

Czech University of Life Sciences Prague

Faculty of Economics and Management

Department of System Engineering and Informatics



Master's Thesis
Appendices

Creation of a road map for the development of
E-government facilities in Bangladesh

Md Shajahan Hossain

Objectives

The primary objective of the study is to compare the E-Governance facilities of Bangladesh with Denmark and the United Kingdom (UK). The following are the objectives of this thesis.

- i. To study the existing E-Governance facilities of Bangladesh.
- ii. To study the existing E-Governance facilities of Denmark.
- iii. To study the existing E-Governance facilities of United Kingdom (UK).
- iv. To Compare the E-Governance facilities of Bangladesh with Denmark and UK.
- v. To Suggest a Road map for Bangladesh to improve their E- Governance facilities.

Methodology

A study of the relevant literature, research articles, and online resources pertaining to E-Governance facilities is necessary in order to accomplish the objectives. Information related to E-Governance facilities like, e services, e security, e information, e commerce and e taxation.

The approach of case study was selected for the purpose of comprehending the E Governance capabilities in Bangladesh, Denmark, and the United Kingdom. In order to obtain the data, websites that were relevant to E Governance facilities in Bangladesh, Denmark, and the United Kingdom were taken into consideration. To acquire the data, many apps having to do with eGovernment were used in Bangladesh, Denmark, and the United Kingdom. These applications were also subjected to analysis.

After examining the e-governance infrastructure of each nation, a comparison of the e-governance infrastructure of all three nations was carried out. The degree of facilities available for e-government in Bangladesh was evaluated based on the comparison. This comparison lays forth a plan for improving the E-Governance facilities in Bangladesh and gives a road map for doing so.

Abstract

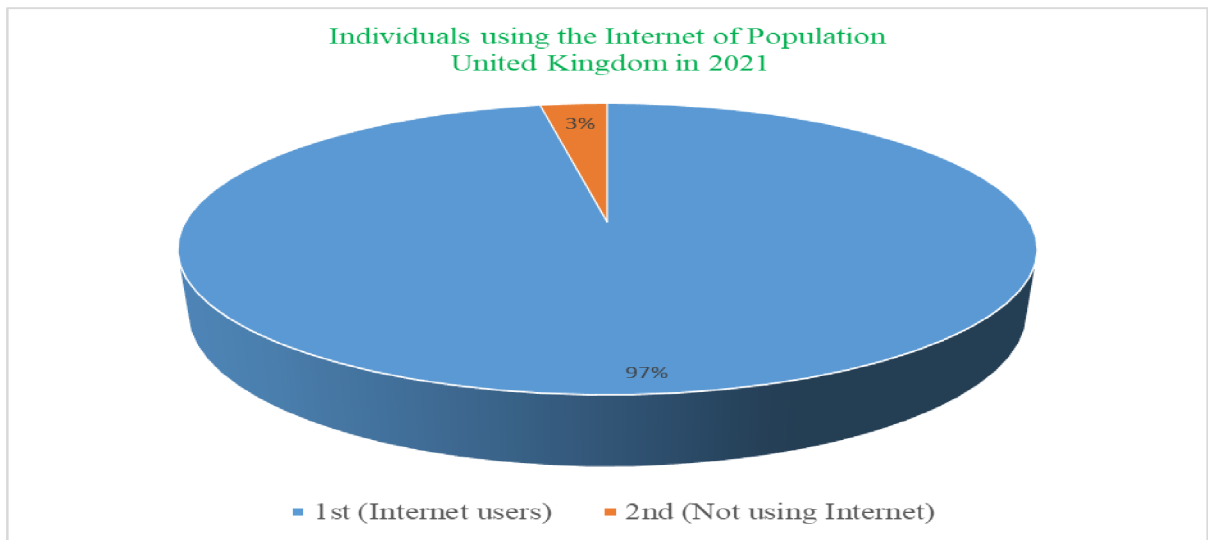
E-government provides individuals and companies with government services, information, and communication through digital technology. E-government services include online tax filing, applying for permits and licences, viewing public documents, paying fines and fees, and engaging in government forums and conversations. E-government may also prevent corruption by giving individuals more knowledge about government actions and decisions.

E satisfy-government development is led by Denmark and the UK. Denmark scored 1st and the UK 11th in e-government development in the same UN E-Government Study. EGDI ratings are high and e-government development is "extremely high" in both nations. Denmark and the UK have adopted several e-government facilities, including citizen service portals, digital identification systems, electronic voting systems, and open data portals. These facilities have greatly increased government efficiency, transparency, and public participation and action.

Bangladesh was rated 111th in the UN E-Government Survey 2022. The country's EGDI was 0.5630, Bangladesh's EGDI score is "poor" and needs improvement. To increase governance transparency and service delivery, Bangladesh must strengthen its e-government capabilities. To achieve this aim, a legislative and regulatory framework, infrastructure, public involvement, e-government service delivery centres, open data regulations, digital entrepreneurship, and capacity development are needed. These processes are essential for e-government efforts because they guide the formulation and implementation of laws and regulations, create user-friendly platforms for people to access government services, conduct citizen surveys, and encourage public engagement in decision-making.

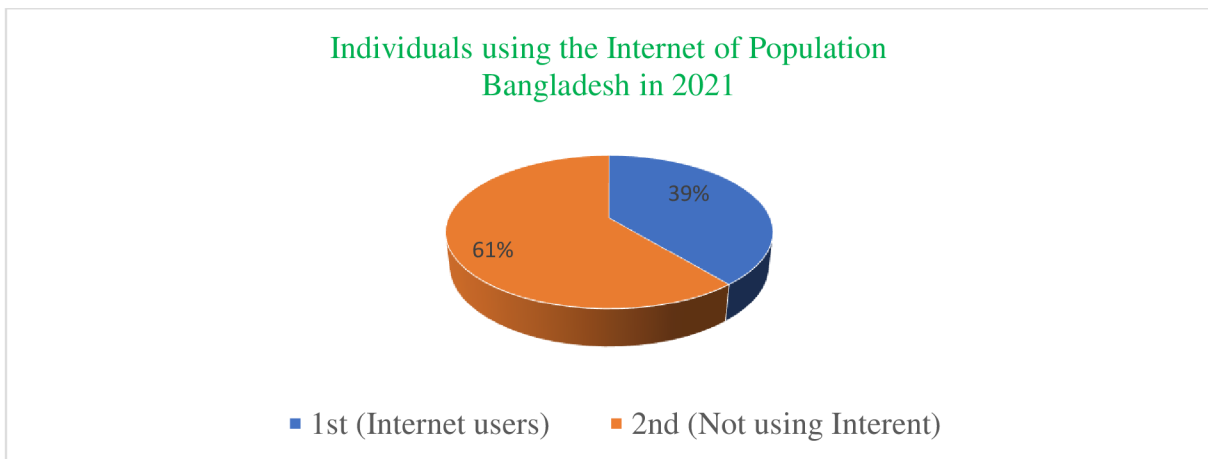
Practical Part

E-government comparison between the UK and Bangladesh



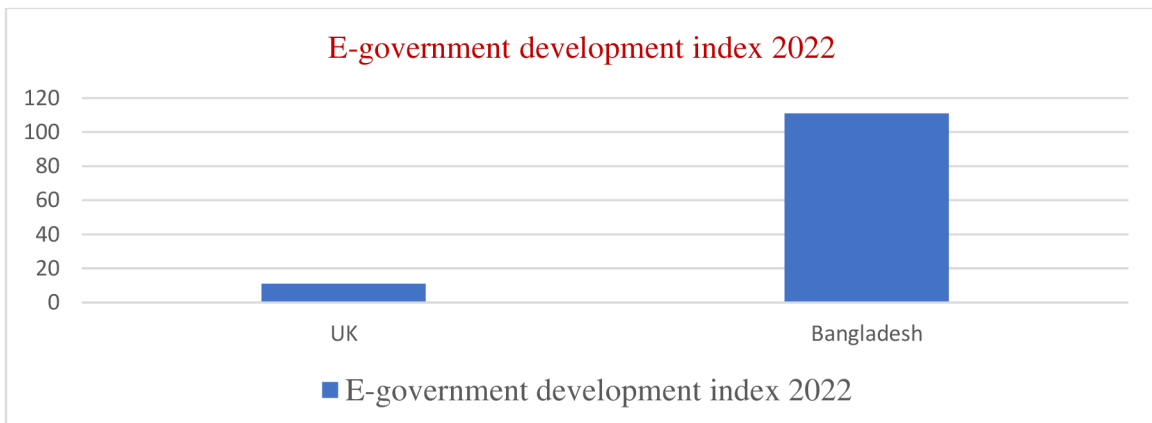
Source: <https://data.worldbank.org/indicator/IT.NET.USER.ZS?locations=GB>

The pie chart illuminates that the internet infrastructures are very strong in the UK and cover all over the country, which is why the internet-using percentage of the population is very high which is most important to provide e-government services to all people.



Source: <https://data.worldbank.org/indicator/IT.NET.USER.ZS?locations=BD>

The pie chart illuminates that the internet infrastructures are poor in Bangladesh and not covering all over the country, that is why the internet-using percentage of the population is very low which is most important to provide e-government services to all people.



Source: <https://publicadministration.un.org/egovkb/en-us/Data-Center>

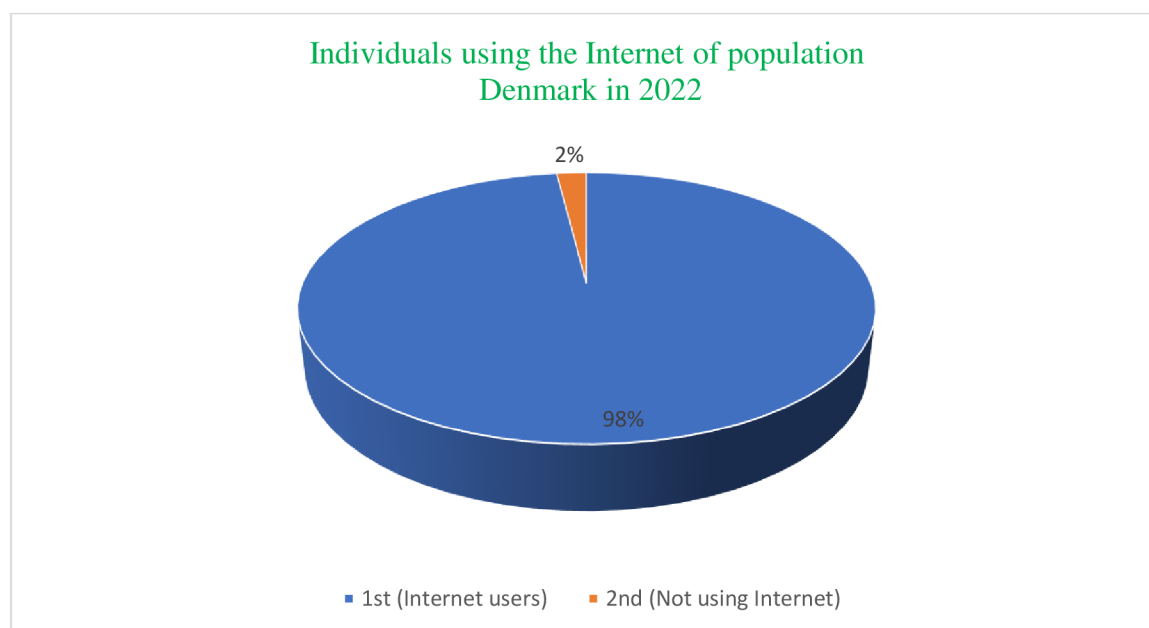
The graph depicts the position of each country in E-government development index in 2022, the UK is in a very strong position which is 11th and Bangladesh is in a very poor position which is 111th, so the people of Bangladesh is not getting that much e-government services comparatively to the UK.

Table- Comparison of E-Governance in UK and Bangladesh

Criteria	UK	Bangladesh
Digital identity system	GOV.UK Verify	National Identity Card (NID) system
E-participation	Established mechanisms for public consultation and engagement	Early stages of e-participation initiatives
E-governance infrastructure	More developed ICT sector, higher internet penetration rate, and better digital literacy	Less developed ICT sector, lower internet penetration rate, and lower digital literacy
Focus of e-governance initiatives	Improving efficiency and effectiveness of government services	Providing basic services to geographically dispersed citizens with limited access to traditional government services
Mobile governance	mySociety platform for mobile apps and services	There is no portal for mobile apps and services
Online payment system	GOV.UK Pay	bKash
E-health	NHS Digital providing digital health services	Telemedicine initiatives to provide healthcare services to rural areas, but always not accessible.

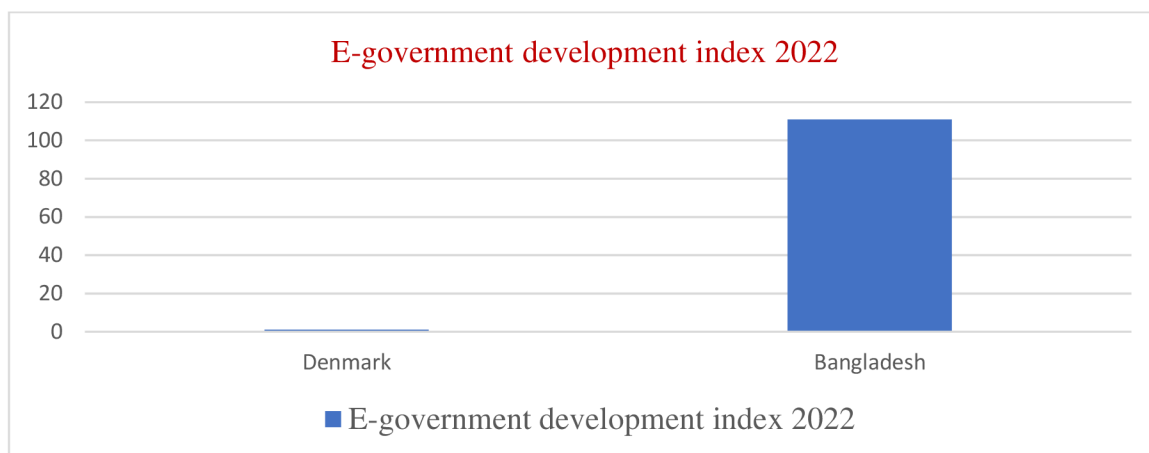
Source: Welcometo GOV.UK (www.gov.uk), <https://www.mysociety.org/about/>, <https://www.payments.service.gov.uk/>, <https://digital.nhs.uk/>, Insider Intelligence, United Kingdom Internet Usage Stats and UK Telecom Reports (internetworldstats.com), a2i – Aspire to Innovate <https://www.nidw.gov.bd/>, <http://infosarker3.bcc.gov.bd/>, <https://www.btrc.gov.bd/content/telemedicine-bangladesh>, <https://www.bkash.com/>, <http://www.btrc.gov.bd/>, CPTU| Central Procurement Technical Unit, Symptom Checker, Health Information and Medicines Guide | Patient, <https://bangladesh.gov.bd/index.php>

E-government comparison between Denmark and Bangladesh



Source: <https://data.worldbank.org/indicator/IT.NET.USER.ZS?locations=DK>

The pie chart illuminates that the internet infrastructures are very strong in Denmark and covering all over the country, that is why the internet using percentage of the population is very high which is most important to provide e-government services to all people.



Source: <https://publicadministration.un.org/egovkb/en-us/data-center>

The graph depicts that the position for each country in E-government development index in 2022, Denmark is in very strong position which is 1st in the world and Bangladesh is in very poor position which is 111th, so people of Bangladesh are not getting that much e-government services comparatively to the Denmark.

Table: Hacking and Malware history in Denmark and Bangladesh

Aspect	Denmark	Bangladesh
Hacking and malware	22 private energy companies were hacked in May 2023 and they got access within few days through firewall, they disconnected them from the main electric grid.	Bangladesh central bank reserved money US\$ 100 million was transferred by hackers through swift network code in February 2016. Bangladeshi citizens' information was hacked from a government website which is around 50 million in June 2023.

Source: <https://www.dhakatribune.com/opinion/op-ed/122939/the-great-bangladesh-cyber-heist-shows-truth-is>, <https://www.aa.com.tr/en/asia-pacific/personal-data-of-50-million-bangladeshis-leaked-on-government-website/2940505#>, <https://sektorcert.dk/>, <https://therecord.media/danish-energy-companies-hacked-firewall-bug>

Table- Comparison of E-Governance in Denmark and Bangladesh

Aspect	Denmark	Bangladesh
Digital Infrastructure	Well-established digital infrastructure, with high-speed internet, 5G networks, and digital public services.	Limited digital infrastructure, with low levels of internet access in rural and limited availability of digital public services.
Government Services	Comprehensive and user-friendly digital government services, including tax filing and healthcare.	Limited availability of digital government services, with potential for introducing more services in the future.
Open Government Data	Comprehensive and widely available open government data.	Limited availability of open government data.

E-Democracy and Transparency	High levels of e-democracy and e-participation, with extensive use of digital tools and online platforms. High levels of transparency and ethical standards in government operations.	Limited levels of e-democracy and e-participation, with limited availability of digital tools and online platforms, potential for improvement in future. Limited transparency and ethical standards in government operations, with potential for improvement in future.
------------------------------	--	--

Source: <https://bangladesh.gov.bd/index.php>, <https://www.dhakatribune.com/>, <https://tdcnet.com/5g/>, <https://en.digst.dk/>, <https://metamonitor.eu/>, <https://www.borger.dk/oekonomi-skat-su/NemKonto>, <https://www.borger.dk/#>, [https://www.europarl.europa.eu/RegData/etudes/IDAN/2015/565890/EPRS_IDA\(2015\)565890_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/IDAN/2015/565890/EPRS_IDA(2015)565890_EN.pdf), <https://www.mitid.dk/en-gb/about-mitid/>, <https://lifeindenmark.borger.dk/>, <http://infosarker3.bcc.gov.bd/>, <https://a2i.gov.bd/>, <https://cptu.gov.bd/>, <https://www.borger.dk/>

Road map for e-government facilities development in Bangladesh

- Create a national e-government strategy. This includes defining the goals and objectives of e-government projects, figuring out who the key stakeholders are, and making a plan for how to put the plan into action, including a timeline and a budget.
- Build the necessary infrastructure. This includes investing in broadband connections and building digital infrastructure to support e-government services.
- Create online portals for citizen services. This includes making online portals that are easy for people to use and give them access to government services and information, like paying taxes, applying for a passport, and getting health services and so on.
- Build capacity and awareness. This includes training government employees and citizens on e-government tools and technologies and raising awareness of the benefits of e-government initiatives.
- Make sure e-government systems are secure: It's important to make sure e-government systems are secure to protect sensitive data and stop cyber-attacks. This includes setting up security protocols, doing regular risk assessments, and giving government officials training in cybersecurity.
- Increase mobile access: Bangladesh has a high rate of mobile phone use, so it's important to increase access to e-government services from mobile phones. This includes making mobile apps and making websites easier to use on mobile devices.
- Improve data management. E-government projects can't succeed without good data management. This includes setting up rules for data management, making agreements about how to share data, and using data analytics tools to help make decisions.
- Set up digital payment systems: Putting in place digital payment systems can help make transactions and payments with the government easier and safer for citizens. This means making things like online payment gateways, mobile wallets, and other ways to pay online.
- Encourage public-private partnerships. When the public and private sectors work together, it's easier to create and implement e-government projects. This includes using the knowledge and skills of the private sector to improve e-government services and come up with new ideas.
- Make a disaster recovery plan. In case of a natural disaster or other emergency, it's important to have a disaster recovery plan so that e-government services can keep running. This includes setting up backup systems, redundancies, and protocols for dealing with disasters.
- This includes making a system for handling complaints, doing surveys to find out how satisfied citizens are, and setting up ways for people to give feedback.
- Set up a monitoring and evaluation framework. A monitoring and evaluation framework can help you figure out how well e-government projects are working and where they need to be improved. This means making key performance indicators, doing regular evaluations, and giving reports on how e-government projects are going.
- Form partnerships with international organizations. International partnerships can help e-government projects with technical and financial support and make it easier for best practices to be shared. This means working together with international groups like the World Bank, the UN, and other regional and global groups.