Research Documentation
on
‘Digital Service Design Lab (DSDL)’

Prepared for

United Nations Development Programme (UNDP)

Aspire to Innovate (a2i) Programme

Dhaka, Bangladesh

Prepared By

Dr. Md Jahangir Alam

National Consultant for Research Documentations

&

Assistant Professor

Department of Japanese Studies

Faculty of Social Sciences

University of Dhaka

Dhaka-1000

ACRONYMS

Abbreviation	Terminology
a2i	Aspire to Innovate
BKSP	Bangladesh Krira Shikkha Protishthan
BREB	Bangladesh Rural Electrification Board
DESCO	Dhaka Electric Supply Company Limited
DSA	Digital Service Accelerator
DSDL	Digital Service Design Lab
DSI	Digital Service Innovation
DT	Digital Transformation
EGDI	E-Governance Development Index
EPI	E-Participation Index
FYP	Five Year Plan
G2B	Government-to-Business
G2C	Government-to-Citizen
G2G	Government-to-Government
GoB	Government of Bangladesh
ICT	Information and Communication Technology
IT	Information Technology
KYC	Know Your Customers
OGDI	Open Government Data Index
OSI	Online Service Index
PM	Prime Minister
RDCD	Rural Development & Cooperative Division
SDG	Sustainable Development Goal
SPS	Service Process Simplification
TCV	Time Cost Visit
TII	Telecommunication Infrastructure Index
ToR	Terms of Reference
UDC	Union Digital Centers
UNDP	United Nations Development Programme
USAID	United States Agency for International Development

Executive Summary

The Government of Bangladesh plans to simplify and digitize its public services as part of the Digital Bangladesh agenda and transform government institutions into paperless offices using information and communication technologies. Bangladesh's Aspire to Innovate (a2i) program (a joint initiative of Cabinet Division, ICT Division) has been pursuing this transformation with support from the United Nations Development Program (UNDP).

One of a2i's digital innovations, the Digital Service Design Lab (DSDL), a 6-7-day workshop, has been trying to streamline and digitize government service operations to accelerate the digitization transition so that the citizens can access and receive government services more effectively, with reduced time, cost, and the number of visits (TCV).

Since 2018, DSDL has been completed in 28 ministries and 61 organizations. Among the 28 ministries, 9 ministries' system development is running and among 61 organizations, 31 organizations' system development is in process. A few of the outcomes of the DSDL include digitization of government services, increasing ownership, boosting the capacity of government officials and ensuring good governance by enhancing transparency and accountability. The digitization effort of DSDL is also aligned with several SDG targets for Bangladesh including the equal opportunity of citizens to ICTs, e-participation for good governance, digital literacy, reducing digital gaps, and economic growth. Furthermore, increasing the public's faith in government is one of the benefits of the DSDL.

By utilizing the potential of DSDL and other digital breakthroughs, Bangladesh will hopefully retain its prosperity and fulfill its cherished goal of Digital Bangladesh. DSDL's success in Bangladesh and its unique implications have inspired some countries to adopt a similar approach.

CONTENTS

1. Introduction

In 2008, the Honorable Prime Minister of Bangladesh declared Digital Bangladesh agenda commonly dubbed as Vision 2021. After this declaration, Aspire to Innovate Programme (a2i) started its journey from the Prime Minister's office with the assistance of UNDP Bangladesh to implement the Digital Bangladesh agenda.

In 2017, the Digital Service Accelerator (DSA) Unit was established as per the guidance of Cabinet Division and ICT Division. The aim of the unit is to act as a central advisory entity for building institutional capacity of different ministries, government agencies and departments so that they can perform digital transformation and simplification of their services through digitization and implement accompanying e-governance processes effectively.

In April 2018, the ICT Advisor of Honorable Prime Minister Mr. Sajeeb Wazed gave a directive to all ministries and government agencies to implement Digital Service Roadmap 21. After this directive, with technical assistance and overall guidance of a2i's DSA team, secretaries of 56 ministries and heads of 394 government departments identified around three thousand e-governance applications through comprehensive analysis and develop a priority driven implementation plan for the Digital Service Roadmap. Afterwards, the outcomes of Digital Service Roadmap were integrated with e-Governance Master Plan of the government.

Due to inadequate capacity and dearth of IT professionals, ministries, agencies and departments faced obstacles in implementing digital service systems identified in the Digital Service Roadmap. Eventually, DSA platform of a2i organize 6-7 days analysis, designing & planning workshop, known as Digital Service Design Lab (DSDL), for the ministries and departments to simplify their services through effective digitalization, digitalize them and devise implementation plan by their own capacity. The DSDL method has been implemented to digitalize the services of 28 ministries in Bangladesh and 3 ministries in 2 other countries. At present, using DSDL method, different ministries and agencies are developing their e-governance master plan and accompanying strategies.

2. Background of Digital Service Design Lab (DSDL)

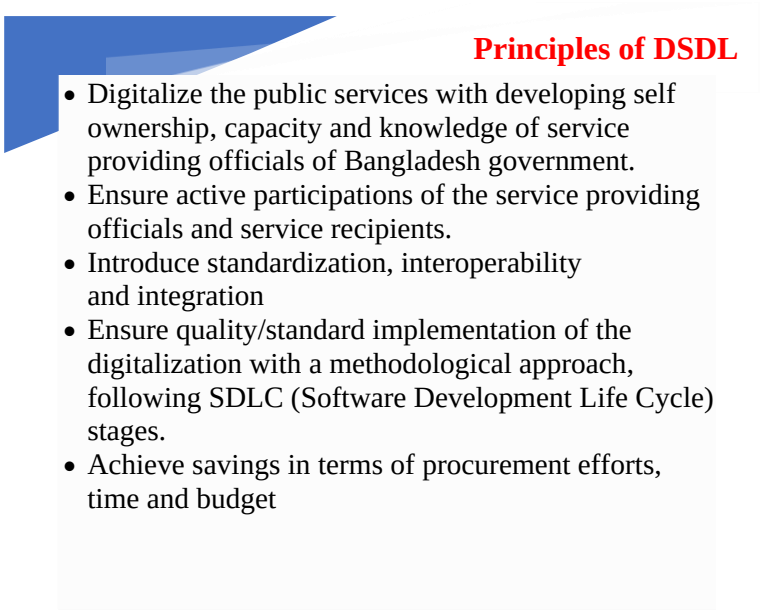
Until 2017, different ministries, government agencies and departments developed digital services that had been characterized as quick-wins and less integrated within the ministries or divisions. They included some websites, software and mobile apps. But, there was a dearth of technical expertise and strategic guidance of concerned ministries, government agencies and departments to implement them with proper analysis, design and direction. As a result, those initiatives had failed to make digital services more friendly and easy in terms of the reduction of service recipients' time, cost and visits in accessing public services.

For the successful implementation of an inclusive governance framework, the government felt an urge to bring all digital initiatives under a common and integrated platform to make them more friendly, effective, sustainable and integrated with the national digital architecture. In line with this, by the end of 2017 a new design model was introduced to digitalize 400+ people friendly services and 61 systems belonging to 61 organizations. They were accomplished through 7-9 days analysis, designing and planning workshops with active participation of both service providers and service receivers. The concerned government agencies with the support of IT experts and service recipients analyze manual services, design systems, devise procurement plan and identify specifications, develop strategies to manage vendors and for project management and identify quality aspects of deliverables. Through this process, an innovative digitalization model has emerged which has widely enhanced digitization ownership, knowledge, confidence & innovative culture within the government.

In line with this, by 2018 all ministries, agencies and departments completed their digital service roadmap. Effectiveness and proper uses of these integrated digital systems by the ministries, agencies and departments were ensured under an inter-operable framework. This process continued until 2019 until the emergence of Covid in 2020. In the meantime, 39 (29+10) DSDL processes were conducted under which 232 services were digitalized. Because of Covid, this process remained suspended until the mid of 2021.

From 2022 DSDL is not only confined to digitalization of the public services and capacity development of the government organizations but also turned into a new extended model of e-governance master plan and roadmap with the new experience & demands of Bangladesh government. For example, At the end of 2021 Directorate of Posts Under Ministry of Posts, Telecommunications and Information Technology has designed a e-governance master plan for next 10 years with extensive analysis and active participations

of its' service providers (Officials) and recipients (Citizen) through DSDL. As a result, this directorate has adopted two new separate projects of digitalization for the effective implementation of this e-governance master plan. Analogously, Information and Communication Technology Division with its' subordinated 9 organization (Government organizations) is going to sketching its' e-governance master plan and roadmap for implementing the vision-41: Smart ICT Division in the mid of 2022.



- -

3. Public Service

Digitalization and its impacts on Socio-economic Development of Bangladesh

After independence in 1971, Bangladesh inherited an impoverished agrarian country with low productivity. Despite such an unfavorable circumstance and resource constraints, Bangladesh has made considerable economic and social progress over the last five decades. This socio-economic advancement has got momentum in recent years. The structure of Bangladesh economy has shifted from an agrarian to a manufacturing economy. The economy has also become more integrated with the rest of the world. Contributions of exports, imports, and remittances to the GDP have increased considerably. Economic advancement has had a favorable impact on citizens' life and livelihoods. To maintain the momentum of the economic advancement in different sectors and creating citizen's easy access to different government services, ICT would play a facilitating role so that businesses can pursue their economic activities smoothly and citizens can maintain their well-being.

4. Objectives of Digital Service Design Lab (DSDL)

The primary objective of the DSDL is to make government offices more integrated and efficient for the deliveries of public services through adoption of a digitalization master plan encompassing comprehensive service analysis, system design and devising of implementation plan with active participation of relevant stakeholders. DSDL helps to design services for the public in four modalities: mobile-based, web-based, payment-based, and call center-based. Aims of these platforms are to make public services simpler and convenient so that time, cost

and visits for service recipients would reduce. If this aim is realized, Digital Bangladesh dream would be materialized ensuring good governance through public service digitization.

Specific objectives of DSDL include:

- Enhancing competence of organizational leadership and officials to transform manual services into digital ones through service analysis, service design and devising of implementation plan
- Instead of hiring of external consultants or outsourced companies, preparing digitalization master plan of an organization using their own resources (Service providers & Recipients) and budget in a 7 days analysis, planning & designing workshop.
- Simplification of services by engaging bona fide service recipients, identification of their challenges and accordingly designing of digital services for the benefit of service recipients
- Development of effective digital system by the application of some hands-on experiences instead of learning through lectures or training
- Preparation of a guideline with futuristic outcomes so that digitalization process can be carried out by the future leadership if leadership change has taken place
- Gain capacity so that organizations can implement other digitalization initiatives using the learnings from this workshop

5. Constraints in the traditional mode of service deliveries

Traditionally, public services in Bangladesh have been characterized as complex and cumbersome for which citizens had to endure delays, additional paperwork and multiple visits to receive public services. Government offices had to experience the similar to access their inter-and intra-government services. As a result, service recipients requesting services have to experience higher TCV which has tarnished the public sector as an inefficient and poor service provider.

In this context, earlier different ministers, agencies and departments took digitalization initiatives that had been characterized as quick wins and less-integrated. As a result, miseries of service recipients remained to be a recurring phenomenon in public services and a major impediment in the realization of Digital Bangladesh. Eventually, DSDL innovation was initiated to simplify and digitalize entire service provisions in a comprehensive manner with active participation of concerned ministry or agency or department, service recipients and IT professionals. The DSDL process also tries to connect digital services of other ministries for attaining potential integration and further simplification of processes. Thus, historical legacy of complex and unwieldly service provisions is solved with this innovative service design.

6. ICT Policy Framework in Bangladesh and DSDL

Public sector digitalization can bring fundamental changes in public management and service delivery provisions. In Bangladesh, service innovation is extremely desirable for bringing transformative changes in the society and maintaining the momentum of economic development. The GoB retains the significance of modernizing and revitalizing public administration in ensuring citizen-centric, cost-effective, and user-friendly services to citizens and businesses. Consequently, the government has adopted different policies and innovations for enhancing transparency and accountability in public services. Here, e-government has found to be a highly desirable reform process underpinned by judicious application of ICT technologies.

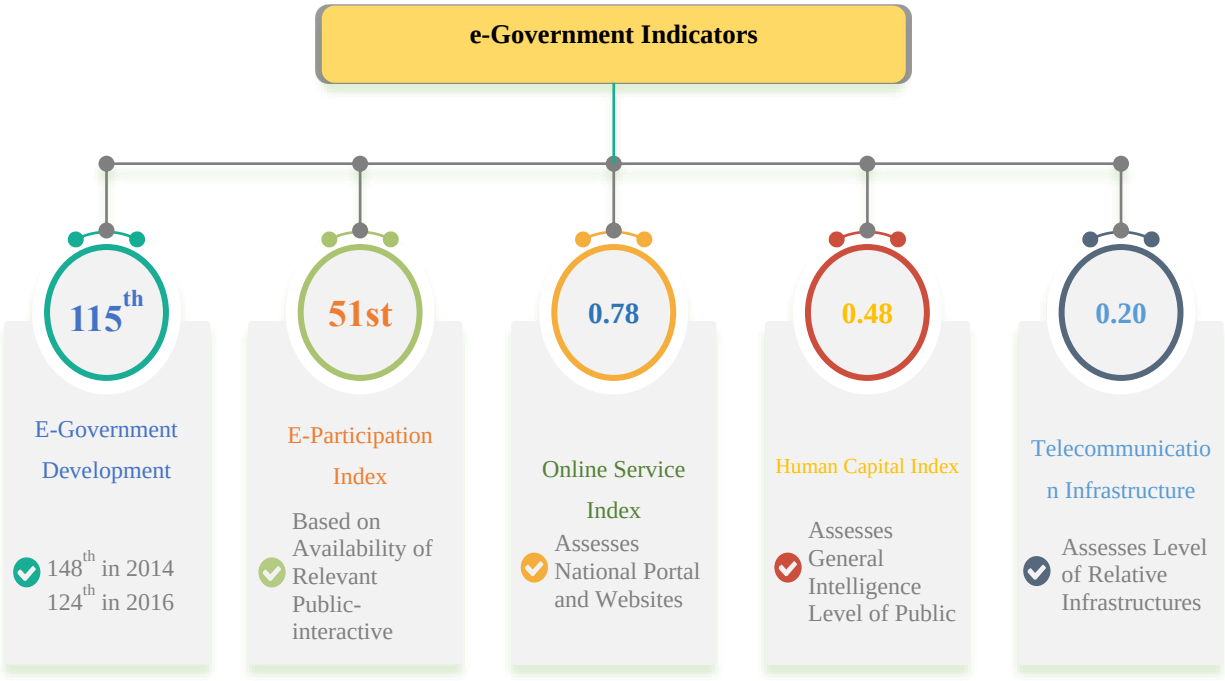
To receive a pension, a retired school-teacher not living in capital Dhaka had to provide over 21 papers. They include the teacher's nationality certificate, birth certificate, appointment letter, etc. As a result, the teachers had to travel and stay in Dhaka for 28 days which incurred hefty lodging fare, transportation cost, and visit of multiple government offices.

To realize above overarching goal, the government have also developed and enacted some policies and legal framework for Bangladesh's digitalization trajectories. The National ICT Policy (2009) was enacted to facilitate a broader range of ICT applications for the establishment of an open, accessible, and responsible government in Bangladesh. The ICT Act 2009 and the Right to Information Act 2009 have some facilitating provisions for the advancement of public service digitization in Bangladesh. The ICT Act 2009 governs the privacy of electronic signatures and big data. Bangladesh has adopted Public Service Act 2018 and Digital Security Act 2018 that have recognized the importance of legal safeguard for public service digitization and cyber security. The Right to Information Act addresses information disclosure matters. This Act enables public institutions to disclose wide range of information to enhance transparency and accountability in public service provisions.

Basis for IT Society	•ICT Act, 2009 •National ICT Policy, 2018
e-Administration	•Right to Information Act, 2009
Informatization Environment Promotion	•BHTPA Act, 2010 •BCC Act, 1990
IT Industry Development	•ICT Act, 2009 •Telecommunication Act, 2001
Adverse Effect Protection	•Telecommunication Act, 2001 •ICT Act, 2009 •Digital Security Act, 2018

Bangladesh has made considerable public and private investments in digital infrastructure in the last decades. It has several public and private mobile operators providing network coverage throughout the country. At present, four public and private operations are providing connectivity to 183.53 million and internet access to 126.6 million subscribers. In addition, the private ISPs and PSTN service providers have expanded broadband connectivity across the country- with around 10.07 million people using the internet. The government has developed a fiber-optic network to 3800 unions - bringing uninterrupted digitalized services in rural Bangladesh.

Despite being a developing country, Bangladesh's status in different e-governance has improved considerably in last decades. At global level, Bangladesh's position reached 115th position in 2018 from 148th position in the e-governance development index. In regard to e-participation index, Bangladesh has reached to 51th position. The status of these indicators necessitated ample room for further improvement of e-governance in regard to policy adoption, and development of infrastructure and processes.



Source: UN E-Governance Survey Report (2018)

Above illustration demonstrates that Bangladesh has made considerable progress in producing relevant ICT policies and building increasingly robust infrastructures. They have also emboldened optimism for brining efficiency in public services for the benefit of citizens and operations of the government. All of these have created conducive platform for the adoption of DSDL innovation which would eventually help the country to make transformative changes through realizing e-governance and Digital Bangladesh's long-term objectives.

7. DSDL Implementation Processes and Modalities

The DSDL process starts with a 6-7-day lab where government officials are trained about service analysis, digital service design, TCV analysis, prototype design, review, and technical requirements for procurement documents. After the training, each project officially starts from system requirement analysis and then slowly moves towards the implementation stage, which would require up to 32 months to complete. DSDL enables the delivery of e-Services in less than 8 to 14 months. Further, the 6-7 days lab examine manual service analysis, digital service process design, vendor management, and finally, procurement plan for public service digitization.

Table 1. DSDL's 6-7 days Digital Service Design Model

Day	Activities	Day	Activities
Day -1	• Defining of DSDL's scope • Demonstrate the experiences of manual services • Identification of gap and challenges in manual services • Identification of service recipients' capacity, strength and weakness for designing context based digitalized services	Day-5	• Identification of user types, roles and their accessibility plan • Integration and user acceptance plan • Identification of digital service outcome and impact • Identification of development expectations • Prototype design (online)
Day -2	• Visit service delivery sites • Identification of functional challenges and problems in service delivery • Analysis of manual services (Using DSDL tools)	Day-6	• Vendor management plan • Hardware and hosting plan • Piloting and promotion plan • End-user engagement plan • Prototype design (online) • Designing of specifications for ToR
Day-3	• Identification of digitization scopes • Identification of expectations on the digitalization process • Designing of digital service process • Prototype design	Day-7	• Prototype review • Designing of specifications for ToR • Way forward action plan • Presentation of the design and plan at the closing • Closing event
Day-4	• Designing of digital service process (cont.) • TCV analysis for demonstrating efficiency gain due to digitalization • Data management and privacy plan • Prototype design (online)		

DSDL's Preparatory Checklist:

- Getting approval from the concerned ministry or agency on the services to be digitized based on their alignment with the ministry's citizen charter and services identified in the Digital Service Roadmap 2021 workshop
- Arranging a meeting with the selected officials to present proposed digital system, DSDL implementation plan, outputs, and implementation strategies before the ministry
- Sending letter by the concerned ministry to a2i to conduct DSDL

- Final nomination of workshop participants (officials and services recipients and guest list for the closing sessions) by the ministry
- Nomination of resource persons by the ICT division and DSA, a2i
- Ensuring attendance of nominated attendees (officials and service recipients) by contacting them from a2i and ICT Division
- Booking of a venue and preparation of the DSDL budget by the concerned ministry
- Preparation of banner and festoon
- Inauguration of the workshop by the ministry and sending invitation letters to the guests attending the closing session and booking a venue for the closing session

8. Achievements of the DSDL Model

8.1 DSDL Implemented

After receiving the directive from Mr. Sajeeb Wajed Joy, the Honorable ICT Advisor to the HPM, a2i's DSA team developed the Digital Service Roadmap 21 for service process simplification and integrated digitalization of public services under 53 ministries. The roadmap planned 1856 services for digitalization framework of which 597 systems had already been developed by concerned ministries or divisions and 273 systems were being implemented.

DSDL at the Directorate of Postage

The Directorate of Posts is a service-oriented public organization to deliver different postal and financial services. It is one of the oldest public service organizations in Bangladesh serving millions of people from all-walks-of-life. The department provides a total of 46 services in 6 categories. Basic domestic and international postal services are provided especially through 8500 service points.

For more than a century, it has been working tirelessly to ensure fast, reliable and affordable postal services to the people. However, its services have been provided mostly in manual process and old-fashioned manner to a very large number of population. As a result, service providers and service recipients face various challenges. Service recipients have to incur additional cost, time and visits as well.

In this situation, the Directorate of Posts approached a2i in order to modernize its services through digital platform. After a series of meeting and workshops with the officials of the Postal Department, a2i experts presented preliminary analysis and provided detailed ideas about the DSDL workshop. Through DSDL workshop in its own capacity, decision-makers and service providers of the directorate and service recipients eventually developed a comprehensive digitization master plan for the digitization of its services. The digitalization plan that would require 2-3 years to complete was accomplished in a 7-8 days long DSDL workshop through intellectual brainstorming and active participation of all relevant stakeholders. Based on outcomes of the plan, the Postal Department has undertaken 3 projects to implement all planned digitalization activities.

Initially, DSDL initiative mainly embarked on digitalizing priority services of ministries, divisions and government agencies. Afterward, a2i's DSA team realized to implement DSDL process in a wider and comprehensive manner integrating all services delivered by departments and agencies under the ministries. So far, the DSDL has been accomplished in 28 ministries and 61 organizations. This process has designed 225 software. Among 28 ministries, system development of 9 ministries is running. Among 61 organizations, system development of 31 organizations is also running. The number of services designed by the DSDL process has reached 3000.

List of ministries or division implemented DSDL

No.	Ministry/Division Name
1	Ministry of Chittagong Hill Tracts Affairs (MoCHTA)
2	Ministry of Science and Technology (MoST)
3	Technical & Madrasa Education Division (TMED)
4	Planning Division, Ministry of Planning
5	Ministry of Agriculture (MoA)
6	Health Services Division (HSD)
7	Ministry of Commerce (MoC)
8	Bangladesh Parliament
9	Ministry of Social Welfare (MoSW)
10	BSMMU
11	Ministry of Fisheries & Livestock (MoFL)
12	Public Security Division, Ministry of Home Affairs (PSD)
13	Rural Development & Cooperative Division (RDCD)
14	Secondary & Higher Education Division (SHED)
15	Ministry of Youth & Sports (MoYS)
16	Ministry of Primary and Mass Education (MoPME)
17	Local Government Division (LGD)
18	Public Division, President's Office
19	Ministry of Religious Affairs (MoRA)
20	Ministry of Food (MoF)
21	Ministry of Expatriates' Welfare and Overseas Employment (MoEWOE)
22	Ministry of Housing & Public Works (MoHPW)
23	Ministry of Women and Children Affairs
24	University Grants Commission of Bangladesh (UGC)
25	Ministry of Shipping
26	Law and Justice Division, MoLJPA
27	NGO Affairs Bureau, Prime Minister's Office
28	Directorate of Posts

8.2 DSDL's contributions to brining efficiency in the public sector

> "With the aim of transforming Bangladesh into a developed country by 2041, the DSA team started their DSDL initiative in 2018. I was fortunate to work directly as a focal with this initiative. The DSDL has an important role in enhancing the capacity of government officials in analyzing existing services, digitalizing them and devising system design, implementation strategies, budget and procurement plan. The goal of this initiative of the ICT Division is to formulate Smart ICT Vision-31 and enhance the quality of ordinary citizen's life. As DSDL has turned out as a successful initiative in Bangladesh, this model can be replicated in other countries." --- Senior Secretary, ICT Division

The DSDL has played a pivotal role in digitalizing the public sector. It has brought praiseworthy outcomes. Inter and intra integration among ministries and departments have been achieved, steps reduced; and, thus, TCV required for receiving respective services reduced. TCV in service delivery process has reduced considerably through DSDL's service innovation process. In the past, people faced several obstacles in getting information and processing services. After DSDL, it has become much simpler to submit data and make payments. These innovations have eliminated a lot of undesirable expenses. Public services have been significantly streamlined and consolidated, and service processing time has reduced significantly. Because of this digital innovations, physical presence has become redundant in many service provisions.

Earlier public service processes were entirely based on paperwork, at that time there was much duplicity in the operations of ministries and public agencies. The DSDL has been able to enhance transparency and accountability in the delivery of various service provision; eventually, the DSDL has contributed in enhancing good governance in public services. This problem has lessened considerably because of the presence of integrated and wider digital services. Eventually, Bangladesh's status in many international rankings relating to digitalization has improved as well. Moreover, through the DSDL, the realization of Digital Bangladesh has become a reality. Changes through DSDL would have been impossible without the proper expertise and knowledge of the a2i and its efforts to mobilize resources.

8.3 Monetary and non-monetary benefits of DSDL

The DSDL achievements are primarily categorized into two categories: administrative-centric achievements and public or customer-centric achievements. On the other hand, DSDL accomplishments can be classified into two main scope areas: monetary and non-monetary. Non-monetary benefits are generally classified into two categories: value-based benefits and time-based benefits.

Table: Monetary and non-monetary benefits of DSDL

Categories	Achievements	
	Administration Centric	***Citizen Centric***
Monetary Benefits	i. Revenue generation increased for the usages of corporate/commercial service and information. ii. Travel and field travel cost reduced. iii. Publication and dissemination costs reduced iv. Expenses reduced due to the elimination of physical presence.	i. Charged reduction for govt. services, avoiding future charge increases. ii. Reduced data transmitting cost, e.g., post, fax, phone, paper, etc. iii. Travel costs reduced as well as related costs (e.g., expert opinion) iv. Fraud and the need for an intermediary reduced
Value-Based Benefits (Non-Monetary)	i. Redundancy reduced for the use of interconnected systems. ii. Increased efficiency in the use of existing infrastructure. iii. Less wastage of capacity. iv. More precise, up-to-date, and clean data, as well as more trustworthy info. v. Capacity increased for cross-government information exchange. vi. Risk management enhanced. Increased security and a reduction in security breaches.	i. Lowered processing time and improved response time. ii. Integration of services. iii. Increased democratic participation and empowerment and enhanced interaction between the government and communities in remote areas iv.Inaccuracy rate decreased v. Involvement, engagement, contribution, and transparency of users increased.
Time-Based Benefits (Non-Monetary)	i. Processing time reduced by establishing uniform data and process standards. ii. Public employees can save time and have more flexible working hours. iii. Frequency of errors, rework, and complaints reduced iv. Need for numerous data from a single customer decreased.	i. Citizen's time saved (saving hours). ii. Travel time reduced iii. Need for multiple submissions of data for various services reduced. iv. Real-time solutions.

8.4 Contributions to the capacity development of government officials

The DSDL process has successfully contributed in building the capacity of concerned ministries and organizations. It has created an innovative culture within the government. After

participation in the DSDL, the government officials can not only develop a plan for digitalization, but they can also formulate master plan for the e-governance of their organizations. The DSDL trains participating government officials who will carry out the DSDL task and manage human resource and e-service experts in their ministries. The process has enhanced government officials' confidence for implementing and monitoring digitalization programs. Through DSDL process, a ministry/division can accomplish analysis of existing services, determine digitization scope, design systems and prepares procurement plan within almost 7 days. Thus, a digitalization program can be implemented with reduced time, cost and number of visits which would otherwise take very long time.

"The seven-day DSDL has been a one-of-a-kind most incredible experience. Before the lab, I barely had any idea of SPS and how to simplify our services. Furthermore, by interacting with beneficiaries and the domain experts, I was able to gain knowledge about both procurement and digitalization and the difficulties that service recipients face while availing the service. After the completion of the lab, I can now simplify the services of our ministry and digitalize them. Therefore, what used to take three months; now it takes three days. Hence, the time and cost of receiving services have reduced considerably. If service receivers have internet access, then, the need for travel is not necessary now" - An expression gathered in a Focus Group Discussion in regard to DSDL

8.5 Engagement of Stakeholders in the DSDL process

The DSDL workshops also engage other public organizations and private IT companies for the digitization of public services. They are involved at various stages of software design, development, plotting, implementation and quality control. Notable organizations include Bangladesh Computer Council (BCC), DoICT, Bangladesh National Digital Architecture (BNDA), Software Quality Testing and Certification (SQTC), Bangladesh Data Centre Community Limited (BDCCL), Bangladesh Association of Software and Information Services (BASIS).

Over time, the engagement of stakeholders in the DSDL process has expanded. The DSDL also engages other non-government stakeholders from the demand and supply side especially the domain experts from both technical and non-technical fields and potential service recipients.

The domain experts are paired up with the government officials to provide them necessary domain knowledge. Service recipients are also engaged to enable government officials to think from their end. Thus, engagement of PMO, nominated officials from ministries, a2i personnel, domain experts and beneficiaries are ensured. Overall, the lab enables them to enhance their overall capacity and make the government services more simplified and digital to ensure increased accessibility of government offices and citizens to public services.

8.6 DSDL's contributions in achieving SDGs

DSDL has been instrumental in accomplishing several SDG targets for Bangladesh. DSDL's digitalization effort is mostly aligned with indicator 16.6 of SDG goal 16 dedicated to developing effective, accountable and transparent institutions at all levels. Once government services are digitized, services would be faster, transparency in the delivery process would enhance; and, thus, a culture of accountability would be established. Again, indicator 10.3 of SDG goal 10 says about ensuring equal opportunity and reducing inequalities and digital gaps through promoting appropriate legislation, policies and action. The DSDL process has contributed to these areas through formulating necessary policies and ensuring active participation of government officials, IT experts and most importantly the service recipients in the design of digitalization and implementation processes.

8.7 DSDL Replication in South-South countries

DSDL has made laudable contribution to bringing digital transformation in public services in Bangladesh. Its experience has received attention from countries beyond its boarder for possible replication especially in South-South countries. The DSDL has assisted similar model in Fiji and Philippines through providing technical support and advice in designing, developing and implementing digital service systems. This experience is a significant precedent for the DSDL team to expand beyond the national border.

9. Lessons Learned through DSDL process

Through Digital Bangladesh, the government aspires to achieve comprehensive digitalization of government services so that citizen can access public services in a smooth and easy manner and their operation mechanism would be efficient. This aspiration has been considerably realized by the implementation of DSDL. Initially, it was perceived to be very difficult to implement; however, because of the leadership support from the top of the government, active participation of government officials and relevant expertise and knowledge

of a2i have made it possible. In institutions, where DSDL has been implemented, public services in those institution have become more efficient eliminating traditional manual and cumbersome processes. Moreover, the DSDL process has boosted non-technical public officials' knowledge, capacity and confidence to bring digital transformation in their own organization. The DSDL has contributed in brining transparency and accountability in public service delivery process which would create a space for combating corruption in public delivery processes.

Despite above achievements, some lessons have been learned from the implementation of DSDL. Expected output might not be realized without proper planning, selection of suitable planner/expert, extensive analysis and suitable design during DSDL process. Project implementation would be uncertain unless a proper IT company for software development is hired. If knowledge transfer within an organization does not take place adequately, the DSDL implementation process would be hindered if an assigned official is transferred. In other issue is that quality would not be assured if service providers' and service receiver's feedback are not received during software design and development. Moreover, sometimes organizations find it difficult to adapt with digitalization induced new work cultural.

10. Challenges

DSDL has been able to digitalize and streamline delivery of government services to considerable extent. However, there are few issues which may pose considerable obstacles and challenges for the realization of DSDL's long-term goal and its sustainability. Any DSDL process must be well-understood by leadership in order to be effective and sustainable. In GoB offices, leadership changes are common in which cases new leaderships sometimes take time to acquire required knowledge on the DSDL processes and develop requisite expertise to implement them. Again, each ministry has a small team of technical professionals, primarily the IT experts who are responsible to maintain their digital services. But, with limited human resources, sometime ministries struggle to maintain digital innovations like DSDL on their own.

11. Conclusion

As part of the Digital Bangladesh agenda, the Government of Bangladesh has planned to simplify its services and processes for the public, make them available through single access

points, and transform government institutions into paperless offices based on well-crafted information and service frameworks. For this purpose, the government has adopted a whole of the government approach for its digitalization. This transition has been accomplished through a2i innovation. The DSDL is one such innovation that has stood out in simplifying government operations in comprehensive manner to bring wider impact in the operations of the government and deliveries public services. By this time, the DSDL has contributed in digitalizing a number of public services under different ministries and agencies. As a result, citizens can access and receive government services efficiently with reduced TCV and making those services nearly universal as long as citizens have internet access. By establishing the groundwork for the future digitalization of government services, the DSDL has been a huge success and will continue to be so. However, a2i, in collaboration with UNDP's assistance, must play a critical role in circumventing any impediments to its implementation progress.

Recommendations

- Countries other than Bangladesh will be able to realize desired outcome if they complete a DSDL by making a concrete plan in light of their socio-economic and socio-cultural context.
- Without perceiving DSDL in theoretical perspective, practical knowledge can be gained by organizing a DSDL workshop with the participation and advice of relevant experts including a2i
- If a country wants to adopt DSDL for digitalization of their public services, a preparatory workshop / brainstorming session can be organized to devise a proper planning before organizing the DSDL.

References

Aspire to Innovate. (2021). *Digital Service Design Lab (DSDL)* [Power Point Slide]. a2i, ICT Division.

BTRC Annual Report (2019-2020) http://www.btrc.gov.bd/sites/default/files/paper_files/BTRC%20English%20Annual%20Report-2019-2020.pdf

Department of Electronics and Information Technology. (2012). *eDistrict MMP national rollout guidelines - Integrated framework for delivery of services.* https://www.meity.gov.in/writereaddata/files/Integrated%20Framework%20for%20Delivery%20of%20Services%20(Revised%20by%20BD)-%2015%20Augv2_pdf.pdf

Khatun, F. (2021). Achieving a just society in the next 50 years. *The Daily Star*. https://cpd.org.bd/achieving-a-just-society-in-the-next-50-years/?fbclid=IwAR0CM8o3u8BpXj3VDGTA2LVOIQyjl1E4TFTuATrrfLRKrfzpk_AJR5Xrr2k

National ICT Household Survey (2019) https://a2i.gov.bd/wp-content/uploads/2020/04/Top-Line-Report_Bangladesh-National-ICT-Household-Survey.pdf

United Nations. (2018). *United Nations e-government survey 2018: Gearing e-government to support transformation towards sustainable and resilient societies.* https://publicadministration.un.org/egovkb/Portals/egovkb/Documents/un/2018-Survey/E-Government%20Survey%202018_FINAL%20for%20web.pdf

UNDP Human Development Report (2020). http://hdr.undp.org/en/2020-report

Wihlborg, E., Mariana, S., & Gustafsson, M. S. (2014, May 21-23). *In Search of Quality of eGovernment - A conceptual discussion on impartiality in eGovernment.* In P. Parycek, N. Edelmann (Eds.), International Conference for E-Democracy and Open Government, Danube University Krems, Austria.

Appendix A: Data Collection

Table Containing Details Regarding the Key Informant Interviews (KII) and Focus Ground Discussion (FGD) Conducted for Data Collection

Sl No.	Exercise Name	Stakeholders	Number of Participants	Conduction Date	Medium
1	FGD	FGD with 9 ministries representatives who availed DSDL	8	November 24, 2021	In-person
2	FGD	Innovation level technical team	6	November 23, 2021	Online
3	FGD	Selected businesses availing DSDL services	6	November 24, 2021	In-person
4	KII	Individual meeting with 2 secretaries	2	November 10, 2021	In-person
5	KII	Depth-Interview- (DSDL Team)	2	November 10, 2021	In-person

Appendix B: Questionnaires

1. **FGD - (FGD with 9 Ministries representatives who availed DSDL)**
   a) What issues motivated to receive services of the 'DSDL'? Or What was the context that had encouraged you to receive DSDL? or why did your ministry resort to DSDL?
   b) What problems did you experience in the traditional service delivery processes?
   c) What factors led you to consider (will consider) in availing of the 'DSDL'?
   d) How could you assemble necessary human, logistical and financial resources for the implementation of DSDL?
   e) What are the benefits you receive now in availing of 'DSDL'?
   f) How have 'DSDL' services contributed to receiving services with less time, cost, and visits to obtain citizen-centric government services? Provide examples (if any).
   g) What new practices (benefit) have you perceived in the adaptation by 'DSDL'?
   h) What challenges, as a service receiver/provider, do you think are obstructing the effective implementation of the 'DSDL'?
   i) For better public service management and digitalization process for the service receivers through the 'DSDL', what can be done to soften (to mitigate) these challenges?
   j) How do you think 'DSDL' could be recognized as effective for inclusive solutions?
   k) Are there any issues or ideas you would like to share regarding DSDL?

2. **FGD - (Innovation level technical team.**
   a) What factors led the innovation team to initiate the 'DSDL' service as a part of the digitalization process?
   b) What are the benefits and challenges faced by the innovation team by introducing the 'DSDL' service?
   c) In what capacity do you believe the assembled resources contributed to receiving service efficiently?
   d) How did the innovation team assemble all the stakeholders to introduce new practices/pathways by adapting the 'DSDL' service for the betterment of public service management?
   e) How did you assemble the technical expertise in implementing the DSDL?
   f) What are the processes the innovation team followed for the initiation and implementation of DSDL?
   g) What are the challenges do you face in the implementation of the 'DSDL' service? Especially when it comes to coordinating among the stakeholders?
   h) How do you think the implementation challenges can be reduced, and the factors donating to the challenges can be identified and overcome for better public service management through the 'DSDL' service?
   i) How do you think the 'DSDL' service could be recognized as effective for inclusive solutions among the stakeholder's decision-making process? Example, if any.

3. **FGD- (Selected businesses availing DSDL services)**
    a) What issues (traditional practices/systems) motivated in implementing the 'DSDL' for the digitalization process?
    b) What are the benefits you experience now in availing of 'DSDL'?
    c) What are the problems you are facing even after the introduction of DSDL?
    d) How have 'DSDL' services contributed to receiving service efficiently? Example, if any.
    e) What are the contributions in your sectors after the implementation of the DSDL?
    f) What new practices (expectations/benefits) have you perceived in the adaptation by 'DSDL'?
    g) As a service receiver, what challenges do you think are obstructing the effective implementation of the 'DSDL'?
    h) For better public service management and digitalization process for the service receivers through the 'DSDL', what can be done to reduce and identify the factors causing these challenges?
    i) How do you think 'DSDL' could be recognized as effective for inclusive solutions?

4. **FGD - (Ministries representatives/business who applied to availed DSDL)**
    a) What issues motivated you to apply and avail to receive services of the 'DSDL'?
    b) What problems did you experience in the traditional service delivery processes?
    c) What factors led you to consider in availing of the 'DSDL'?
    d) How will you assemble necessary human, logistical and financial resources for the implementation of DSDL?
    e) What are the benefits you will receive now in availing of 'DSDL'?
    f) How do the 'DSDL' services contribute to providing services efficiently and citizen-centric government services? Provide examples (if any).
    g) What new practices (benefit) would you perceive in the adaptation by 'DSDL'?
    h) What challenges might you face that will obstruct the effective implementation of the 'DSDL'?
    i) For better public service management and digitalization process for the service receivers through the 'DSDL', what should be done to soften (to mitigate) these challenges?
    j) How do you think 'DSDL' might be recognized as effective for inclusive solutions?
    k) Are there any issues or ideas you would like to share regarding DSDL?

5. **In-depth Interviews (Individual meeting with 2 secretaries (2 KII))**
    a) What factors lead the government and a2i to make the 'DSDL' service a part of the digitalization process?
    b) What are the benefits of this innovation by the introduction of the 'DSDL'?
    c) In what capacity do you believe 'DSDL' contributed to receiving service efficiently to ensure e-governance?
    d) Do you think government agencies get benefits from introducing new practices/pathways by adapting the 'DSDL' service for better public service management?

e) What are the challenges you face in the implementation of the 'DSDL'? Especially when it comes to coordinating among the stakeholders?
f) How do you think the implementation challenges can be reduced, and the factors donating to the challenges can be identified and overcome for better public service management through the 'DSDL'?
g) Do you think that the 'DSDL' service could be recognized as effective for inclusive solutions among the stakeholder's decision-making process? How? Example, if any.

6. In Depth-Interview- (DSDL Team/ Focal Point)

4.1 General Questions:

a) When was the DSDL initiated?
b) Do you have the year-specific data or progress reports or research paper on DSDL?
c) Why was this project initiated, and what was the motive of this project?
d) Who are the expected beneficiaries of this project?
e) What is the process of this project, and how is this project implemented?
f) Who plays a crucial role in this project?
g) What are the significant achievements of this project?
h) What are the challenges in implementing this project?
i) Could you mention some challenges, and how did you encounter/quash/defeat those challenges?
j) What are the lessons you have learned in implementing this project and future directions?

4.2 Specific Questions:

a) What factors lead the government and the a2i to create the 'DSDL' as a part of the digitalization process?
b) What benefits did you receive from the introduction of the 'DSDL?'
c) How do you think is the a2i supporting the government to introduce new practices through the adaptation of 'DSDL?'
d) What challenges do you think are being faced with implementing the 'DSDL properly?' Especially when it comes to coordinating stakeholders such as service providers and receivers?
e) How do you think these challenges and the factors contributing to the challenges can be identified for better public service management and digitalization through the 'DSDL?
f) How do you think 'DSDL' could be recognized as effective for inclusive solutions among the stakeholder's decision-making process?