ICT TOOLS AND SERVICE DELIVERY: A CASE OF NEPALESE CIVIL SERVICE

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Abstract - The Government of Nepal has been gradually transforming its mode of service delivery from traditional to information and communication technology based to enhance the e-governance for good governance. Civil service has been the backbone and permanent government of the country which always facilitates to the state by delivering public service. Information and communication technology tools are being fundamental needs of government to precede its activities. The authors are trying to explore implementation of information and communication technology tools in service delivery. The researchers have applied survey research to collect primary data from civil servants of Nepal government and adopted quantitative research technique. The researchers concluded that adopting technology based administration and implemented information and communication technology tools and technique in the civil service made service delivery cheap, easy and fast. The researchers claim that restructuring of Nepal into a federal state has posed more challenges to government for implementing policies, plan and to deliver efficient services to general public using new technology. There is a need of huge leap-frog to make it ultra modern technology-based service provider as smart as of the developed countries, which is the major aspiration of the Nepalese people.

Keywords - ICT Tools, E-governance, E-government, Public Service Delivery, Capacity Building.

I. INTRODUCTION

Information and Communication Technology (ICT) tools are being basic needs of government to precede its activities today. Civil service has been considered as the backbone and the permanent government of the country which always facilitates to the nation by delivering public service. The government of Nepal has been gradually transforming its mode of service delivery from traditional to modern by implementing different ICT tools to enhance the e-governance for good governance.

Since the 1990s, ICT has changed the way of government works and activities, and how government bodies and civil servants interact with each other and with citizens and other entities. ICT tools establish relationships between the civil service, civil servants, political leaders, administration and government organizations with people [20]. E-government tools include office automation, internal management information systems, expert systems, decision and policy making system, electronic social media as well as client-oriented web sites [21]. ICT tools not only make it easier to manage, supervise and control the official problem but also it helps to handle government bodies. It is moving towards embedded control system [22]. The new ICT tools are helping to save time, money and human resource of common people in their daily life work.

The government of Nepal has prepared e-government Master Plan (eGMP) Consulting Report, which is an attempt to lay the ground work for e-government transformation. E-government vision has created to fulfill citizen-centered, and transparent service delivery, networked government and knowledge based society. The mission statement has been set as "Improve the quality of people's life without any discrimination, transcending regional and racial differences, and realize socio-economic development by building a transparent government and providing value added quality services through ICT" [2].

Use of different ICT tools of government by focusing on both e-government and e-democracy, are based on political and administrative control and user participation. The influence of ICT tools are on variation in civil service, such as structural features, demography and administrative culture. The government-to-government tools are the most widespread but the e-democracy tools have got little attention. The effects are regarding better public services, and internal coordination and administrative control have become weakest due to the lack of coordination with local government and political control. The important set of explanatory variables are the use of ICT tools and public tasks as well as an efficiency oriented culture [23].

E-Government is being deployed not only to provide services through civil service, but also for public sector efficiency purposes, improving transparency and accountability in government activities and allowing for cost saving in government administrations. ICTs are changing the way of the government do business for the people. In this context, e-government is seen to be a lever for the transformation of government services [2]. ICT is a potential tool of efficient public service delivery. It offers new possibilities for communication between people and organizations and increases the quality and quantity of interaction with people [3].
A paradigm shift has been demanded to meet the present challenges. These are some factual glimpses of ICT in the civil service of Nepal. Lots of hard works are still required to make it as desired by the people of Nepal and to fulfill the national need of good governance. Civil service is in the process of accepting and utilizing e-system to strengthen and to make service delivery smart [23]. There are many dimensions streamlined and drivers identified to make our New Nepal dreams come true. One of such dimensions is the reformation of the government. Governance and its service process have been felt to be well reengineered to fulfill the aspirations of its citizens. ICTs and its tools may help its effective and efficient transformation in days to come.

II. OBJECTIVE

The main objective of this research paper is to explore implementation of ICT tools in civil service of Nepal.

III. LITERATURE REVIEW

E-government does not mean putting more computers on the desks of government officials but it is more than just a government website on the internet. E-governance is not only the usage of ICTs but is determined by political, social, economic and technological aspects. It is important to establish relationship between government officials and citizens, providing greater access to government information and services by making the government accessible online; promoting citizen participation by enabling citizens to interact more conveniently with government officials, such as by requesting government service and filing required documents through website; increasing government accountability by making its operations more transparent, thereby reducing the opportunities for corruption; and supporting development goals by providing business, rural and traditionally underserved communities with information, opportunities and communications capabilities [13]. The main focus is the use of ICT tools, and the relationship between ICT and government organizations and other bodies [22]. ICT tools represent new forms of coordination, control and communication, and how information technology affects the coordination, autonomy and control of complex public organizations as well as their relationship with political executives, users and citizens. E-government is expected to improve the work performance of public administration and delivery of service and its relationship with the public and other stake holders [18, 19]. Jane [16] claims that we are entering a situation in which government is organized increasingly in terms of virtual organizations whose structure and capacity depend on the internet and the world-wide web.

The introduction of new ICT tools has obviously increased internally and virtually through the autonomization of administrative functions, but ICT tools have also enhanced virtual inter-organizational networks within in various departments, sections of an organization, and the interface between citizens and government organizations has changed [15]. Public managers and executives are the central enactors of ICT technology in government and we should thus focus on the civil servants and their use and perceptions of ICT tools. There is also a distinction between e-government and e-democracy, in which the latter concept covers specific topics such as online voting as well as citizens’ participation in the public policy process and decision-making via ICT tools. E-democracy is about using ICT as a tool to enhance citizens’ involvement in public policy-making in government organization and other sector [17].

The backbone of the public sector is the civil service. However, citizen awareness against corruption among the service receivers has been slightly increased which helped for the little improvement in satisfaction among service recipients due to technology based administration and ICT tools based service delivery [11]. There has been improvement in the application of ICTs, however, still lacking skill and technical know-how to use ICT for the better services delivery [12].

E-transaction act, 2006 and Regulation, 2007 enforced to make transactions reliable and secure. They are performed through e-data; to endorse and regulate, generation, processing, storage, distribution system's recognition, truthfulness, un-breakability and reliability. It is also to control the unauthorized use of e-data [5]. Good Governance (management and operation) Act, 2007 and Regulation, 2008 have given authority to the government offices to use information and communication technology, according to their available resources [6]. Telecommunication Act, 1996 and Regulation 1997 have managed legal and institutional provisions to implement multi-service delivery [7]. In the same way, Right to Information Act, 2007 and Regulation, 2008 have provided the right to the citizens to obtain information about the activities of public entities and there is a necessary provision for dissemination, broadcast and update of information and activities of public entities [8]. Information Technology Policy, 2010 incorporates the matters like transformation of Nepal into a knowledge based society, establishment of knowledge-based industries, supporting poverty eradication, encouraging private sector to use IT and production of capable human resources [9]. Paperless government is our commitment to the people; however, this is not possible without replacing the traditional governance by e-governance system. It is a necessity of the present era. Good governance (management and operation) Act, Right to
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The e-policy in Nepal focuses on using e-government especially for the delivery of services and the usage of ICT infrastructures for improved internal administrative procedures. The number of telephone/internet users has been increasing significantly and legal and necessary infrastructures has been created. The skills to use computer and online facilities on the part both employees and the service receivers are grossly lacking day to day because of new innovation on ICT tools and applications [12].

The government of Nepal is trying to use ICT in its operation from its central level agencies including ministries, commissions and also in judicial entities [10]. The pattern of using ICT has been assessed under the nature of service providers.

ICT use in Ministries

Office of the Prime Minister and Council of Ministers has uploaded significant national policies of government of Nepal on the website. A final draft of the annual report of the governance reform and good governance has been prepared to submit to the parliament as per the provision of the Article 41 of Good governance (Operation and management) Act, 2064. 6134 (62.13%) grievances have been resolved out of total 9873 received at the Hello Government portal. E-procurement System Operation Guideline, 2073 has been issued.

In the case of Ministry of Finance, Budget Management Information System, Government Accounting System, ACICUDA, VAT Management System. Integrated Tax System (ITS) include every kind of tax (VAT, PAN, Income TAX, Excise Duty, Education and Health TAX. The IRD is responsible for the administration of Value Added Tax, Income Tax, and Excise Duty. All Kinds of taxes can now be entered online through the web application (ITS), which is launched by Inland Revenue Department. PPMO has already launched an online portal for all the works, goods and services related to public procurement. We can use https://bolpatra.gov.np for small and big volume of public procurement.

Database of information and application backup is started in the Government Integrated Data Center. Important documents of the tax administration are preserved in the form of digital documentation. Process has been started to implement electronic case registration system in case of predetermined taxpayers. For the database of the administrative and service delivery, computer software is prepared and installed at Ministry of Finance.

To make public management effective, an agreement has been done for the design, supply and installation of debt operation and management software (DOMS). Mobile application is in use to coordinate, disseminate information and to get feedback from media and people in all phases of the budget cycles and to maintain good governance.

In Ministry of Agriculture Development, mobile application named “Our Agriculture” is in use to disseminate information about climate change and agricultural technology to farmers. Information is also uploaded on the website www.namis.gov.np. This website is updated regularly.

Ministry of Home Affairs has also introduced Citizenship Certificates from all 77 districts and 35 Area Administration Offices are distributed using a computer based system. Arrangement of passport issue on electronic basis is in process. National ID card distribution process in the final stage. It aims to provide a single identification smart cart to all the Nepali citizens which will contain all information regarding the citizen. CCTV cameras have been installed in main cities to monitor criminal activities.

In Ministry of Foreign Affairs, Revenue Management Information has been started since fiscal year 2073/074 for transparent management of revenue. Department of Passport has been running a mobile application since 3rd January 2017 to disseminate information and to make its service accessible, efficient and predictable. Passport Information System, CDS/WinISIS. Digital distribution system has been started for service holders who want to get passport from the fast service. Digital dispatch system and digital archiving system are also in use to dispatch the passports to District Administration Offices. Information about the lost passports is sent to the Interpol Section of Nepal Police and recorded in the lost and theft travel document. Online legal system and token queue system are also started.

In Ministry of Commerce, Commerce and Export Promotion Center has started a Nepal trade information portal since 27th December 2016 to disseminate information about export and import. Department of Commerce and other five commerce offices have implemented Online Firm Management Information System.

Likewise in Ministry of Education, Community schools have been provided with library, computer and email, internet facilities. Launched programs to promote access of education based on ICT and e-governance are launched. Education Management System, Teacher Management Information System. Virtual classes are operating in more than 11 districts. Ministry has its own web page www.moe.gov.np. One can give any feedback or advice through this website. Ministry is also using twitter and education information system (EMIS), Teachers management information system (PIS).

In Ministry of Labor and Employment, form registration for EPS Korea is converted to online system from manual system and CBT exams are also being conducted by this system. For this purpose www.epsnepal.gov.np is in use. Vehicle Registration
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Information System, Driver’s License Issue System. But in case of Ministry of Federal Affairs and Local Development, the Ministry in coordination with Ministry of General Administration has prepared database regarding the personnel of local level and has been using PIS software since FY 2073/074 to manage this data. This Ministry and Department of Survey are jointly operating Land Information System.

The Ministry of Tourism and Civil Aviation has also used e-ticketing system. Online hotel and vehicle reservation. Related organization’s website visiting. Ministry of General Administration has a portal www.moga.gov.np. Through this webpage one can submit his feedback and application of transfer and the Ministry has published its main activities and citizen charter on the web page. It has adopted e-governance system in administrative process to make public service delivery qualitative, inclusive and easier. This Ministry has also implemented Library Management System, Personnel Information System (PIS) www.pis.gov.np, E-Government Operation System, Store Management System, Promotion Management System, Project Management System and Training Management System. Sheet roll Information System, Group SMS System and Online Appointment System. ICT Development Project was established in 2065 BS in the Ministry. It is carrying out various activities to develop e-government concept as a tool of governance reform.

In Ministry of Land Reform and Management, ministry has make an arrangement to receive any complains or grievances through toll free numbers and fax. It has been disseminating information about the ministry through its web page www.molrm.gov.np. Ministry is using satellite technology for computer based land data management. Similarly, in Ministry of Science and Technology and Department of Information Technology, providing technical assistance and policy feedback for the development of information technology. This Ministry has its own website: www.mosti.gov.np. Ministry is also using Nomination Management Information System and Gateway Management System. Also in Ministry of Law, Justices and Parliamentary Affair, using website www.molipa.gov.np. All legal documents such as constitution, acts, regulations, etc. have been made available at www.lawcommission.gov.np. In case of Ministry of Information and Communication, Department of Postal Service, International Postal Accounting System (System applied including in Bhutan), Counter Automation System, Post Box Management System, Postage Stamp Management System, E-Post and Money Order. In Ministry of Health and Population, Human Resource Development Information System and Health Management Information System (HMIS). In Ministry of Environment, Science and Technology, one Step Government Portal has been introduced (http://nepal.gov.np). In Public Service Commission, many process of Public Service Commission are now going online. It includes online application, result viewing etc. Disseminating its information through its website www.psc.gov.np. Operating public service recruitment management system. To maintain transparency it has also managed to disseminate information about the results and obtained marks of the candidates of recruitment tests.

In Election Commission, integrated Voter Registration System. District Voter Registration System. Due to the absence of Web based Unicode System, just the operation of storing voter’s name has taken place. In High-level Information Technology Commission, Document Management System has been developed but it is yet not in operation.

Government Accounting System is used by the Office of the Financial Controller General. National Planning Commission has Project Performance Information System and Medium Term Expenditure Framework. Nepal Police has its web page and it is also operating Criminal Record Management System (CRS), Incident Reporting System (IRS). Procurement Management System (PMS) and Vehicle Record Management System (VRS).

Judicial Sector Reform

Using Information and Communication Technology to disseminate information. The Supreme Court has its website www.supremecourt.gov.np. It is also operating two software’s: Legal Information Center (LIC) and Case Management System (CMS). Other Courts also have their own website and intranet portal to link with the Supreme Court (Shrestha, 2017). Besides these, detail information of Revenue Office and Survey Office under Ministry of Land Reform, along with, digitization of citizenship details from District Administration Office, under Ministry of Home Affairs are on implementation. But these systems are unable to give desirable results. Furthermore, most of the ministries have their websites but the content on those websites are not regularly updated and websites seem weak in security related aspects.

III. METHODOLOGY

The researcher has applied survey research to collect primary data from employees of government organizations, who provide services as a front desk officer in various part of the country. The researcher has designed questionnaire that consists of information about demographic, physical facilities, ICT tools and training and public service delivery. The methods adopted are review of recent literatures, journals, and government documents. The data received were analyzed using statistical tools.
IV. RESULT AND FINDING

Sample survey was carried out to find out the ICT related capability and its use among the government officials using questionnaire method. Use of ICT, training and service delivery efficiency were assessed under the study.

The respondents were assessed to have or not to have IT related training. Table 1a demonstrates the respondents' answer under the category of ‘yes’ and ‘no’.

<table>
<thead>
<tr>
<th>Response</th>
<th>No. of Respondents</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>127</td>
<td>90.71%</td>
</tr>
<tr>
<td>No</td>
<td>13</td>
<td>9.28%</td>
</tr>
<tr>
<td>Total</td>
<td>140</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 1: Respondents’ Response on training of information technology (IT)

In the survey, shown as in table 1, 140 respondents were asked whether they have joined any IT related trainings. 90.71% responded that they have joined, while 9.28% responded have not. Majority of the civil servants have got chance to take training in IT.

Similarly, Table 2 shows the number respondents who can operate various computer programs which needs in day to day operation. Here also the respondents are able to operate multiple programs. Only few respondents use professional programs like tally, Photoshop and others. It shows that official day to day operation and service daily very should be fast and timely.

<table>
<thead>
<tr>
<th>Types of Programs</th>
<th>No. of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>MS Word</td>
<td>124</td>
</tr>
<tr>
<td>MS Excel</td>
<td>114</td>
</tr>
<tr>
<td>MS PowerPoint</td>
<td>104</td>
</tr>
<tr>
<td>MS Access</td>
<td>48</td>
</tr>
<tr>
<td>Tally</td>
<td>15</td>
</tr>
<tr>
<td>Photoshop</td>
<td>46</td>
</tr>
<tr>
<td>Others</td>
<td>24</td>
</tr>
</tbody>
</table>

Table 2: Capability using software programs.

According to above table 3 it was found that 90% respondents' offices use IT instruments while 10% respondents' office do not use IT instruments. It means most of the government bodies are ICT friendly and technically sound.

<table>
<thead>
<tr>
<th>Types of Instruments</th>
<th>No. of Respondents</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Telephone</td>
<td>139</td>
<td>99.28</td>
</tr>
<tr>
<td>Fax</td>
<td>135</td>
<td>96.46</td>
</tr>
<tr>
<td>Photocopy</td>
<td>138</td>
<td>98.57</td>
</tr>
<tr>
<td>Internet</td>
<td>120</td>
<td>85.78</td>
</tr>
<tr>
<td>Website</td>
<td>80</td>
<td>57.14</td>
</tr>
</tbody>
</table>

Table 3: Are there any IT instruments used in your office?

Table 4 depicts that out of total 140 respondents, 100% respondents have their cell phone, 99.28% respondents have telephone in their office, 98.57% respondents have photocopy machine in their organization, 96.46% respondents have fax machine, 89.28% respondents claimed that they have data backup devices, 57.14% respondents have their government web site in their workplace, 48.57% respondents have alternative energy in their organization. Similarly, 42.85% respondents have their management information system in their office. It shows that the condition of ICT tools used in government organization is not poor. But government web site, management information system, alternative energy storage and internet in government offices are not sufficient as needed.

Thus, this survey result indicates that ICT related general operational ability in the Civil Servants is quite good. It shows that they can operate computer based system easily. So, the government can start fully ICT based systems in its all organizations. There may need the short course training programs to boost up their ICT knowledge. But, proper infrastructure should be developed before making it mandatory.

DISCUSSION

Although majority of the civil servants have got ICT training during in service time but service is not being effective and efficient. Being ICT friendly and technically sound, why government bodies and other entities could not provide service delivery as smart as we think and their behavior is so rude. The use of ICT tools in government organization and other bodies is not poor but e-services which are provided by government entities are not being smart.

CONCLUSION

Adopting new technology based ICT tools in the civil service of Nepal effectively, is being a challenge to us, for long back. This is the main reason, civil service of Nepal not being as smart as required. In one side, government has been spending huge amount of budget in infrastructure and human resource development in ICT sector. On other hand, ICT tools and applications existing in workplace have not fully been utilized in service delivery. It shows that government is eager to share data and information, and government activities to its citizens but lack of positive attitude and devotion of human resource are being misused. This paper concluded that adopting
technology based (public) administration (system) and implemented ICT tools and techniques in the civil service made service delivery cheap, easy and fast. The researchers claim that restructuring of Nepal into a federal state has posed more challenges to government for implementing policies, plan and to deliver efficient services to general public using new technology. There is a need of huge leapfrog to make it ultra modern technology-based service provider as smart as of the developed countries, which is the major aspiration of the Nepalese people.

**WAY FORWARD**

Necessary human resources and infrastructure for the enhancement of Nepal's IT should be developed. Common infrastructure should be developed, related to IT for the good governance. Human resources with various level of skill should be prepared for the effective implementation of e-governance. Necessary resources should be managed for the development of the information technology entrepreneur and for the development of mechanism including agriculture, education, health, tourism and some infrastructure sector; IT would be used in maximum level. Enhancing the coordination between the various institutions, unanimity should be created in IT system. In IT, starting companies should be encouraged for the outsourcing to make more competitive each other. Environment should be created for using of IT for the enhancement of small and medium industries, local production and trade. Technical capacity of IT should be enhanced with collaboration of security sector, national and international stakeholders and regulators Security, reliability and quality should be enhanced of IT. Cyber security responsible for minimization of possible crime by using IT should be in special observing. Infrastructure of the IT in rural areas should be developed with collaboration of the local community. Laws related to the development of IT should be reformed and implemented timely.

**REFERENCES**