

**ICTHM 2023****International Conference in Technology, Humanities and Management****E-GOVERNANCE CHALLENGES AND OPPORTUNITIES FOR  
IMPROVING PUBLIC SERVICE DELIVERY AND CITIZEN  
ENGAGEMENT**

Md. Nurul Islam (a), Md. Aiub Hossain (b)\*, Md. Khairul Islam (c), Md. Tarik Been Aziz (d)

\*Corresponding author

- (a) School Of Information Management & Institute Of Government Data Resources, Nanjing University, China, Dg1914501@Smail.Nju.Edu.Cn
- (b) Lecturer, Department Of Library and Information Science, International Islamic University Chittagong, Bangladesh, Hossain.Aiub10001@Iiuc.Ac.Bd
- (c) School Of Information Management, Nanjing University, China, Dg1914501@Smail.Nju.Edu.Cn
- (d) Lecturer, Department Of Library and Information Science, International Islamic University Chittagong, Bangladesh, Tarikaziz@Iiuc.Ac.Bd

**Abstract**

Understanding the existing level of e-governance in Bangladesh and identifying the obstacles to enhancing public service delivery and boosting citizen involvement are the goals of this research. An examination of previous literature is part of the investigation. According to the report, e-governance measures in Bangladesh, such as online service delivery and procurement, have helped to reduce corruption. However, considerable obstacles still exist, including a lack of infrastructure, residents with inadequate knowledge and expertise, and public authorities with insufficient resources. Even though the government has already put in place several e-governance projects, there are still issues that must be resolved. These difficulties include a lack of infrastructure, a lack of knowledge and expertise among residents, the capacity limitations of public authorities, and a lack of funding. E-governance, however, also offers the nation a variety of options, including more transparency and accountability, enhanced citizen involvement, and expanded access to public services. The research also found prospects for e-governance to boost citizen involvement, enhance transparency and accountability, and expand access to public services. There are suggestions for dealing with these issues and seizing these chances, such as boosting infrastructure spending, developing human potential, and enhancing accountability and transparency.

2357-1330 © 2023 Published by European Publisher.

*Keywords:* Bangladesh, Citizen Engagement, E-government, E-governance, Public Service

## 1. Introduction

In developing nations like Bangladesh, e-governance, or the use of technology to provide public services and include individuals in government, has the potential to enhance both of these outcomes (Hossain et al., 2015). However, there are several obstacles to the implementation of e-governance efforts in Bangladesh, including a lack of infrastructure, individuals with little knowledge and expertise, and public employees with inadequate resources (Baroi & Alam, 2021). In addition, there is potential for e-governance to boost citizen involvement, promote transparency and accountability, and expand access to public services. To comprehend the present status of e-governance in Bangladesh, identify the possibilities and problems the nation confronts in putting e-governance ideas into action, and provide suggestions for further strengthening e-governance in the nation, this research intends to: The project will evaluate previous research and use questionnaires, interviews, and case studies to gather and analyze data (Goldsmith et al., 2022). Additionally, the influence of e-governance on Bangladesh's society and the government's attempts to adopt it will be examined.

E-governance is the practice of using technology, primarily the internet, to boost public participation in decision-making, increase the efficacy and efficiency of government services, and other related goals (Shamsuddoha et al., 2005). This may include a broad variety of activities, such as the use of digital platforms to offer government services, the use of digital technologies to allow public involvement in government decision-making, and the use of data and analytics to boost the effectiveness of government agencies. E-governance aims to increase government accountability, transparency, and accessibility to the public while also enhancing the provision of public services.

South Asia is the home of Bangladesh. India forms its northern, eastern, and western boundaries, while Myanmar forms its southern boundary. South of the nation is where the Bay of Bengal is located. With nearly 160 million citizens, Bangladesh is the ninth most populated nation in the world. The capital city is Dhaka, and Bengali is the official language (Management Association, 2015).

Bangladesh has a varied economy with industries in manufacturing, services, and agriculture. The nation is among the top exporters of ready-to-wear apparel, and the economy of the nation is heavily dependent on the textile sector. A significant majority of the population is employed in agriculture, which is also a key source of exports. Bangladesh, one of the world's most populous nations, has achieved considerable strides in recent years in areas like poverty reduction and economic development (Hussain, 2011). Bangladesh's culture and history are diverse, blending a variety of influences from its neighbors. The nation is renowned for its exuberant festivals, classic music and dances, and mouthwatering food.

The Bangladeshi government has prioritized e-governance in recent years to enhance the provision of public services and raise citizen participation in the decision-making process. To accomplish these objectives, the government has put in place several e-governance projects, including:

Launched in 2009, the government effort known as "Digital Bangladesh" aims to make it simple for residents to access public services by using technology. A variety of digital platforms are being implemented as part of the program, including the Digital Bangladesh Portal and the Digital Service Delivery Gateway, which enable residents to access a variety of government services online (Mahtab & Mahtab, 2013). National Identification Card (NID) The NID card is a smart card that houses a citizen's data. It is now necessary to have this card to use government services and to vote.

**Online voter registration:** The government has made it possible for residents to register to vote online or to change their voter information online. The Election Commission of Bangladesh introduced the MSAS (mobile Service Authentication System) program in 2013 to use mobile devices to confirm voter IDs. The technology allows residents to authenticate their voter information, which is kept on the NID card, using their mobile phones (Habib et al., 2014).

Government agencies may buy products and services via the online public procurement system (GP), which is a digital platform for public procurement (Das et al., 2020). The platform seeks to make the procurement process more transparent and effective.

Other attempts include online tax filing, land registration, and many more. These programs are still being implemented, and further development is anticipated. The government is working very hard to make the lives of people easier and more comfortable by offering them the services they need online (Hoque, 2020).

The government of Bangladesh has also established several additional e-governance projects to enhance the provision of public services and raise citizen involvement, in addition to the efforts I highlighted before. Several instances include:

**Online court case management system:** This system enables users to set court dates, upload case papers, and view case information (Broome, 2015).

**Website of the Bangladesh Public Service Commission (BPSC):** Candidates may participate in the hiring process and apply for positions in the public sector using this online portal.

**Online Passport Application System:** This system enables people to submit passport applications online and monitor the progress of their submissions (Hasan, 2014).

The Ministry of Health uses the National Health Service Management Information System to gather, store, and analyze health-related data to enhance the provision of healthcare services.

**Online RTI (Right to Information) Portal:** This is a tool that enables people to follow the progress of their requests and submit RTI requests.

These are just a few instances of the e-governance programs that have been put in place in Bangladesh to enhance the provision of public services and boost citizen participation. To increase efficiency and transparency in the governance process, the government is always attempting to create innovative technology (Akter et al., 2022).

## **2. The objective of this study**

The objective of such a study would be to understand the current state of e-governance in Bangladesh, identify the challenges and opportunities that the country faces in the implementation of e-governance initiatives, and provide recommendations for further improving e-governance in the country (Ahmed et al., 2023).

Some studies may have specific objectives such as, assessing the impact of e-governance on public service delivery, evaluating the efforts of the government in reducing corruption through e-governance, measuring the extent of citizen engagement and participation in e-governance, or evaluating the effectiveness, efficiency, and access of e-governance services (Kanti Das et al., 2021).

The study would likely involve a review of existing literature. The study's goal could be to provide an understanding of the implementation of e-governance in Bangladesh and its current challenges (Bolgov et al., 2016), but also to present the opportunities and provide recommendations for addressing those challenges.

### **3. Significance of the study**

The significance of a study on e-governance in Bangladesh lies in its ability to provide valuable insights and recommendations for further improving the delivery of public services and increasing citizen engagement in the country (Khan & Zaber, 2020). By identifying the challenges and opportunities that Bangladesh faces in the implementation of e-governance initiatives, the study can help to inform policy and decision-making by the government and other stakeholders. This study can also be significant for other developing countries facing similar challenges in e-governance (Banday, 2015), as it can provide valuable lessons and best practices for implementing e-governance initiatives in those contexts. Additionally, by providing recommendations for addressing the challenges, the study can help to improve the delivery of public services and increase citizen engagement, which can ultimately contribute to the country's overall development and improve the well-being of citizens (Ali et al., 2022).

### **4. Present literature on e-governance in Bangladesh**

There is a growing body of literature on e-governance in Bangladesh, with studies focusing on various aspects of the topic, including the implementation of e-governance initiatives, the challenges and opportunities that the country faces, and the impact of e-governance on the delivery of public services and citizen engagement.

One example is a study by the World Bank, which examines the status and progress of e-governance in Bangladesh and identifies the main challenges and opportunities that the country faces (Goldsmith et al., 2022). The study found that while there has been significant progress in the implementation of e-governance initiatives in Bangladesh, there are still challenges that need to be addressed, such as a lack of awareness and skills among citizens and a lack of infrastructure. The study suggests several recommendations for addressing these challenges, such as increasing investment in human capital, strengthening institutions, and enhancing public-private partnerships (O'Brien et al., 2022)

A recent study by The Asian Development Bank (Asian Development Bank, 2022) also examines the potential of e-Governance as a tool to boost local government efficiency, transparency, and citizen participation in Bangladesh. The study provides an overview of Bangladesh's e-governance landscape, assesses the adoption and impact of e-governance in the local government system, and identifies key factors for successful e-governance implementation.

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 the majority of 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.

A study by (Rajon & Zaman, 2008), examines the role of e-governance in reducing corruption in Bangladesh. The study found that e-governance initiatives, such as online procurement and digital service delivery, have had a positive impact on reducing corruption in the country. However, the study also notes that corruption remains a significant challenge in Bangladesh and that more needs to be done to address it.

A research article by the Bangladesh Public Administration Training Center (BPATC) (Rahman & Alam, 2007) that assesses the current state of e-government services in Bangladesh, with a focus on identifying the gaps and challenges to the further development of e-government. The study found that while the government has made significant efforts to develop e-government services, there are still several areas that need improvement, such as the quality of services, user-friendliness, and the integration of different services.

These studies along with many others underline the ongoing work and research done in this field in Bangladesh and show that e-governance has the potential to improve the delivery of public services, increase citizen engagement and reduce corruption (Kumar, 2019), but there are still significant barriers and challenges that need to be addressed. Improving awareness and skills among citizens, addressing the lack of infrastructure, and enhancing transparency and accountability in government are some of the key recommendations for further improving e-governance in the country.

A research article by Mohammad Abdul Salam (Salam, 2013), assess the e-governance for good governance through public service delivery, the study findings revealed that the DESC efficiently provides public services, that e-service delivery has a positive impact on citizen satisfaction, and that the e-governance initiative leads to good governance promises pending hypothesis validation. Understanding the current state of e-governance in Bangladesh can assist policymakers and policy implementers in properly persuading public service delivery (Leclerc, 2020).

## **5. Challenges**

Bangladesh is facing several obstacles as it implements e-governance programs, including: The lack of infrastructure might make it challenging for people to use e-governance services in Bangladesh due to the country's low internet penetration rate. The residents of remote regions who often have restricted access to the internet may find this especially difficult (Alam et al., 2008).

Lack of knowledge and expertise: Because many people in Bangladesh are unfamiliar with technology, it may be challenging for them to access and utilize e-governance services. Citizens who are elderly or have less education may find this especially difficult.

The limited ability of public servants: In Bangladesh, a large number of public servants lack the knowledge and experience necessary to administer e-governance technologies. The complete implementation and maintenance of e-governance efforts may be challenging as a result (Habib, 2015). Scarce resources budgetary restrictions often faced by the Bangladeshi government might make it challenging to finance and maintain e-governance efforts.

**Interoperability limitations:** In Bangladesh, the many platforms and systems used by the government and other organizations are often not linked, which may make it challenging to communicate data and information across systems.

**Data privacy and security issues:** The security and privacy of this data issue are as more personal information about persons is gathered and kept online.

**Language and cultural barriers:** Bengali-speaking residents may find it difficult to use e-Government programs since they are often created in English (Nijkamp & Blankshtain, 2013). When using public services, complicated processes and a lack of transparency are present. The Bangladeshi government has been taking steps to address these issues, including investing in infrastructure, focusing on data security, training public employees, creating awareness, and incorporating local languages into the systems. However, since these problems are persistent, they need to be addressed constantly (Siddiquee, 2012).

Bangladesh also confronts the following difficulties in implementing e-governance initiatives: **Insufficient collaboration and coordination across the tiers of government:** The national government often implements e-governance programs, but their effectiveness relies on the coordination and participation of local governments. Duplication of effort and impediments to execution may result from poor collaboration and communication.

**Insufficient assessment and feedback of e-governance initiatives:** Because the Bangladeshi government lacks a formal method for assessing the effects of e-governance programs, it might be difficult to pinpoint their triumphs and shortcomings and make adjustments (Sarker et al., 2019).

There are a few limited public-private partnerships in existence to assist e-governance in Bangladesh, even though e-Governance projects often call for cooperation between the public and private sectors.

Government data has only been partially digitized; many documents and data sources are still in paper form, making it difficult to access and use them for digital projects (Ramaswamy & Selian, 2007).

**Limited public confidence and participation:** It is difficult to get the public's input since many people have little faith in the government and are reluctant to reveal personal information online.

The Bangladeshi government must include all key parties in the planning and execution of e-governance projects, including citizens, members of civil society, and commercial sector players. To evaluate the effectiveness of e-governance efforts, there also has to be a focus on enhancing the capabilities of public servants, increasing citizen knowledge of e-governance, and creating a more comprehensive assessment and feedback mechanism. These actions are necessary to develop e-government that is more effective, efficient, and responsive (Shaikh et al., 2011).

## **6. Opportunities**

In addition to the difficulties Bangladesh confronts in putting e-governance plans into practice, there are several chances the nation may seize to enhance the provision of public services and raise citizen engagement:

E-governance efforts may make it simpler for residents to access government services, especially for those who live in distant or underdeveloped regions. This will increase access to public services.

Access to healthcare, education, and other services may be improved as a result of this (Ferdous et al., 2012). The Bangladeshi government may lessen chances for corruption and improve openness and accountability in the delivery of public services by leveraging digital tools and platforms. Increased participation of the public in decision-making and the ability to offer feedback on government programs and services are two benefits of e-governance efforts. With the massive amount of data produced by e-governance efforts, government agencies may utilize data and analytics to evaluate the efficacy of policies and programs, enhance service delivery, and make better-informed choices (Habib & Baizid, 2010). E-governance projects may increase the effectiveness of governmental organizations and lower the cost of providing public services by automating procedures and getting rid of paper-based systems. Service delivery is improved because of e-Governance projects, which may assist the government offer public services that are more transparent, responsive, and focused on the needs of the citizenry (Dey & Sobhan, 2011). E-governance efforts may provide the private sector the chance to work with the government to deliver e-governance services and technology, which may assist to generate employment and stimulate economic development. E-governance efforts may provide people with more knowledge and access to information, empowering them to make better choices and live better lives. Bangladesh can enhance the provision of public services and raise citizen involvement by using these chances (Choudhury & Kumar, 2009). E-Governance may aid in the development of a more effective, responsive, and accountable government. E-governance may minimize corruption, improve decision-making openness, and make it simpler for people to obtain services by digitizing government procedures. Increasing public involvement and engagement in government is one way that e-Governance may strengthen the democratic process. This may guarantee that the government responds to the demands and priorities of the people. E-governance projects may help close the digital gap and link individuals with government services as internet and mobile phone usage continue to rise in Bangladesh. E-governance projects may provide more chances for innovation in fields like data analytics, service delivery, and citizen involvement. Delivery of public services may be improved by using e-Government technology, which can make it quicker, more accurate, and more effective (Chowdhury et al., 2020).

Overall, Bangladesh's adoption of e-governance efforts may provide several chances to enhance public service delivery, boost citizen participation, and cut down on corruption.

## **7. Recommendation**

The government and other stakeholders should take into account the following suggestions to fully realize the potential advantages of electronic governance in Bangladesh and solve the problems the nation faces:

**Invest more in infrastructure:** To guarantee that people can access e-governance services, the government should invest in the creation of the required infrastructure, such as internet access and digital platforms (Dey & Sobhan, 2011).

**Increase human capacity:** The government should make investments to increase the ability of people and public servants to utilize and administer e-governance platforms. This involves giving instruction and training on how to utilize technology and e-governance platforms.

**Enhance accountability and transparency:** The government should take measures to improve accountability and transparency in the provision of public services, including opening up data and information to the public and putting in place systems for citizen input and involvement.

**Prioritize data security:** To earn the confidence of the populace, the government must prioritize data security and preserve the privacy of individual's personal information.

**Involve the business sector:** To take advantage of private sector investment and experience, the government should promote public-private partnerships in e-governance efforts.

To measure the effect of e-governance programs, pinpoint successes and failures, and make the required modifications, the government should build a rigorous evaluation and feedback system.

**Promote citizen participation:** To guarantee that services are better matched to people's demands, the government should actively include individuals in e-governance programs and promote their involvement in decision-making and feedback (Shahin & Finger, 2008).

**Ensure interoperability:** Government organizations should cooperate to make sure that the various e-governance systems and platforms are interconnected and capable of efficient information sharing.

These suggestions, together with additional steps like incorporating regional languages, may assist the government of Bangladesh in realizing the full potential of e-governance and overcoming the obstacles that stand in the way of its implementation.

**Create a thorough e-governance strategy:** The government should create a thorough e-governance strategy that takes into consideration the unique requirements and conditions of Bangladesh and establishes a clear vision and roadmap for the implementation and development of e-governance projects.

Government should concentrate on providing high-quality, universally accessible e-governance services that are responsive to public requirements.

**Focus on digitization:** To enhance e-governance services, increase data availability, and better manage data, the government should give priority to digitizing its data and records.

**Encourage citizen input:** When making choices on the delivery of services and the creation of policies, the government should encourage people to provide feedback on e-governance services.

**Create a sustainable financing model:** To guarantee that the expenses of maintaining and updating e-governance systems are covered and not merely supported via short-term grants or projects, the government should create a sustainable funding strategy for e-governance efforts (Wang & Zeng, 2009).

The government of Bangladesh may create an efficient and long-lasting e-governance plan that can enhance the provision of public services and boost citizen involvement by considering these ideas and collaborating closely with all stakeholders. To improve the effectiveness of their e-governance system, the government will also benefit from monitoring best practices and case studies from other nations.

## **8. Conclusions**

In conclusion, e-governance in Bangladesh has the potential to enhance public service delivery and raise citizen involvement. Even though the government has already put in place several e-governance projects, there are still issues that must be resolved. These difficulties include a lack of infrastructure, a lack of knowledge and expertise among residents, the capacity limitations of public authorities, and a lack



of funding. E-governance, however, also offers the nation a variety of options, including more transparency and accountability, enhanced citizen involvement, and expanded access to public services.

The government and other stakeholders must adopt a comprehensive strategy that solves the issues and seizes the possibilities if Bangladesh is to fully reap the potential advantages of e-governance. This entails boosting infrastructure spending, developing human resources, enhancing accountability and transparency, emphasizing data security, enlisting the help of the commercial sector, performing audits and assessments, and encouraging public involvement. The government of Bangladesh may enhance the provision of public services and raise citizen involvement by implementing these ideas, which would eventually benefit the whole nation.

## References

- Ahmed, F., Protik, R. C., & Hasan, M. (2023). Centralized Library Management System: An E-governance Approach for Improving Accessibility of Library Resources of Bangladesh. In M. S. Kaiser, J. Xie, & V. S. Rathore (Eds.), *Information and Communication Technology for Competitive Strategies (ICTCS 2021)* (Vol. 401, pp. 741–750). Springer Nature Singapore. [https://doi.org/10.1007/978-981-19-0098-3\\_70](https://doi.org/10.1007/978-981-19-0098-3_70)
- Akter, F., Ferdous, F., Paul, S. K., Safia, I. J., & Hasan, M. (2022). A Public Learning Platform for Democratizing Higher Education. In X.-S. Yang, S. Sherratt, N. Dey, & A. Joshi (Eds.), *Proceedings of Sixth International Congress on Information and Communication Technology* (Vol. 217, pp. 773–782). Springer Singapore. [https://doi.org/10.1007/978-981-16-2102-4\\_70](https://doi.org/10.1007/978-981-16-2102-4_70)
- Alam, M., Ahmed, K., & Islam, M. A. (2008). e-governance: Challenges and opportunities. *Proceedings of the 2nd International Conference on Theory and Practice of Electronic Governance*, 264–267. <https://doi.org/10.1145/1509096.1509150>
- Ali, M., Raza, S. A., Puah, C. H., & Arsalan, T. (2022). Does e-government control corruption? Evidence from South Asian countries. *Journal of Financial Crime*, 29(1), 258–271. <https://doi.org/10.1108/JFC-01-2021-0003>
- Asian Development Bank. (2022). *Incentivizing Change: How Governance Reforms Are Changing the Urban Landscape of Bangladesh*. Asian Development Bank. <https://doi.org/10.22617/TCS220597-2>
- Banday, M. T. (2015). Social media in e-governance: Challenges and opportunities. In *Trends, Prospects, and Challenges in Asian E-Governance*. IGI Global. <https://doi.org/10.4018/978-1-4666-9536-8.ch009>
- 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>
- Bolgov, R., Bogdanovich, S., Yag'Ya, V., & Ermolina, M. (2016). How to measure the digital diplomacy efficiency: Problems and constraints. *Communications in Computer and Information Science*, 674, 180–188. [https://doi.org/10.1007/978-3-319-49700-6\\_18](https://doi.org/10.1007/978-3-319-49700-6_18)
- Broome, P. A. (2015). Before e-Governance and e-Government, Back to Basics! The Case of the Caribbean. *SAGE Open*, 5(3), 215824401560310. <https://doi.org/10.1177/2158244015603106>
- Choudhury, S., & Kumar, S. (2009). E-Governance: Tool for E-Democracy and Citizen Empowerment in the Horizon of Information Technology Era in Developing Society in India, Nepal and Bangladesh. In G. P. Sahu, Y. K. Dwivedi, & V. Weerakkody (Eds.), *E-Government Development and Diffusion* (pp. 101–120). IGI Global. <https://doi.org/10.4018/978-1-60566-713-3.ch007>
- Chowdhury, A. A., Chowdhury, F., & Ferdous, M. S. (2020). A Study of Password Security Factors among Bangladeshi Government Websites. *2020 23rd International Conference on Computer and Information Technology (ICCIT)*, 1–7. <https://doi.org/10.1109/ICCIT51783.2020.9392745>
- Das, M., Azad, R. U., & Efat, M. I. A. (2020). Blockchain aided Vehicle Certification (BVC): A Secured E-Governance Framework for Transport Stakeholders. *ICCIT 2020 - 23rd International*

*Conference on Computer and Information Technology, Proceedings.*

<https://doi.org/10.1109/ICCIT51783.2020.9392725>

- Dey, S. K., & Sobhan, M. A. (2011). E-governance framework for higher education institutes using grid: Digital Bangladesh perspective. *14th International Conference on Computer and Information Technology (ICCIT 2011)*, 463–468. <https://doi.org/10.1109/ICCITechn.2011.6164834>
- Ferdous, M. S., Javed, M., Chowdhury, M., Moniruzzaman, M., & Chowdhury, F. (2012). Identity federations: A new perspective for Bangladesh. *2012 International Conference on Informatics, Electronics & Vision (ICIEV)*, 219–224. <https://doi.org/10.1109/ICIEV.2012.6317397>
- Goldsmith, L., Shaikh, A. K., Tan, H. Y., & Raahemifar, K. (2022). A Review of Contemporary Governance Challenges in Oman: Can Blockchain Technology Be Part of Sustainable Solutions? *Sustainability (Switzerland)*, 14(19). <https://doi.org/10.3390/su141911819>
- Habib, A. (2015). *Analyzing Challenges and Opportunities of the Implementation of E-Government in Bangladesh*. <https://www.semanticscholar.org/paper/Analyzing-Challenges-and-Opportunities-of-the-of-in-Habib/07f8ab053697e3a94bf6e0a8122d0d6137f815ef>
- Habib, A., & Baizid, A. R. (2010). Achievements and expectations of digital Bangladesh: E-governance initiatives in Bangladesh. *Proceedings of the 4th International Conference on Theory and Practice of Electronic Governance*, 393–394. <https://doi.org/10.1145/1930321.1930412>
- Habib, A., Bhattacharjee, M. K., & Chowdhury, D. (2014). IT-based Services through UISC: A Framework towards Digital Bangladesh. *Proceedings of the 2014 Conference on Electronic Governance and Open Society: Challenges in Eurasia*, 45–53. <https://doi.org/10.1145/2729104.2729123>
- Hasan, S. (2014). ICT Policies and their Role in Governance: The Case of Bangladesh. *Science, Technology and Society*, 19(3), 363–381. <https://doi.org/10.1177/0971721814548818>
- Hoque, S. M. S. (2020). Government Information and Service Delivery Through Union Digital Centers in Bangladesh: Users' Perceptions on Good Governance. *International Journal of Electronic Government Research*, 16(3), 45–64. <https://doi.org/10.4018/IJEGR.2020070103>
- Hossain, M. S., Samakovitis, G., Bacon, L., & Mackinnon, L. (2015). 1. A conceptual framework for design of mobile governance in developing countries: The case of Bangladesh. *2015 18th International Conference on Computer and Information Technology (ICCIT)*, 161–166. <https://doi.org/10.1109/ICCITechn.2015.7488061>
- Hussain, F. (2011). “Green” digital Bangladesh: Is it ready to face the challenges of climate change? *Proceedings of the 2011 IConference*, 684–685. <https://doi.org/10.1145/1940761.1940869>
- Kanti Das, S., Shahriyar, H. M. M., Shikta, S., Bushra Al Jannat, K., & Hasan, M. (2021). Centralized Registration System as an E-Governance Service. *2021 10th International Conference on Software and Computer Applications*. <https://doi.org/10.1145/3457784.3457815>
- 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. <https://doi.org/10.1109/ICDIM.2010.5664643>
- Khan, S., & Zaber, M. (2020). Understanding the responsiveness of local-level e-Governance platforms of Bangladesh. *Proceedings of the 13th International Conference on Theory and Practice of Electronic Governance*, 400–403. <https://doi.org/10.1145/3428502.3428556>
- Kumar, S. (2019). E-Governance in Teacher Education in India: Challenges and Opportunities. In M. B. Pradhan, M. R. Senior, J. Shanmugan, J. Sattar, O. H., Rabik S. A. (Ed.), *Proceeding of 2019 International Conference on Digitization: Landscaping Artificial Intelligence, ICD 2019* (pp. 167–169). Institute of Electrical and Electronics Engineers Inc. <https://doi.org/10.1109/ICD47981.2019.9105810>
- Leclerc, É. (2020). Smart city and e-governance in India, mapping a new urban landscape [Ville intelligente et e-gouvernance en Inde, cartographier un nouveau paysage urbain]. *Mappemonde*, 128. <https://doi.org/10.4000/MAPPEMONDE.4227>
- Mahtab, N., & Mahtab, N. (2013). Understanding ICT: The potential and challenges for the empowerment of rural women in Bangladesh. In *Digital Public Administration and E-Government in Developing Nations: Policy and Practice*. IGI Global. <https://doi.org/10.4018/978-1-4666-3691-0.ch012>

- Management Association, I. R. (Ed.). (2015). *Human Rights and Ethics: Concepts, Methodologies, Tools, and Applications*. IGI Global. <https://doi.org/10.4018/978-1-4666-6433-3>
- Nijkamp, P., & Blankshtain, G. C. (2013). The importance of ICT for cities: E-governance and cyber perceptions. *Advances in Spatial Science*, 72, 295–308. [https://doi.org/10.1007/978-3-642-32141-2\\_13](https://doi.org/10.1007/978-3-642-32141-2_13)
- O'Brien, A., Ulhoa, L., & Siegel, C. (2022). EDITING AND PRODUCTION. *The World Bank*.
- Rahman, M., & Alam, M. M. (2007). Introducing E-governance in Bangladesh: An assessment of e-readiness of government Officials. *Bangladesh Public Administration Training Centre*, 85.
- Rajon, S. A. A., & Zaman, S. A. (2008). Implementation of e-governance: Only way to build a corruption-free Bangladesh. *2008 11th International Conference on Computer and Information Technology*, 430–435. <https://doi.org/10.1109/ICCITECHN.2008.4802970>
- Ramaswamy, M., & Selian, A. N. (2007). e-government in transition countries: Prospects and challenges. *Proceedings of the Annual Hawaii International Conference on System Sciences*. <https://doi.org/10.1109/HICSS.2007.190>
- Salam, M. A. (2013). *E-GOVERNANCE FOR GOOD GOVERNANCE THROUGH PUBLIC SERVICE DELIVERY*.
- 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, F. L. Cooke, M. Gen, & S. E. Ahmed (Eds.), *Proceedings of the Twelfth International Conference on Management Science and Engineering Management* (pp. 675–688). Springer International Publishing. [https://doi.org/10.1007/978-3-319-93351-1\\_53](https://doi.org/10.1007/978-3-319-93351-1_53)
- Shahin, J., & Finger, M. (2008). The operationalisation of e-governance. *ACM International Conference Proceeding Series*, 351, 24–30. <https://doi.org/10.1145/1509096.1509104>
- Shaikh, M. S. I., Rabbi, F. A., & Uddin, K. B. (2011). E-governance in Bangladesh-survey, analysis and proposed recommendations. *2011 19th Telecommunications Forum (TELFOR) Proceedings of Papers*, 55–58. <https://doi.org/10.1109/TELFOR.2011.6143492>
- Shamsuddoha, M., Quader, M. S., & Shohrwardhy, H. S. (2005). Corporate Governance and its Implication in Bangladesh. *Emerging Markets: Economics*. <https://www.semanticscholar.org/paper/Corporate-Governance-and-its-Implication-in-Shamsuddoha-Quader/103f65cf08b92076e6ddbe599f040c5ad847614a>
- Siddiquee, N. A. (2012). E-government and transformation of governance and service delivery in Bangladesh: A developing country perspective. *Proceedings of the 6th International Conference on Theory and Practice of Electronic Governance*, 271–278. <https://doi.org/10.1145/2463728.2463782>
- Wang, J.-F., & Zeng, T. (2009). Citizen-centered e-Government strategy governance framework: Case of China. *2009 International Conference on Web Information Systems and Mining, WISM 2009*, 589–593. <https://doi.org/10.1109/WISM.2009.124>