Digitalization Of Public Services In Nepal: An Assessment Of The Implementation Status

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Abstract

Information and Communication Technology (ICT) had developed rapidly during the past decade. COVID-19 pandemic has triggered digitized delivery of public services throughout the world as lockdowns and social distancing became the norm. As the internet became a virtual medium that enabled people to communicate from anywhere, and remotely implementing public services delivery and welfare schemes has been necessary. Nepal's journey of e-governance is strengthened by key policy frameworks designed to enhance digital transformation. Effective practice of E- governance is possible only in using ICT in the delivery of public service, which demands public participation and citizen centric administration. This paper explores the current status of implementation of the digitized public services in Nepal. On-line survey technique was executed to collected data and information on current status of public service delivery. The 'Strategic Framework Model' was adapted for assessing the current state of implementation of digitized public services at local government level. 'Assessment Matrix' was devised to collect the information from 80 master level college students. The result of the assessment shows Insufficient IT infrastructure, Low Digital Literacy Rate, limited IT human resources, and existence of digital divide. Thus, digital transformation of public services requires improvement in digital literacy, ensuring affordable and reliable access, and implementing robust online safety measures.

Keywords: *Digitalization, E-governance, Public service delivery, Digital transformation, Digital divide.*

JEL Classification: *E60, H41, P43*

Background

Information and Communication Technology (ICT) had developed rapidly during the past decade. The application of ICT, besides its important role in rapid growing of the industry sectors, it also improves government sector and enhance a knowledge-

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based economy. It is presumed that globalizations is said to accelerate by the ICT enabling access to bigger market, strong capital, management and technology. The ICT development is also focuses on helping poor and marginalized people and communities through digitalization of the public services. COVID-19 pandemic has triggered digitalized delivery of public services throughout the world as lockdowns and social distancing became the norm. As the internet became a virtual medium that enabled people to communicate from anywhere, and remotely implementing public services delivery and welfare schemes has been necessary.

E-governance has shifted the paradigm of governance from paperwork to less paper. It facilitates the government's working system and private sectors for effective and efficient governance. Using ICTs as a tool, e-governance ensures improvement in public service delivery besides people's participation. E-governance provides a platform for people's participation in governing process in a democratic nation. It not only impacts the people's life, but also improves the formulations and implementation of government's plans and policies.

The constitution of Nepal, 2015 states that 'information technology is crucial for accelerating nation's development', and prepared Information Communication and Technology (ICT) Policy, 2015. The ICT policy emphasizes the need for e-governance, technology integration in education, and digital literacy programs. Government's internal administrative workings were confined in the manual processes, especially in delivering public service to the citizen until the COVID-19 pandemic pushed the service provider to automate their processes. All of sudden, due to lock down and social distancing service provider realized that decades-old processes was not working. The government too, started expediting the automation of its public data/information, approvals process, and revenue collection and payout processes.

The Government of Nepal (GoN) established the "E-Governance Commission" (EGC) on 1st September, 2022 for strengthening the digitalization of internal GoN processes and integrating it with digital service delivery. The EGC is transformed into "E-Governance Board" on January 20, 2025, with additional responsibility to establish 'digital exchange platform', enabling interlinking the individual (ministerial) digital portals and networks. It is also proposed to link with the government's Nagarik App.

Nepal's journey of e-governance is strengthened by key policy frameworks designed to enhance digital transformation. Nepal's Electronic Transaction Act, 2008, ICT Policy, 2015, Digital Nepal Framework (DNF), 2019, National Cyber Security Policy, 2023 are some of the major legal framework creating a digitally empowered society and economy. One of the goal of Nepal's sixteen five-year plan, emphasized on digital technologies

for effective public service delivery, improve governance, and boost economic growth. Digital literacy, and infrastructure development (expanding internet access) are the specific areas of focus of e-governance in Nepal, put forward by the plan.

Effective practice of E- governance is possible only in using ICT in the delivery of public service, which demands public participation and citizen centric administration. The government cannot hold exclusive authority to effectively mobilize e-governance. It is the common responsibility of all the stakeholders involved. At the initial phase of E-governance, it is crucial that the government provides conducive environment for effective implementation the existing legal framework for provision of the public services.

In this context, this paper examines the effectiveness of digitized public services, by identifying the current status of implementation of government's digitalization initiatives. Specifically, the paper assessed impact of the ICT on the citizens as a result of digitized public services.

Review of Nepal Government's E-governance effort
Formulation of legal framework conducive for e-governance

The constitution of Nepal, 2015, in its Policies of the State - Article (51) (f5) 'Policies relating to development' had pursued to ensure easy and simple access to all the citizens to information technology by developing and expanding information technology to the tune of national needs, and make optimum utilization of information technology in the national development. In this context Government of Nepal has accorded high level of policy emphasis for the development of Information Communication and Technology (ICT) sector. *ICT Policy, 2015* was prepared as a basic document for promoting digitalization in the country. It envisioned to transform Nepal into an information and knowledge-based society and economy through intensified development and growth of ICT sector as a key driver for Nepal's sustainable development and poverty reduction strategies. The policy focuses on: Accessibility; ICT for Development; E-Governance; IT Human Resource Development and Cyber Security; ICT Infrastructure development; IT Industrial Promotion; and Promotion of E-commerce and SMEs. It also assures the right to privacy and other fundamental values and freedom of Nepali citizen through Cyber Security policy. It specifically emphasizes the need for e-governance, technology integration in education, and digital literacy programs. *The Digital Nepal Framework, 2019* has developed roadmap to drive economic growth, improve service delivery, and enhance transparency through digitalization in eight sectors. The framework assumes to change the way we live, work and govern through building digital infrastructure, with a vision of creating a Digital Nepal by 2030. Nepal has recently formalized *Cyber Security*

Policy, 2024, assuming to protect internet users from digital violence, along with enabling the vulnerable people to be secure from such events. *Nepal's Electronic Transaction Act, 2008* ensures the legality, integrity, and security of digital transactions. The Act offers essential legal tools for modern governance, secure online identity, and crime prevention.

Government's Digitalization Efforts in Public Service Delivery in Nepal

E-governance provides a platform for people's participation in governing process in a democratic nation. It has tremendous impact on the people's life. Using ICTs as a tool e-governance ensures improvement in public service delivery through citizen's participation. It also improves formulation and implementation of government's plans and policies. In this context, the history of adopting technology in government functions was first initiated by the Ministry of Finance/GoN; introduced computerized budget information system referred to as the BMIS in 1994. Financial Comptroller General's Office (FCGO) started tracking real time expenditure data, electronically in 1996 and Treasury Single Account (TSA) system has been computerized for the first time in 2009. With the introduction of web-based system in budget formulation (Line Ministry Budgetary Information System (LMBIS) in the fiscal year 2012/013 the, budget formulation function of the Nepal Government had entered the digital age. After successful transition to federalism in Nepal Government decided the computer-based budget formulation systems: Provincial Line Ministry Budget Information System (P-LMBIS) and Sub-National Treasury Regulatory Application (SuTRA) in April 2019 for Provincial Government and Local Governments. Until 2020, LMBIS and TSA were functioning in an isolated environment. They were integrated through real time API integration applications and Artemis MQ. This enabled the all the government's budgeting, expending and recording applications, speak the same language (PFMSP/ USAID, 2021).

Digitization of Public Services at Federal Level

Health, Education, and Financial sectors were directly hit by the effect of the COVID-19 pandemic in Nepal. During pandemic it was necessary to collect data and classify easily as per the need for delivering health facilities and information. County's education system was hit hard by the pandemic during the year 2020 and 2021. It necessitated education sector shift its paradigm through digital technology. Financial sector virtually halted all economic activities during COVID-19, disrupting people's normal life. Driven by the pandemic, banks and financial institutions realized that digital transformation in financial sectors could help minimize the spread of coronavirus

in some extent in Nepal. The first phase of digital transformation in financial started with the digital payment service. Financial Services providers' services has been the life saver in such pandemic. Post pandemic, digitization has become a necessary not an option for the banking industry.

Recognizing the transformative power of digitalization, Government of Nepal and greater public acceptance to digital services that minimize physical contact, Ministry of Health and Population (MOHO), with the support of World Health Organization (WHO) started Hamro Swasthya apps as Nepal Government's official application for tracking and monitoring in real-time. This app had helped immensely at that time by providing real time information on the potential case in the nearby vicinity, disseminating preventive measures, Tele-health and Plasma donation, real-time temperature tracking of the stored vaccines, track vaccine stock and distribution, and so on. After pandemic also, Hamro Swasthya mobile application had lead health care services powered by digital technology. However, level of awareness, and accessibility has been the major hurdles for the target population at rural settings. Online classes were conducted in the schools and colleges as an alternative means of learning.

Online educational apps like: KULLABS Smart School, Merostudy, My Second Teacher, E-Pustakalaya and many other E-learning app were developed for both school and college students. Apps provided the best online learning process during and post pandemic period.

Financial Services providers like e-Sewa, Khalti, Prabhu Pay and IME Pay in this area boosted up significantly. Automation of various innovative banking products, including online self-service activations, transactional data driven loan disbursements, were introduced for by BFIs. Post pandemic, digitalization has become a necessary not an option for the banking industry. E-banking helped banks in cost reduction, consequently, revenue generation. Bank's payment services to its customers and solving issues relating has been easier with increment in internet penetration.

The 'Nagarik App' was launched on January 15, 2021 to deliver online services in 64 major governmental works or services through a single online e-governance platform. It requires the phone number register in your citizenship certificate and the citizenship number including your date of birth as per the citizenship certificate, date of issue and citizenship issue district. It is assumed to provide good service and good governance comparing to the existing service providing mechanism. It hopes to bring transparency, efficiency, and accountability, ending staying in queues for public service. And services are delivered any time of day, even on public holidays through an automation system integrated in the Nagarik App.

Digitalization of Public Services at Local Level

Majority of the Local governments in the country have started digitalizing its services. The SUSASAN Municipal Mobile Application is one of the widely used app in municipalities for providing information about municipality's news and notices (from the official government website). It is utilized basically, to provide information about the services, municipalities and wards offices delivers. Besides, it is also used to provide information about the policies, decisions, and budget and program data, of the municipalities. Besides, based on the needs municipalities are found uploading e-Citizen Charter, Citizen Report Card and Exit Poll (for public hearing and collecting people's opinion/perception), and Infrastructure Management System. Similarly, Smart Palika are also increasingly adopted by municipalities. This cell-based app provides integrated e-governance framework to the local governments through mobile application, web application, digital data and a dashboard for the local representatives to use, access and work in the available data.

As, mobile phones and mobile internet are enabling people in accessing information and services (including government services) and stay connected to each other from anywhere. In terms of digital adaptation, there were 15.40 million (49.6 percent of the total population) internet users in Nepal in January 2024. Similarly, 13.50 million population active as social media user (Facebook user) and 10.85 million population were using Facebook Messenger (Digital Nepal, 2024). Observing the increasing usages of smart phone by the citizens, local governments in the assessed municipalities are adopting mobile/cell phone based application as a means of service delivery to their citizens. Following are some of digitized local government services of the assessed municipalities.

Table 1:

*Digitized Services of the Assessed Municipalities*

S.N.	Local Governments	Mean (platform)	Digitalized Services
1	Birgunj Metropolitan City	Website, Facebook messenger, Digital notice Board.	Sanitation app., Groups apps. On-line reporting and payment. online app. On-line events registration, Social security Allowances, COBO Collect App
2	Hetauda Sub-metropolitan City	Website, You-tube, face book, TikTok, imo and messenger.	SUSSHAAN app.
3	Birendranagar Municipality	mobile/cell phone based website, face book	Digital notice board, On-line events registration, Recommendation of citizenship, Revenue collection, e-attendance, e-banking services, and Hello Pregnant women Program
4	Kalika Rural Municipality	Mobile/cell phone based website, face book	SUSSHAAN app.

Methodology

Tools and Method of Data Collection

The study used on-line survey technique to collect data and information on current status of public service delivery (in terms of implementation), in the following six broad indicator contributing/impacting utilization of ICT and other e-governance legal frameworks.

1. Access to Information and Communication Technology (ICT);
2. Utilization of ICT;
3. Human Resource Development in ICT;
4. Digital Governance and Public Service Delivery;
5. Digital violence and security; and
6. Digital Inclusion

The study adopted 'Strategic Framework Model' for assessing the current state of implementation of digitalized public services at local government level. The figure below shows the 'Model' for assessing the current situation and its effectiveness of digitalization of public services.

Figure 1:

Strategic Framework Model
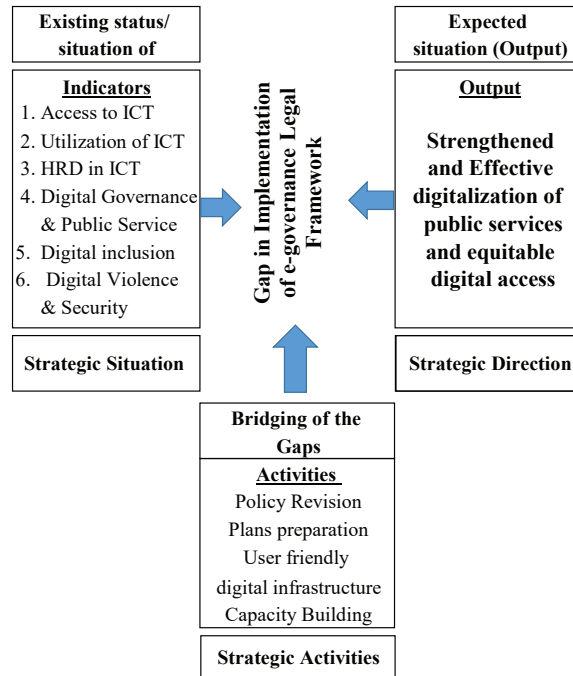
This model assumes that better e-governance in Nepal could be realize only if ICTs are utilized by the people, for more efficient, effective, and responsive public sector service delivery. (Expected situation or Strategic Direction). For measuring the current status of utilization of the established ICTs, selected six indicators (as mandated by the e-governance policies and legal frameworks: ICT Policy, Electronic Transaction Act, 2008, Digital Nepal Framework, National Cyber security Policy, etc.) was assessed (Existing status/situation or Strategic Situation). The difference between the expected situation and the current situation of various contributing components were considered as 'Gap' in implementation of the e-governance legal framework. Bridging the gaps in this approach were done by strengthening of the E-Governance through reviewing, rationalizing and if necessary, formulating policies/legal framework for establishing digital infrastructure for efficient and effective public sector service delivery. Along with it, developing and implementing plan and programs for promoting entrepreneurship, and digital up-skilling of the ICT users (Bridging the Gaps or Strategic Activities). Therefore, whole exercise was focused on seeking the answers to three fundamental questions, namely:

a. Where are we now (the current status of the utilization of ICT infrastructure established for public service delivery)?;

b. Where do we want to go (situations expected by the ICT policies and e-governance legal framework as a result of implementation of digitized public services delivery)?; and

c. How do we get there (the activities that needs to be conducted/improved to bridge the digitized public services delivery gap)?

In order to make the assessment more specific, five sub-indicators for each of the six broad indicators were identified, mandated by the e-governance legal frameworks. The current status of each sub-indicator were identified in terms of effectiveness of implementation of digitized public service delivery. Data were collected though on-line surveys by devising an 'Assessment Matrix' (shown in Annex), in Thakurram Campus - Birjung Metropolitan City; IT campus - Hetauda Sub-Metropolitan City, Model Multiple College - Janakpur Sub-Metropolitan City, and Mid-Western University - Birendranagar Municipality with students studying Master Level, having their email IDs using COBO tool box. The on-line survey was conducted during February 15 to March 24, 2025. Altogether, 80 students studying in Masters Level responded to Assessment Matrix through COBO tool box.

The assessment matrix identified the expected situation of each sub-indicators mandated by the e-governance legal frameworks. The expected situation is coded with '4' score. Along with the expected situation, other four current situation statements are also framed with codes '0' to '3' for the guiding the respondents to choose the current situation. These five situations statements are kept in progressive trend. Code '0' denote unwanted situation, while codes '1', '2', and '3' are possible improved current situation of the utilization of ICT for efficient public service delivery. Coding system in this exercise is adopted for the ease of interpreting the responded current situation of the utilization of ICT.

Result and Discussion

The assessment of current situation of implementation of ICT Policy and other e-governance legal framework was conducted in six broad indicators/parameters with five sub-indicators, by 80 college students studying Master Level in the selected municipal locations. Responses in terms of average total score ranges from '0' to '20'. Followings are the result of online survey

Table 2:

Current situation of implementation of ICT Policy and other e-governance legal framework

S.N.	Indicators/Capacity Parameters	Scores Obtained		
		Full Score	Score Obtained	Implementation Gap
1.	Access to ICT	20	8.0	- 12.0
2.	Utilization of ICT	20	8.7	- 11.3
3.	Human Resource Development in ICT	20	6.6	- 13.4
4.	Digital Governance and Public Services	20	7.8	- 12.2
5.	Digital violence and security	20	7.2	- 12.8
6.	Digital Inclusion	20	7.6	- 12.4
Total/Percentage		120	45.9	38.25%

Source: Researchers' own Calculation

Based on the respondent's assessment of current situation of implementation of ICT Policy and other e-governance legal framework, in terms of score in the above six broad indicators only 38.25% of the mandated activities are implemented. Indicators such as utilization of ICT, and access to ICT has been found comparatively more implemented activities. Human Resource Development in ICT is found to be comparatively weakest indicator/parameter need to be addressed with priority for making digitalization of public services effective to achieve equitable digital access and usages.

Government's interaction with its citizens is considered key element in e-governance initiatives. It could be possible through integrating Information and Communication Technologies (ICT) into the delivery of government services to streamline the process of service delivery. Key aspects of e-governance would be provision of online services, transparency, engagement of citizens in governance and efficiency in service delivery. Provisions of government services online is a technical aspect, where results could be assured with adaptation of simple and user friendly technology if it is easily accessible to all the citizens. Transparency is a complex concept. It deals with combating corruption during service delivery and ensuring accountability of the delivered services. Citizen's engagement in e-governance refers to participation in governance from decision-making to providing feedback in service delivery. Efficiency has to do with faster service delivery with minimum costs possible. Government of Nepal has developed several legal framework including ICT policy, 2015 for ensuring key aspects mentioned above during its service delivery.

In this digital age, providing digitized public services is not an optional for government, but a core condition. When public services are provided online it is assumed that

the beneficiaries will participate at least in terms of expressing their needs. But the beneficiaries would need to know what is being provided online and how to get access to that services (i.e., public needing education and technology literacy). The ICT policy, 2015 of Nepal assumes to create conditions for better governance, by addressing structural problems (i.e, preparing the government to go digital), adopting and using ICT as a tool for improving the quality of the citizen, also from regulatory and governance perspectives. Expanding access to ICT in the rural and remote area government has tried to bridge the digital divide. There is no doubt that governments adopts ICT in the process of service delivery for ensuring efficiency, transparency and accountability. But, ultimate test of digitized government is that whether people use digital channels to get government services. The major factor for using digital channels for government services is the convenience, which should eliminate time-consuming trips to physical offices. Integration between human resources and technology in service delivery would work as important foundation for high quality public services.

ICT policy of Nepal had put importance to competent and trained human resources for effectively implementing digitized public services. Thus, it would be important to invest in the digital skills and capabilities of the workforce. Increasing level of cybercrimes with rise in using internet has been the major challenge in e-governance. Cyber security policy of Nepal largely assumes, to create a secure and safe digital realm for the people, business and government institutions by providing a framework for protection of personal data and to prevent cybercrime.

Digital inclusion has to do with ensuring equitable access to and use of ICT in the social and economic life. It is that the community and the country reaps the benefit of technology. The government launched expanding broadband, introduced satellite-based internet, drafting e-governance and data protection laws, enhancing digital literacy, and integrating IT into various government administrative functions. Followings are the results of the on-line assessment of the current situation of implementation of ICT Policy and other e-governance legal framework.

Usage mobile internet facilities are gradually expanding in the rural area, and government is conducting digital literacy and ICT awareness programs for building awareness regarding digitized government services. The respondents are of the opinion that though, the focus of these programs are excluded people, and these target groups often do not have access to the programs. Often internet connectivity are not regular. Updating ICT skills had helped personal and professional life of the citizens. Specially, during COVID-19 and post pandemic, mobile phones and mobile internet had increased access to country's health services, education, agriculture sectors and financial sector. But due to lack of digital literacy among the target group, they are

not able to benefit from the digitalized public services and thus, still contributed to digital access gaps. Government had made effort in developing resources in ICT through ICT expert development training, and making computer-related curriculums and computer learning compulsory both at school and colleges. But, government is reluctant in supporting and mobilizing private organizations for imparting skill training on ICT. There are limited such organizations involved in ICT skill training initiatives in the local government areas. The government's ministries and its departments are incorporating ICT technology in their operational management and service delivery by computerizing some of their internal administrative process. The respondents claimed that e-government portals are not user friendly, as various government agencies are not linked digitally. The respondents also argue that in mobilizing private sectors for public service delivery using ICT technology, governments are hesitant. Though government has amended Electronic Transaction Act alone with Cyber Security Policy for enforcement of safeguarding information and communication structure, network setting up and system for reporting the cybercrime. But, the government has not assessed /evaluated how these policies are helping or not to improve internet use and commerce. Respondents argued that such systems are not effective. Besides expanding broadband, and developing digital infrastructure, digital divide still persist, as government has no specific gender digital inclusion plan.

E-Readiness is the ability of a nation to use information and communication technologies (ICT) to design and implement as a tool to deliver digitize public services. Despite development of e-government legal frameworks, it is assumed that countries with developing status faces difficulties in the smooth implementation of e-government (digitize public services) due to low literacy rate, low per capita income, insufficient infrastructure for technology and limited financial resources. However, gender equality could be fostered, if technology are accessible to excluded citizens. But such concept is seldom practiced. Transformation in public service had helped reducing digital divide to some extent. Social norms and discrimination are the major barriers preventing gender equality. Compare to men, women has less access to information and services to reap the benefits by using mobile phones and mobile internet. Respondents claimed that there are limited numbers of ICT-related human resource, as Local/Provincial government are reluctant in supporting private organizations providing skill training on ICT and not supportive in fostering IT workforce. The digitized public services are not created in common platform for standardization of information. As government has not yet establish inter-government linkage, digitized formats and portals are not user friendly. As cyber security cell, is confined only under government structure and not yet established in the local government area, investigations and prosecutions of cybercrime and digital violence are effectively. It does not provide help to local community as

expected. As male workforce dominates the digital arena, gender in digital has not been a priority matter in the society Government's gender digital inclusion, planned for localized intervention could provide best opportunity to reduce gender digital divide in the future.

Conclusion

The Government of Nepal (GoN) has developed several policies and programs to promote and realize e-governance for providing better and faster services to the people. The government aims to address these issues through institutional strengthening, infrastructure expansion, policy reforms, and focus more on digital literacy to the excluded citizens. The main aim of the study is to assess the implementation status of the digitization initiatives (utilization of Information and Communication Technology-ICT) along with the effectiveness of digitized public services delivery.

Findings of the study revealed that while digitalization offers enhanced access to information, education, and economic opportunities also for the excluded citizens and communities, significant differences persist in digital literacy, access to infrastructure, and online safety.

The observed digital divide risks exacerbating existing social and economic inequalities, hindering the full inclusion and empowerment of excluded citizens in the digital age. Federal, Provincial and local government should address to reduce digital divide. It requires targeted interventions focused on improving digital literacy, ensuring affordable and reliable access, and implementing robust online safety measures, along with establishment and implementation of strong regulating mechanism.

Way Ahead

Despite several achievements in launching digital platform, portals and apps, yet for realizing full benefits of e-government, Nepal possess various challenges for reaping the benefits of introducing technology in service delivery. Discussed below are some of the prominent actions government should take for its technological transformation.

Insufficient IT infrastructure

As access to internet services plays an important role in the implementation and development of digital government. Rural areas of Nepal still lack of electricity, lack of transportation, illiteracy, and other physical infrastructures are the hurdle for the implementation of digital government (CBSE, 2021). It would not be possible to enhance the digital government without sufficient ICT infrastructures. In this context, rapid infrastructure development is crucial for implementing digital government.

Low Digital Literacy Rate and Language Barrier

Digital literacy is essential for using various information resources/tools of ICT. Low digital literacy rate has reduced the capability to generate, access, use, manage and share ICT tools. English language widely used to operate digital application has also hindered the accessibility of the tools to the excluded groups. Conducting digital literacy programs widely and converting government service applications in the native language and make it "easy to use." could be priority job for the government.

Lack of Human Resources

IT related technical human resources must have expert knowledge in the information technology field, not only for using the technology application, but also for run training programs for government employees for periodic updates about information technology and skill development. Engaging private sector fulfill the gap and the need of the government in developing IT human resources may be one of the option.

Digital Divide

In rural areas, due to inadequate infrastructure or low bandwidth of internet, most of the population are facing problem of accessing of the internet service. Unreliable low bandwidth connection like dial-up is also generating digital divide. Though, National ICT Policy (2015) aimed to provide broadband services to 90% population by 2020. Strategic intervention would be necessary to fulfill this gap of digital divide within a short period of time.

Political Instability and Sustainability

Political will (especially for allocating budgets) of the governments could be consider an important factor in e-governance. Pro-activeness of the government is required to meet the infrastructural development for effective e-governance. Stable government having a straight and clear vision of e-governance is a pre- requisite. The political instability is essential for digital government.

Annex

Assessment Matrix for Implementation of e-governance Legal framework

Indicators and Sub-indicators	Current Status of Implementation of e-governance Legal framework				
	Unwanted Situation (0 score)	Improved Situation (score 1)	Average Situation (score 2)	Less than Expected Situation (score 3)	Expected Situation (score 4)
	Unwanted Situation (0 score)	Improved Situation (score 1)	Average Situation (score 2)	Less than Expected Situation (score 3)	Expected Situation (score 4)
1 Awareness and understanding about the usage of digital tools and platforms					
1.1 Awareness and understanding about the usage of digital tools and platforms	Do not know about digital tools and platforms	Have knowledge about using mobile apps and some online services.	ICT services has been expended in some of the schools and colleges.	ICT services has been expended in schools, Health sector, and community (for example Community library) and financial transactions.	ICT services has been expended in schools, Health sector, and community (for example Community library) and financial transactions. Women and marginalized people are participating in ICT Activities
1.2 Awareness information center establishment internet facility	No Information Center been established in the community.	Information Centres has been established in the school and health post, but without online internet facility.	Information Centres has been established in the school and health post, with online internet service facility. But internet is not reliable.	Information Centres has been established in the school and health post, but with online internet service facility.	Information center with internet service facility has been established in schools, health posts, ward offices and community building.
1.3 Knowledge about ICT expanding to the rural and backward community	There is no internet Service facility in our community.	Though, Online Internet Service facility is available even in the rural area, and people are unaware about its usage.	Online Internet Service facility is available even in the rural area, and often digital literacy programs are conducted in the area.	Online Internet Service facility is available even in the rural area of our community. But often the service is interrupted.	Smooth and uninterrupted Online Internet Service facility is available even in the rural area of our community.

	Indicators and Sub-indicators	Current Status of Implementation of e-governance Legal framework				
		Unwanted Situation (0 score)	Improved Situation (score 1)	Average Situation (score 2)	Less than Expected Situation (score 3)	Expected Situation (score 4)
1.4	**ICT related programs launch for excluded and marginalized people**	No Knowledge about ICT programs focusing excluded and marginalized People has been initiated in our community.	Heard about ICT programs focusing excluded and marginalized People in our community, but its aim is not clear.	ICT programs focusing excluded and marginalized People has been initiated but necessary training has not been conducted which facilitates increased in ICT access.	ICT programs focusing excluded and marginalized People has been initiated but necessary training has not been conducted which facilitates increased in ICT access.	ICT programs focusing excluded and marginalized People has been initiated and training has also been conducted in our community for increasing ICT access.
1.5	**Accessibility of digital literacy programs**	ICT (digital literacy programs) in our area is not accessible.	ICT program does not provide any opportunity to the peoples to participate in national concerns.	Excluded and marginalized groups are not benefited from of the ICT program. They are often excluded or do not have access.	Though, ICT program is capable of providing opportunity to the peoples to participate in national concerns, but it is seldom applied/practiced.	ICT provides opportunity to youth and women to participate in National Policies preparation and plan formulation and foster Gender equality.
2.	**Utilization of ICT**					
2.1	**Usefulness of ICT (digital platforms) for personal and professional development**	Using ICT (digital platforms) has not helped in my personal and professional development.	Use of mobile apps and on-line network had helped in personal and professional updating on concerned matters.	Updated skills in ICT had helped in my education and daily fin-tech activities.	Though, ICT skills had helped in enhancing competitive advantage on areas like education, fin-tech, and e-commerce it is not so helpful in employment opportunities and employment generation.	ICT skills had enhanced competitive advantage on areas like education, fin-tech, and e-commerce along with support in employment/employment generation.
2.2	**Enhancement of educational Quality in school/college through the use of ICT**	ICT has not directly contributed in enhancing quality of education in schools and colleges in our community.	Use of ICT has opened the search avenue for reference material of the subjects both for schools and colleges level classes.	Though On-line learning system had helped in making regularities in both at the school level and college level education, National ICT curriculum has not been established in schools and colleges.	Efforts has been made to establish National ICT curriculum in both school and college level curriculum. But skill Authentication system has not been implemented	On-line learning system both at the school level and college level has been established and National ICT curriculum and skill Authentication system had enhanced Employment driven Competencies in students.

	Indicators and Sub-indicators	Current Status of Implementation of e-governance Legal framework				
		Unwanted Situation (0 score)	Improved Situation (score 1)	Average Situation (score 2)	Less than Expected Situation (score 3)	Expected Situation (score 4)
2.3	**ICT enhancing innovation in agriculture Sector**	Agriculture Information system has not been established in our community.	Established Agriculture Information system in our community is of only little help as it does not provide information for increasing agriculture Productivity. Besides, Internet connectivity is irregular in our community.	Integrated Agriculture Information system had been established, but it of little help in increasing agriculture Productivity, Competitive advantage due to lack of comprehensive digital ecosystem.	Integrated Agriculture Information system had been able to provide information regarding increasing agriculture Productivity, Competitive advantage and expansion of agriculture market, but community farmers due to lack of necessary skills are not in the position to reap the benefit.	Establishment of Integrated Agriculture Information system had helped increase in Productivity, Competitive advantage and market expansion, and Information regarding traditional modern technique in Agriculture had enhanced capacity of the agriculture technicians.
2.4	**Impacted of digital information system in healthcare services**	Digital Health Platform/Mobile App had not helped women and marginalized people to access the healthcare services near the community.	Though Digital Health Platform/Mobile App is designed to provide information on healthcare services near the community, But, women and marginalized people are unaware about such digital system in the health sector.	Due to lack of digital skills women and marginalized people are not been able to use, Digital Health Platform/Mobile App to get necessary health related information near the community.	Though, Digital Health Platform/Mobile App had helped women and marginalized people to get information about nearby healthcare hospitals and centers near the community, it has been difficult to get appointments with healthcare professionals.	Digital Health Platform/Mobile App had helped women and marginalized people with information of all nearby healthcare hospitals and centers, Online booking of appointments with healthcare professionals and Tracking patients' healthcare records.
2.5	**Utilization of ICT in reducing Gender inequality**	Use of ICT had not helped reducing Gender inequality (Gap).	The perceptions of those who do not yet use mobile and the internet is not relevant and lack of content in local languages is considered barrier for the women and marginalized people compare to men.	Though, use of Mobile phones and mobile internet had connected excluded and marginalized people, but lack of digital literacy among the target group has still contributed to these digital access gaps.	Social discrimination and norms, safety and security has been major barriers preventing excluded and marginalized people compare to men from adopting and using mobile phones and mobile internet, and access to information and services.	ICT utilization (Mobile phones and mobile internet) had enabled women excluded and marginalized people to connected and enhanced access to information and services including health care, education, e-commerce, financial services and income-generating opportunities.

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3.	**Human Resource Development in ICT**					
3.1	**Computer-related curriculum at school and campus level education**	Schools and college have not introduced computer-related curriculum in secondary and campus level education.	Schools and college have introduced computer-related curriculums, but computer learning has not been made compulsory.	Schools and college have introduced computer-related curriculums and made computer learning a compulsory topic, but, computer teachings are not regular due to lack of skilled teacher.	There are regular computer-related classes in the schools and college in our community.	Digital literacy has been improved in School and college students. They are utilizing digital tools and planform in their studies.
3.2	**ICT training conducted for improving digital literacy**	No ICT training has been conducted in our community.	ICT training is conducted once in a while in our community.	Often ICT training are conducted in our community.	ICT training are conducted in our community in regular basis. But there is no mechanism established for monitoring quality of the training.	ICT training are conducted in our community in regular basis. Along with the training, IT proficiency test for testing certification and quality assurance are also conducted.
3.3	**ICT literacy Programs conducted for Excluded and marginalized community**	No ICT literacy Programs focusing excluded and marginalized people has been conducted in our community.	ICT literacy Programs for excluded and marginalized people is conducted once in a while in our community.	Often literacy Programs focusing excluded and marginalized people are conducted in our community.	ICT literacy Programs for excluded and marginalized people are conducted in our community in a regular basis. But there is no mechanism established for monitoring quality of the training.	ICT literacy Programs for excluded and marginalized people are regularly conducted in our community, as a result target groups' capacity to explore necessary information (including health care, education, financial services) digitally has been enhanced.
3.4	**Training conducted to develop ICT experts.**	Provincial and local government does not conduct ICT experts developing training programs.	Training focused on developing ICT experts are conducted once in a while in our area.	Training for developing ICT experts is conducted frequently in our area.	Though, training for developing ICT experts is conducted frequently in our area. No refresher training been conducted to increase experience and more technological knowledge.	Provincial and local government also conduct refresher training more experience and greater technological knowledge as a result, numbers of ICT-related human resource has been increased in our area along with ICT related business opportunities.

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3.5	**Private sector involvement in promoting ICT related HRD**	There is lack of private sector organizations for fostering IT specialists in our Area.	Few organizations are providing skill training on ICT.	Local/provincial government are reluctant in supporting private sector organizations as ICT skills providing training institutions.	Though, Local/provincial government are reluctant in promoting private sector organizations for developing ICT Human Resources, numbers of such private institutions are increasing in our areas.	Private sector organizations for fostering IT specialists are in increasing trend in our areas. They are provided with tax benefits and financial support for foster IT workforce by the government (Local/provincial)
4.	**Digital Governance and Public Service Delivery**					
4.1	**Capacity of current ICT infrastructure in reducing the digital divide**	Present ICT infrastructure does not facilitate digital inclusion.	Local and provincial government has computerized the internal administrative process with partial online connection and some digital service application forms.	Though government has initiated numbers of digitized administrative services for citizens, but they are not user friendly and not accessible to women and marginalized people.	Digitization initiatives of public services delivery are not created on common platform and standardized information thus, lack access of target group and does not facilitate digital inclusion.	Government has built numbers of digitization initiatives (including digitization of public services delivery for all) through innovation in administrative process and creating of a common platform for standardization of information (through introducing user friendly administrative formats)
4.2	**Efficiency of digitized Public Services delivery**	The government's On-line services deliver has not been effective.	Lack of digital literacy amongst the women and marginalized people the e-government portals to deliver quality service had hindered its affectivity.	Often lacks accessibility to internet facility to the women and marginalized people have bar using the e-government service delivery portals.	Although all national, provincial and local government are moving towards e-government platforms, but has not been effective to deliver services to excluded people due to poor infrastructure.	Nepal's e-government portals have delivered quality service (including updated information, financial transactional activities, data sharing, integrated service delivery) accessible to the women and marginalized people.
4.3	**User friendliness of Nepal's e-government portals of service delivery**	Nepal's e-government portals of service delivery not user friendly.	There is lack of inter-government linkage to facilitate user friendliness of the e-government portals.	Digitized formats introduced in e-government portals for service delivery are complicate for women and marginalized people.	Though, Local and provincial government has digitized its service delivery processes, but monitoring and feedback mechanism for qualitative service delivery is lacking.	Local and provincial government has redesigned its administrative processes of its service delivery (core functions of governments) using ICT as a tool based on quality, operations and processes for easy accessibility and user friendliness.

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4.4	**Private sector involvement in digitized public service delivery**	Private sector might not be the appropriate partner in e-government and public service delivery.	Private sectors are not encouraged to participate in public service delivery using ICT technology.	Private sectors' participation in government ICT project is often hindered by lack of necessary funds.	Though, Government encourages local IT firms and service providers in participating in government ICT project, government could not fix the modality of private sector participation.	Government encourages local IT firms and service providers in participating in government ICT project and funded through internal and international resources.
4.5	**Government's preparedness for e-government initiatives**	Government is not yet prepared for e-government initiatives.	Government agencies are gradually incorporating ICT technology in their operational management and service delivery.	Inter-government network and communication system for sharing the established ICT infrastructure, which is the foundation for implementation of the E-Government Strategy has not yet been developed.	Though, government had issued Digital Nepal framework, it has not been able to finalize its E-government Master Plan.	Government has issued Digital Nepal framework which envision an institutional and delivery framework for the execution of the Digital Nepal Programs, and in line Electronic Transaction and Digital Signature Act and Regulation had been implemented.
5.	**Digital violence and security**					
5.1	**Capability of Cyber security policy to curb misuse of individuals' information/ privacy**	Cyber security policy does not address the misuse of individuals' information/ privacy.	Cyber security policy alone will not be able to curb misuse of individuals' information/privacy.	Alone with Cyber security policy government has amended Electronic Transaction Act and enforced to safeguard information and communication structure, network and system.	Law enforcement agency's capability on cyber crime has been increased.	Cyber security policy has safeguarded the individual and collective security by preserving Nepali citizen's right to privacy, fundamental value and freedom. Policy enables the security agency to curb misuse of individuals' information / privacy.
5.2	**Establishment of Cyber Security Cell in the local government area**	There is no Cyber Security Cell established in our local government area.	Government has set up the system of reporting the cyber crime, but, it is not accessible to the women and marginalized people.	As there is no established cyber cell in our local government reporting and its investigation system are not reliable to the women and marginalized people.	Government has set up a system/process for reporting cyber crime, and but finding of such investigation are not share to the public.	Based on the cyber crime report/ complain, digital violence and crimes are effectively investigated and prosecuted through national cyber security cell established under government structure. And ensures findings of such investigation are share to the public.

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5.3	**Government's cyber security education in the local government area**	Government has not provided any cyber security education in our local government area.	Though, the government has not provided any cyber security education, there are some Internet Service Providers (ISPs) educated in cyber security in our local government area.	Internet Service Providers (ISPs) educated in cyber security are not accessible to the women and marginalized people.	Though, Government provides cyber security education at all level, Internet Service Providers (ISPs) are not available when individuals identify their computer been attached by hackers.	Government provides cyber security education at all level so that individuals using ICT (in terms of computer) are better equipped to use cyber safety. And encourage Internet Service Providers (ISPs) to help individuals identify their computer been attached by hackers.
5.4	**Availability of 'ethical hackers' in the community**	Abled 'ethical hackers' for providing cyber security is not available in our community.	Though, there are some 'ethical hackers' who can provide cyber security, in our community. But they are not available at the time of need.	'Ethical hackers' who can provide cyber security, are available in our community, access to such experts are not accessible to the women and marginalized people.	Though, government had developed pool of experts who can help ensure protection from the hackers, 'ethical hackers' developed by the government are not available in our community who can protect ICT Network.	Government had developed pool of experts who can help ensure protection from the hackers and encourage to develop of 'ethical hackers' who can help ensure ICT Network are protected.
5.5	**Citizen's awareness to protect themselves online**	No awareness building programs to protect from cyber threat conducted in our community for target group.	Awareness building programs to protect from cyber threat is conducted once in a while in our community.	Sometimes awareness building programs focusing excluded and marginalized people to protect from cyber threat is conducted in our community.	Though government has launched program to raise awareness and to educate and empower excluded and marginalized people to protect themselves online, target groups access to such program is very low.	Though government has launched program to raise awareness and to educate and empower excluded and marginalized people to protect themselves online, target groups access to such program is very low.
6.	**Digital Inclusion**					
6.1	**Government's digital platform and access affordable to the target group**	Current digital platform and internet service is not affordable to the target group.	Government has not yet developed National Payment, which would make payment systems user friendly.	Though, government has strict rules and licencing conditions on all digital network to make digital platform affordable. Such rules are not always followed due to lack of monitoring mechanism..	Though, government has monitoring mechanism for regulating the pricing of digital network, monitoring works are not implemented regularly.	Government increases competitive pressure on digital market through enforcement of regulations and licencing conditions on all digital network to make digital platform affordable. And regularly monitoring the pricing of the system.

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6.2	**Awareness of the target group focused digitized public services**	There no such excluded and marginalized people focused digital service in our area.	Government has directed financial institutions for easing access to digital services for excluded and marginalized people, but it is implemented.	As a result of government direction financial institutions has developed digital services/products focusing excluded and marginalized people.	Though financial institutions has developed digital services/ products focusing excluded and marginalized people, but lack enough promotion of such financial services/ products	Government has expanded women's access to digital services (for example in digital financial services) by encouraging to increase numbers of excluded with an online bank account and/or mobile money service.
6.3	**Safety in using current digital platform**	Online abuses are common in the use of present digital platform.	Government (local and provincial) has launched special awareness program to educate and empower people to protect themselves online.	Though, government (local and provincial) has launched special awareness program to educate and empower people to protect themselves online, excluded and marginalized people do not have access to such program.	Along with awareness program government developed digital tools to help excluded and marginalized people recognize, report, and recover from online abuse, but government is still not able to bringing together the stakeholders in the process.	Government has developed digital tools to help excluded recognize, report, and recover from online abuse by bringing together cyber security professional, members of civil society and concerned citizens to raise awareness around internet safety.
6.4	**Availability of Gender friendly digital products**	Digital products catering exclusively the needs of women and girls are not available.	As male workforce dominates the digital concept of gender in digital is quite new, thus there is no specific digital products for the needs of women and girls.	There is lack of understanding of the specific needs of excluded and men in workforce in designing and using digital products.	Though workforce in designing and using digital products understands specific needs of excluded and girls, the need and values of women has not been a priority matter.	Conducting digital literacy focusing on gender digital divide, government collects experience of men and women in technology design and use to ensure the needs, priority and values of women to develop women-centric digital tools (for example Ajeevika mobile app.).
6.5	**Launching of ICT programs exclusive for the target groups**	Government has not initiated any program for increasing the usage of ICT for women and marginalized people.	Government has initiated Gender Digital Inclusion plan, but it is yet to be implemented.	Government has implemented Gender Digital Inclusion plan, through top-down approach.	Government has implemented Gender Digital Inclusion plan, and started consultation with women and girls from variety of background to design specific digital platform for their use.	For Gender Digital Inclusion, government has planned for localized intervention as to give women and girls from variety of background with best opportunity to use digital design for their future.

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