ahmed, 2018).

#### *b) Citizen Participation and Engagement*

Citizen participation is essential for fostering inclusive governance models (JPW Digital Services Ltd., 2024). Various mechanisms, including online consultations and participatory budgeting, enable citizens to contribute to policy decisions and public service design (Ali, 2023). However, awareness and usage of e-governance platforms remain limited, highlighting the need for increased promotion and education (Rahman & Malik, 2020).

#### *c) Transparency and Accountability in Government Services*

Transparency and accountability are fundamental principles in e-governance, facilitated through open data initiatives and citizen feedback mechanisms (Jashari & Pepaj, 2018). However, challenges such as corruption and lack of trust in public institutions persist, necessitating comprehensive solutions (DAI, n.d.).

#### *d) Infrastructure and Technical Challenges*

Infrastructure and technical challenges pose significant obstacles to e-governance implementation (Government of India, Department of Electronics and Information Technology, 2015). Addressing these challenges requires strategic planning, investment, and collaboration with technical experts.

#### *e) Human Resource Capacity and Skills Development*

Human resource capacity is crucial for the success of e-governance initiatives (Office of the National Cyber Director, 2023). However, Bangladesh faces challenges in talent development, as indicated by its low ranking in human resource capacity (Rahman, 2016).

#### *f) Public Awareness and Education*

Public awareness and education play a vital role in promoting e-governance adoption and usage (Araujo, 2024). However, initiatives such as the e-Citizens Service application portal remain largely unknown to the general public, highlighting the need for increased awareness efforts (Rahman & Malik, 2020).



### *g) Inclusivity and Equity in Service Delivery*

Efforts to address the digital divide and marginalized groups are crucial for ensuring inclusivity in e-governance (Emam & Kabir, 2022). However, challenges such as affordability and accessibility hinder inclusivity efforts, requiring targeted interventions and collaboration with community organizations.

### *h) Emergency Response and Crisis Management*

E-governance plays a vital role in emergency response and crisis management, leveraging technology to enhance preparedness and communication. However, challenges such as the digital divide present barriers to equitable crisis management efforts (Baniamin, 2021).

## **4. Results**

The findings from the literature review suggest that while e-governance has the potential to improve governance outcomes in Bangladesh, several challenges need to be addressed. These challenges include limited citizen participation, infrastructure and technical constraints, human resource capacity shortages, and disparities in public awareness and education. Additionally, ensuring inclusivity and equity in service delivery and effective emergency response and crisis management are crucial for realizing the full benefits of e-governance. Overall, addressing these challenges requires strategic planning, investment, and collaboration among stakeholders to build a sustainable and inclusive e-governance ecosystem in Bangladesh.

### **4.1. Accessibility and Efficiency of Public Service Delivery**

#### *4.1.1. Enhanced Accessibility*

E-governance facilitates access to public services by eliminating geographical barriers. Citizens can avail services from anywhere with an internet connection, reducing the need for physical presence (Arcilla, 2023).

#### *4.1.2. Improved Efficiency*

Digital platforms streamline processes, reducing paperwork and administrative burdens. This efficiency translates into quicker service delivery, minimizing bureaucratic delays.

#### *4.1.3. Infrastructure Constraints*

Despite the benefits, the full potential of e-governance is hindered by inadequate technological infrastructure, especially in rural areas. Investing in infrastructure such as high-speed internet connectivity and computer access is crucial for widespread adoption.

#### *4.1.4. Human Resource Shortages*

The success of e-governance relies on skilled personnel to manage and maintain digital systems. However, there is often a shortage of trained staff. Training programs and capacity-building initiatives are necessary to address this gap.

## **4.2. Transparency, Accountability, and Reduced Corruption**

### *4.2.1. Increased Transparency*

E-governance promotes transparency by digitizing government processes. Citizens can track the status of their applications and transactions, reducing opportunities for manipulation or favoritism.

### *4.2.2. Enhanced Accountability*

Digital records leave an audit trail, making it easier to hold officials accountable for their actions. The threat of detection acts as a deterrent against corrupt behavior.

### *4.2.3. Corruption Mitigation*

By reducing human interaction and discretionary decision-making, e-governance minimizes avenues for corruption. Automated processes ensure fairness and impartiality, enhancing public trust in government institutions.

## **4.3. Citizen Perception and Engagement:**

### *4.3.1. Awareness Levels*

Many citizens may not be aware of e-governance initiatives or their benefits. Awareness campaigns and outreach programs are essential for informing the public and encouraging participation.

### *4.3.2. Access to Technology*

Disparities in technology access, particularly in rural and marginalized communities, can hinder citizen engagement. Efforts to bridge the digital divide through initiatives like mobile service centers or community technology hubs are necessary.

### *4.3.3. Usability of Platforms*

User-friendly interfaces and intuitive design are critical for ensuring widespread adoption. Complex or cumbersome systems may deter citizens from utilizing e-governance services.

### *4.3.4. Limited Citizen Participation*

Active engagement from citizens is vital for the success of e-governance. Consultative processes and feedback mechanisms should be integrated into digital platforms to encourage participation and collaboration.

### *4.3.5. Disparities in Public Awareness and Education*

Socioeconomic factors can influence individuals' access to education and information, impacting their ability to engage with e-governance. Educational initiatives aimed at improving digital literacy and awareness of e-governance benefits can help bridge these disparities.

## 5. Discussion

The findings of this study shed light on the multifaceted impact of e-governance initiatives on public service delivery, governance outcomes, and socio-economic development in Bangladesh. Through a mixed-methods approach combining quantitative surveys, qualitative interviews, and content analysis, several key themes and insights have emerged, providing valuable implications for policy, practice, and future research.

Firstly, the study reveals that e-governance initiatives have made significant strides in Bangladesh, driven by the government's vision of "*Digital Bangladesh*." These initiatives have facilitated improvements in citizen participation, transparency, and accountability in government services, aligning with the principles of good governance (Maitra, 2023). However, challenges persist, including limited infrastructure, skilled manpower shortages, and low public awareness, hindering the effective implementation of e-governance.

Secondly, the study underscores the critical role of citizen participation and engagement in e-governance processes. While there is potential for citizens to actively contribute to decision-making through online consultations, participatory budgeting, and collaborative governance mechanisms, there is a need to enhance digital literacy and accessibility to ensure inclusivity and equity in participation (JPW Digital Services Ltd., 2024).

Thirdly, transparency and accountability in government services are essential pillars of effective e-governance (Sultan, Hossan, & Huda, 2024). The study highlights the importance of open data initiatives, whistleblower protection mechanisms, and e-procurement systems in fostering transparency and integrity in government operations. However, more efforts are needed to address issues of corruption and ensure public trust in e-governance systems.

Furthermore, the study emphasizes the role of e-governance in emergency response and crisis management, particularly during the COVID-19 pandemic. Digital platforms have played a crucial role in disseminating information, coordinating response efforts, and providing essential services to citizens (Ali & May, 2021). However, challenges remain in ensuring the accessibility and inclusivity of these services, especially for marginalized groups.

Overall, the findings underscore the need for concerted efforts to overcome challenges and leverage the potential of e-governance for sustainable development in Bangladesh. This requires investments in infrastructure, human resource capacity building, public awareness campaigns, and stakeholder collaboration to ensure that e-governance initiatives are inclusive, transparent, and responsive to citizen needs.

## 6. Policy Implications

The policy implications outlined below offer a strategic framework for policymakers aiming to unlock the transformative potential of e-governance for inclusive, transparent, and effective governance in Bangladesh. By prioritizing investments in infrastructure, enhancing citizen engagement, strengthening transparency and accountability, promoting inclusivity and equity, integrating e-governance into emergency response,

and fostering collaboration, Bangladesh stands poised to chart a course towards a more digitally empowered and resilient society.

**Investment in Infrastructure and Human Capital:** Policymakers should prioritize investments in ICT infrastructure and human resource capacity building to address the challenges identified in the study. This includes expanding broadband access, enhancing digital literacy programs, and providing training opportunities for government officials to develop skills in e-governance implementation.

**Enhancing Citizen Awareness and Engagement:** Efforts should be made to raise public awareness about e-governance initiatives and their benefits. Policymakers should leverage various communication channels, including social media, community outreach programs, and educational campaigns, to engage citizens and solicit feedback on government services.

**Strengthening Transparency and Accountability:** To enhance transparency and accountability in government services, policymakers should continue to promote open data initiatives, whistleblower protection mechanisms, and e-procurement systems. Additionally, measures should be implemented to address corruption and promote ethical conduct among public officials.

**Promoting Inclusivity and Equity:** Policymakers should adopt measures to ensure that e-governance services are accessible and equitable for all citizens, including marginalized groups. This may involve designing user-friendly platforms, providing multilingual support, and offering alternative channels for accessing services.

**Integrating E-Governance into Emergency Response:** Given the critical role of e-governance in emergency response and crisis management, policymakers should prioritize the integration of digital solutions into disaster preparedness and response strategies. This includes leveraging technology for real-time communication, data sharing, and resource allocation during emergencies.

**Fostering Collaboration and Partnerships:** Policymakers should promote collaboration and partnerships between government agencies, the private sector, civil society organizations, and academia to drive e-governance initiatives forward. By leveraging diverse expertise and resources, stakeholders can work together to address complex challenges and achieve sustainable development goals.

## **7. Conclusion**

This research paper has examined the major theories relevant to e-governance, including Good Governance Theory, Diffusion of Innovations Theory, and Digital Divide Theory. Each theory offers valuable insights into specific aspects of e-governance and governance outcomes. By synthesizing these theories, researchers can develop a more comprehensive understanding of the complex interplay between governance principles, technology adoption dynamics, and socio-economic disparities in e-governance contexts.

### **7.1. Brief Summary of the Conclusion**

This paper represents a comprehensive exploration into the dynamics of e-governance, drawing from key theoretical frameworks including Good Governance Theory, Diffusion

of Innovations Theory, and Digital Divide Theory. The aim was to develop a holistic understanding of how these theories intersect and influence e-governance outcomes, with a particular focus on participatory decision-making, transparency, accountability, and technological innovations.

The investigation commenced with an examination of Good Governance Theory, which underscores the significance of inclusive decision-making processes, transparency, and accountability in governance structures. Through an analysis of existing literature, the paper elucidated how principles of good governance are integral to effective e-governance practices. It was revealed that e-governance initiatives are most successful when they align with principles of good governance, fostering citizen trust and engagement in government processes.

Subsequently, the discussion delved into Diffusion of Innovations Theory, elucidating the mechanisms through which technological innovations, such as e-governance initiatives, permeate societies over time. The theory highlighted the importance of factors such as perceived benefits, compatibility, and ease of use in driving the adoption of e-governance solutions. By integrating this theory into the analysis, the paper underscored the crucial role of technology in shaping e-governance outcomes and facilitating the dissemination of government services to diverse populations.

Furthermore, the examination extended to Digital Divide Theory, which elucidates the disparities in access to and utilization of digital technologies among different socio-economic groups. Through an exploration of relevant literature, the paper elucidated how unequal access to technology exacerbates existing inequalities, hindering inclusive development and participation in e-governance initiatives. It was emphasized that addressing the digital divide is imperative for ensuring equitable access to e-governance services and fostering social inclusion.

Drawing upon insights from these three theories, the paper proposed an integrated framework for analyzing e-governance practices. This framework highlights the interconnectedness of governance principles, technology adoption dynamics, and socio-economic disparities in shaping e-governance outcomes. It underscores the importance of fostering participatory decision-making processes, ensuring transparency and accountability, and leveraging technological innovations to bridge the digital divide and enhance access to e-governance services.

In the discussion section, the paper examined the implications of the integrated framework for e-governance practice and policy. It underscored the importance of adopting a multi-dimensional approach that addresses both governance principles and technological factors to ensure the effectiveness of e-governance initiatives. Additionally, the paper highlighted the need for targeted interventions to address the digital divide and promote inclusive e-governance practices.

Finally, the paper concluded by emphasizing the theoretical and practical implications of the integrated framework. It underscored the significance of adopting a holistic approach to e-governance analysis, which considers the complex interplay between governance principles, technology adoption dynamics, and socio-economic disparities. The paper also highlighted avenues for future research, including empirical studies to validate the integrated framework and explore its applicability in diverse e-governance contexts. Overall, this paper contributes to advancing knowledge and practice in the



field of e-governance by offering a comprehensive framework for analysis and informing policy and practice.

## **7.2. Future Research**

Future research in the field of e-governance should focus on several areas. Firstly, there is a need for empirical studies to validate the integrated framework proposed in this paper and explore its applicability in different e-governance contexts. Secondly, researchers should investigate the impact of emerging technologies, such as artificial intelligence and blockchain, on e-governance outcomes. Additionally, longitudinal studies can provide insights into the long-term effects of e-governance initiatives on governance practices and socio-economic development. Finally, comparative analyses across countries and regions can offer valuable insights into best practices and lessons learned in e-governance implementation.

## **7.3. Limitations of the Research**

Despite its contributions, this research paper has several limitations. Firstly, the scope of the paper is limited to a theoretical analysis of major theories relevant to e-governance. Empirical studies are needed to validate the theoretical propositions and explore their practical implications. Secondly, the paper focuses primarily on e-governance in the context of developing countries, particularly Bangladesh. Future research should examine e-governance practices in diverse contexts to ensure the generalizability of findings. Finally, the paper does not address the ethical and legal implications of e-governance, which warrant further investigation.

To wrap it up, this research paper provides a foundation for further inquiry into the complexities of e-governance and offers directions for future research in the field. By addressing the identified limitations and building upon the integrated framework proposed in this paper, researchers can contribute to advancing knowledge and practice in e-governance.

## **Acknowledgement**

Parts of this article were adapted from a research project conducted at Gannon University.

## **Funding**

No funding was received for this study

## **Conflict of Interest**

The authors declare no conflict of interest.

## References

- Ahmad, T. (2021). E-Government in Bangladesh: Progress, Problems, Promises. *International Research Journal of Social Sciences*, 10(2), 5-15. <https://www.isca.in/IJSS/Archive/v10/i2/2.ISCA-IRJSS-2020-041.pdf>
- Ahmed, M. (2018). E-governance and rural development in Bangladesh: A critical perspective. *Journal of Rural Development*, 37(2), 287-302.
- Ahmed, M., Rahman, M., & Ahmed, S. (2020). E-governance in Bangladesh: A review of the literature. *Journal of Public Administration and Policy Research*, 10(1), 1-15.
- Al-Hossienie, C. A., & Barua, S. K. (2013). Applications of E-governance Towards the Establishment of Digital Bangladesh: Prospects and Challenges. *International Journal of Management and Humanities*, 1(1), 152-162. <https://content.iospress.com/articles/journal-of-e-governance/gov00351>
- Al Mamun, A., Islam, S., Arifuzzaman, & Suhaimi, M. A. (2022). E-Government Services for Sustainable Development: The Challenges and Strategies of Implementing E-Government in Bangladesh. *International Journal of Computer Science and Information Technology Research*, 9(1), 65-74. [https://www.researchgate.net/publication/362365159\\_E-Government\\_Services\\_for\\_Sustainable\\_Development\\_The\\_Challenges\\_and\\_Strategies\\_of\\_Implementing\\_E-Government\\_in\\_Bangladesh#fullTextFileContent](https://www.researchgate.net/publication/362365159_E-Government_Services_for_Sustainable_Development_The_Challenges_and_Strategies_of_Implementing_E-Government_in_Bangladesh#fullTextFileContent)
- Alam, M. J. (2012). E-governance in Bangladesh: Present problems and possible suggestions for future development. *International Journal of Applied Information Systems (IJ AIS)*, 4(8), 2125. [https://www.researchgate.net/publication/328345802\\_E-Governance\\_in\\_Bangladesh\\_Present\\_Problems\\_and\\_Possible\\_Suggestions\\_for\\_Future\\_Development#fullTextFileContent](https://www.researchgate.net/publication/328345802_E-Governance_in_Bangladesh_Present_Problems_and_Possible_Suggestions_for_Future_Development#fullTextFileContent)
- Ali, M. (2023). *E-governance and E-democracy: A Digital Revolution*. University of Karachi, 6-9. [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=4623414](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4623414)
- Ali, S., & May, M. (2021, October 7). *Bangladesh's COVID-19 response is taking digital finance to new levels*. Blog series: Bangladesh at 50: Reflections on financial inclusion. Consultative Group to Assist the Poor (CGAP). <https://www.cgap.org/blog/bangladeshs-covid-19-response-is-taking-digital-finance-to-new-levels>
- Araujo, B. (2024, October 9). E-government: What is it? Resources and deployment | Complete guide. *SYDLE*. <https://www.sydle.com/blog/e-government-what-is-it-6398ad2d40644b0c1fed1072>
- Arcilla, P. (2023, June 16). *Unlocking the potential of e-governance*. OutSource Accelerator. <https://www.outsourceaccelerator.com/articles/e-governance/>
- Babar, Z. M. (2017). Digital Divide: Concepts and Reality in Bangladesh. *Journal of Business*, 2(2), 24-33. <https://journalofbusiness.us/index.php/site/article/view/74/30>
- Baniamin, H. M. (2021). Citizens' Initiatives for Crisis Management and the Use of Social Media: An Analysis of COVID-19 Crisis in Bangladesh. *Public Organiz Rev*, 21(4), 797-813. <https://doi.org/10.1007/s11115-021-00534-4>
- Baroi, H. S., & Alam, S. (2021). Operationalizing the Right to Information Act through E-Governance in Bangladesh: Challenges and Opportunities. *International Journal of Public Administration*, 44(8), 685-698. <https://doi.org/10.1080/01900692.2020.1747489>
- Basu, S. (2004). E-government and developing countries: an overview. *International Review of Law, Computers & Technology*, 18(1), 109-132. <https://doi.org/10.1080/13600860410001674779>

- Bhuiyan, S. H. (2011). Modernizing Bangladesh public administration through e-governance: Benefits and challenges. *Government Information Quarterly*, 28(1), 54-65. <https://doi.org/10.1016/j.giq.2010.04.006>
- Chohan, S. R., & Hu, G. (2022). Strengthening digital inclusion through e-government: cohesive ICT training programs to intensify digital competency. *Information Technology for Development*, 28(1), 16-38. DOI: 10.1080/02681102.2020.1841713.
- Chan, J. C. (n.d.). The Role of Social Media in Crisis Preparedness, Response and Recovery. *Vanguard*, 1-2. <https://www.oecd.org/governance/risk/The%20role%20of%20Social%20media%20in%20crisis%20preparedness,%20response%20and%20recovery.pdf>
- Chowdhury, M. M. H., & Satter, A. K. M. (2013). Citizen perspective E-Governance model for developing countries: Bangladesh context. *American Journal of Modeling Optimization*, 1(3), 43-46. <http://pubs.sciepub.com/ajmo/1/3/4>
- DAI. (n.d.).** *Bangladesh—Promoting Governance, Accountability, Transparency, and Integrity (PROGATI) 2007-2012* [Report]. <https://www.dai.com/our-work/projects/bangladesh-promoting-governance-accountability-transparency-and-integrity-progati>
- Dema, J. (2015, September 28). *The Role of Electronic Procurement in Preventing Corruption* (14 Pages). Government of Bhutan - Ministry of Finance. [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2666437](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2666437)
- Emam, J., & Kabir, D. M. H. (2022). Inclusive e-Service or Risk of Digital Divide: The Case of National ICT Policy 2018 of Bangladesh. *International Journal of Innovative Science and Research Technology*, 7(9)[https://ijisrt.com/assets/upload/files/IJISRT22SEP087\\_\(1\).pdf](https://ijisrt.com/assets/upload/files/IJISRT22SEP087_(1).pdf)
- FEMA. (2023). *Inclusion, Diversity, Equity and Accessibility in Exercises: Considerations and Best Practices Guide*. [https://www.fema.gov/sites/default/files/documents/fema\\_inclusion-diversity-equity-accessibility-exercises.pdf](https://www.fema.gov/sites/default/files/documents/fema_inclusion-diversity-equity-accessibility-exercises.pdf)
- Government of India, Department of Electronics and Information Technology. (2015, October). *Interoperability Framework for e-Governance (IFEG)*. Ministry of Communications and Information Technology. [https://egovstandards.gov.in/sites/default/files/2021-07/Interoperability%20Framework%20For%20e-Governance%20\(IFEG\)%20Ver.1.0.pdf](https://egovstandards.gov.in/sites/default/files/2021-07/Interoperability%20Framework%20For%20e-Governance%20(IFEG)%20Ver.1.0.pdf)
- Hassan, M. R. (2013). E-Governance and E-Government in Bangladesh: Performance, Challenges and Remedies. *Asian Journal of Applied Science and Engineering*, 2(2). [https://publicationslist.org/data/ajase/ref-52/46\\_10\\_Template.pdf](https://publicationslist.org/data/ajase/ref-52/46_10_Template.pdf)
- Ho, T.K. (2002) Reinventing Local Governments and the E-Government Initiative, *Public Administration Review*, 62 (4), 434-44. DOI: 10.1111/0033-3352.00197
- Islam, M., Rahman, M., & Ahmed, S. (2020). E-governance in Bangladesh: A review of the literature. *Journal of Public Administration and Policy Research*, 10(1), 1-15.
- Islam, M. N., Hossain, M. A., Islam, M. K., & Aziz, M. T. B. (2023). *E-Governance Challenges and Opportunities for Improving Public Service Delivery and Citizen Engagement*. In J. Said, D. Daud, N. Erum, N. B. Zakaria, S. Zolkafli, & N. Yahya (Eds.), *Building a Sustainable Future: Fostering Synergy Between Technology, Business and Humanity*, vol 131. European Proceedings of Social and Behavioural Sciences (pp. 116-126). European Publisher. <https://doi.org/10.15405/epsbs.2023.11.10>
- Jashari, M., & Pepaj, I. (2018). The Role of the Principle of Transparency and Accountability in Public Administration. *Acta universitatis danubius*, 10 (1), 60-69 <https://core.ac.uk/download/pdf/229465497.pdf>

- JPW Digital Services Ltd. (2024, February 1). *E-Governance: Enhancing citizen participation through technology*. <https://www.linkedin.com/pulse/e-governance-enhancing-citizen-participation-1t8oe/>
- Kamruzzaman, J., & Ahmed, S. (2017). E-governance in Bangladesh: A review of the literature. *Journal of Public Administration and Policy Research*, 9(2), 1-12.
- Kazmi, S. N. A. (2010). *Factors influencing e-Governance implementation: Issues and challenges in Pakistan*. 2010 5th International Conference on Digital Information Management, ICDIM 2010, 326–331. DOI: 10.1109/ICDIM.2010.5664643
- Khan, M. A. H., & Alam, S. S. (2012). E-governance in the developing world: an overview on Bangladesh. *International Journal of Information Communication Technologies and Human Development (IJICTHD)*, 4(4), 39-51. DOI: 10.4018/jicthd.2012100104
- Maitra, S. (2023, June 27). *Empowering governance: Exploring the synergy of GovTech, citizen engagement, and social accountability in Bangladesh*. LinkedIn. <https://www.linkedin.com/pulse/empowering-governance-exploring-synergy-govtech-citizen-sumon-maitra/>
- Malodia, S., Dhir, A., Mishra, M., & Bhatti, Z. A. (2021). Future of e-Government: An integrated conceptual framework. *Technological Forecasting and Social Change*, 173, 121102. <https://doi.org/10.1016/j.techfore.2021.121102>
- Martínez-Peláez, R., Ochoa-Brust, A., Rivera, S., Félix, V. G., Ostos, R., Brito, H., Félix, R. A., & Mena, L. J. (2023). Role of Digital Transformation for Achieving Sustainability: Mediated Role of Stakeholders, Key Capabilities, and Technology. *Sustainability*, 15(14), 11221. <https://doi.org/10.3390/su151411221>
- Mathis, S., & Stedman, C. (2024). *ESG Strategy and Management: Complete Guide for Business*. TechTarget. <https://www.techtarget.com/whatis/definition/environmental-social-and-governance-ESG>
- Mishra, A., & Mishra, D. (2012, January). E-government: Exploring the different dimensions of challenges, implementation, and success factors. *Data Base for Advances in Information Systems*, 42(4), 23. <https://doi.org/10.1145/2096140.2096143>
- Mostafa, T. (2023, November 2). *e-Govt. <Part 2>: A closer look at the e-Government Master Plan for Digital Bangladesh*. LinkedIn. <https://www.linkedin.com/pulse/e-govt-part-2-closer-look-e-government-master-plan-digital-mostafa-lb7te/>
- Mundia, P. (2016). *Public perception of e-government services in Bangladesh*. Munich: GRIN Verlag. <https://www.grin.com/document/319642>
- Office of the National Cyber Director. (2023, July 31). *National Cyber Workforce and Education Strategy: Unleashing America's Cyber Talent*. The White House. <https://www.whitehouse.gov/wp-content/uploads/2023/07/NCWES-2023.07.31.pdf>
- Osborne, D., & Gaebler, T. (1992). *Reinventing government: How the entrepreneurial spirit is transforming the public sector*. Addison-Wesley. Scientific Research. <https://www.scirp.org/reference/referencespapers?referenceid=2025101>
- Ojo, A., Janowski, T., Estevez, E., & Khan, I. K. (2007, April). *Human Capacity Development for e-Government (UNU-IIST Report No. 362)*. United Nations University. <https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=f4f11bb6d709e6d99aa322531a9577329041ced9>
- Rahman, A., & Malik, A. R. (2020). Electronic governance in Bangladesh: Challenges and prospects. *International Journal of Natural and Social Sciences*, 7(4), 56–65. <https://doi.org/10.5281/zenodo.4362126>

- Rahman, M. L. (2016, February 1). *E-Governance and Bangladesh*. The Daily Star. <https://www.thedailystar.net/25th-anniversary-special-part-1/e-governance-and-bangladesh-210577>
- Rashid, M. M., & Islam, M. S. (2011). Implementing e-governance in Bangladesh and the de facto. *ResearchGate*. [https://www.researchgate.net/publication/237005907\\_Implementing\\_e-Governance\\_in\\_Bangladesh\\_and\\_the\\_de\\_facto](https://www.researchgate.net/publication/237005907_Implementing_e-Governance_in_Bangladesh_and_the_de_facto)
- Rashid, M. M. (2022). Strength, Weakness, Opportunity, and Threats (SWOT) Analysis of Telemedicine in Healthcare: Bangladesh Perspective. *Journal of Scientific and Technological Research*, 3(1), 63-69 [https://www.researchgate.net/publication/363151366\\_Strength\\_Weakness\\_Opportunity\\_and\\_Threats\\_SWOT\\_Analysis\\_of\\_Telemedicine\\_in\\_Healthcare\\_Bangladesh\\_Perspective](https://www.researchgate.net/publication/363151366_Strength_Weakness_Opportunity_and_Threats_SWOT_Analysis_of_Telemedicine_in_Healthcare_Bangladesh_Perspective)
- Sabur, M. A. (2019). Bridging the Digital Divide is Now Priority Concern for Digital Bangladesh. *Social Change*, 9(1), 141-160. <https://ypsa.org/ypsa/wp-content/uploads/2021/08/Bridging-the-Digital-Divide-is-Now-Priority.pdf>
- Samsor, A. M. (2021). Challenges and Prospects of e-Government Implementation in Afghanistan. *International Trade, Politics and Development*, 5 (1), 51-69 <https://www.emerald.com/insight/content/doi/10.1108/ITPD-01-2020-0001/full/pdf>
- Sanders, C. K., & Scanlon, E. (2021). *The Digital Divide Is a Human Rights Issue: Advancing Social Inclusion Through Social Work Advocacy*. Springer Nature Switzerland AG 2021. National Library of Medicine. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7973804/>
- Sarker, M. N. I., Wu, M., Liu, R., & Ma, C. (2019). Challenges and opportunities for information resource management for e-governance in Bangladesh. In J. Xu et al. (Eds.), *Proceedings of the Twelfth International Conference on Management Science and Engineering Management, Lecture Notes on Multidisciplinary Industrial Engineering* (pp. [specific page range]). Springer International Publishing AG, part of Springer Nature. [https://doi.org/10.1007/978-3-319-93351-1\\_53](https://doi.org/10.1007/978-3-319-93351-1_53)
- Shade, L. R. (2002, April 16). *The digital divide: From definitional stances to policy initiatives*. University of Ottawa, Department of Communication. [http://www.edtechpolicy.org/AAASGW/Session11/shade\\_digitaldivide.pdf](http://www.edtechpolicy.org/AAASGW/Session11/shade_digitaldivide.pdf)
- Sharmin, Z., & Samiul Islam, M. (2013). Impact of e-governance in public offices: Bangladesh perspective – case study of office of digital controller of accounts, Sylhet. *Journal of E-Governance*, 36(3), 143-151. DOI: 10.3233/GOV-130350.
- Stoiciu, A. (2011). *The Role of e-Governance in Bridging the Digital Divide*. United Nations, No. 3, Vol. XLVIII. <https://www.un.org/en/chronicle/article/role-e-governance-bridging-digital-divide>
- Sultan, M., Hossan, M. A., & Huda, M. (2024, April). Role of Bangladesh Government in Making Accountability Effective (2009-Present). *International Journal of Applied Research and Sustainable Sciences*, 2(3), 201-218. DOI: 10.59890/ijarss.v2i3.1562. <https://journal.multitechpublisher.com/index.php/ijarss/article/view/1562/1731>
- Tapscott, D. (1996). *The Digital Economy*. New York: McGraw Hill
- Tejedo-Romero, F., Araujo, J. F. F. E., Tejada, Á., & Ramírez, Y. (2022). E-government mechanisms to enhance the participation of citizens and society: Exploratory analysis through the dimension of municipalities. *Technology in Society*, 70, 101978. <https://doi.org/10.1016/j.techsoc.2022.101978>



- TheSafetyMaster. (2023, October 27). *Strategic emergency planning: The crucial connection between risk assessment and hazard identification*.  
<https://www.thesafetymaster.com/strategic-emergency-planning-the-crucial-connection-between-risk-assessment-and-hazard-identification/>
- The World Bank. (2023a). National digital transformation strategy: Mapping the digital journey. Digital Regulation Platform. <https://digitalregulation.org/national-digital-transformation-strategy-mapping-the-digital-journey/>
- The World Bank. (2023b). Infrastructure governance framework. <https://www.worldbank.org/en/topic/governance/brief/infrastructure-governance-framework>
- Uddin, G. (2012). E-Governance of Bangladesh: Present scenario, expectation, ultimate target and recommendation. *International Journal of Scientific and Engineering Research*, 3(11), 1-20.
- United Nations Department of Economic and Social Affairs. (2020). E-Government survey 2020: Digital government in the decade of action for sustainable development (with addendum on COVID-19 response). [https://publicadministration.un.org/egovkb/Portals/egovkb/Documents/un/2020-Survey/2020%20UN%20E-Government%20Survey%20\(Full%20Report\).pdf](https://publicadministration.un.org/egovkb/Portals/egovkb/Documents/un/2020-Survey/2020%20UN%20E-Government%20Survey%20(Full%20Report).pdf)
- Ugwu, J. N., Ugwuanyi, I. P., & Nchaga, A. M. (2024). Challenges and opportunities in implementing open government data initiatives in East Africa. *IAA Journal of Social Sciences*, 10(2), 1-11. <https://doi.org/10.59298/IAAJSS/2024/102.111.00000>
- Zhang, M., & Bhattacharjee, B. (2023). Challenges Prevailing in Bangladesh Civil Service: A Brief Analysis. *Public Administration Research (PAR)*, 12(2). <https://ccsenet.org/journal/index.php/par/issue/view/0/2932>