APPLICATION STATUS OF E-GOVERNANCE IN NEPAL

(A Case study of Butwal Sub-Metropolitan City of Nepal)

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DECLARATION

I hereby corroborate that the dissertation entitled “Application Status of E-governance in Nepal (A Case study of Butwal Sub-Metropolitan City of Nepal)” is all my own research work. It has been carried by me for the fulfillment of my Master of Philosophy (M.Phil.) in Public Administration and submitted to the Central Department of the Public Administration, Faculty of Management, Tribhuvan University. The source of information and materials I have used in the dissertation, have been fully identified and properly acknowledged as required. It is my work under the guidance and supervision of Associate Prof. Narendra Raj Poudel (Ph.D.). It is an original research study for the award of the degree. I, personally, will have no objection if the data and the work of my dissertation, in part or whole is photocopied or used for other research purposes. In addition, I declare that all information sources and literature used are cited in the reference section of the dissertation.

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Har Govinda Pandey

Date: July 10, 2024

LETTER OF RECOMMENDATION

This is to certify that Mr. Har Govinda Pandey has prepared this dissertation entitled "Application Status of E-governance in Nepal (A Case study of Butwal Sub-Metropolitan City of Nepal)" under my supervision and guidance in the partial fulfillment of the degree of Master of Philosophy (M.Phil.) in Public Administration. I am satisfied with his work and dedication; therefore, I recommend this dissertation to the evaluation committee for its final evaluation and approval.

……

Associate Prof. Narendra Raj Poudel (Ph.D.)

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Date: July 11, 2024

VIVA-VOCE SHEET

We have conducted the viva-voce examination of the thesis

Submitted by

Har Govinda Pandey

This dissertation entitled **"Application Status of E-governance in Nepal (A Case study of Butwal Sub-Metropolitan City of Nepal)"** has been found that it is the original work of the student and written according to the prescribed format, therefore we recommended the dissertation to be accepted as the partial fulfillment of the requirements for Master of Philosophy (M.Phil.) in Public Administration.

EVALUATION COMMITTEE SIGNATURE

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ABSTRACT

Application Status of E-Governance in Nepal (A Case study of Butwal Sub-metropolitan city is a representative vision of the reality. Main thrust of the present study is to explore the situation of E-governance in Butwal Sub Metropolitan City. The specific objectives are finding out the e-government initiative of municipality and perception of municipal employees on application of e-government platform. In this study, primary source of information are used to fulfill the objectives. The primary data are collected from website observation of municipality and field survey using the structured questionnaire and interview schedules. Qualitive research methodology is used to achieve the objective of the study. There were 491 municipal staffs from where 100 samples are respondents from eight departments and its section of municipality, and other 19 ward offices based on application of convenience sample method.

The researcher has applied the Layne and Lee Web Maturity Model to explore the maturity status of websites of Butwal Metropolitan City. The model has four maturity stages. Based on this municipal website analysis, municipal has achieved maturity status of catalogue and transaction stage. Similarly, vertical integration is partially fulfilled. Municipality needs establish horizontal linkage through the municipal web and e-government platform with different government, and non-government organization, tole lane organizations and community organization. The researcher has assessed the web platform based on five stages web maturity indexes developed by United Nations. This research finds average score of the municipality is 0.488 which his higher than the online service index value of Nepal as 0.459 according to UN Global E-government Survey Report 2022. Although, the municipality achieved maturity in three stages, there is still room for improvement. Similarly, average score of the municipality in e-participation measured from UN e-participation index is 0.44 which his higher than the Nepal E-government Development Index as 0.238 according to UN Global E-government Survey Report 2022. Nevertheless, there is e-government initiative on e-consultation and e-decision making lies important reach in full maturity stage.

The finding of primary survey indicates poor status of e-government tools such as online reporting system, digital system, application of mobile apps, Web platform services, Facebook page for grievance handling, official YouTube Account, live telecast of local events from social media, online payment system, digitization of paper

records, SMS systems, free WI-FI zone, e-services. online services, online audio clips, website update, security features, queries and response facility, digital signature, job listing /opening notices, disability access and knowledge management blog which indicates additional initiative and priority required in these web-services. Capacity Building to the municipal employee is also required. The research identified municipal policy and planning on e-governance is in poor priority. There is poor alignment between policy planning and e-government. The perception of municipal employees on the statement of e-government platform enhances for service delivery has got positive result. It indicates that municipal employee has positive perception in e-government platform. The perception of municipal employees e-government platform supports for municipal performance has got negative result. It indicates that municipality requires to give high priority to maintain websites quality, timely update the information and upload much information of different services. The perception of municipal employees on E-government platform influences to use e-government tools has balanced response. Municipal has social environment to learn the e-government platform. The perception of municipal employees on e-government is high priority in institutional system has negative result. So, municipality should give priority to e-government services on policy, periodic plan, Mid Term Expenditure Framework, Annual Plan, sectoral plans, acts, guidelines etc. Most importantly, municipality needs to make E-government strategy policy and plan.

Based on the conceptual framework, municipality has got maturity status in most of the maturity stage while there is still room to improvement in e-government specially establishing horizontal linkage, e-interaction, e-decision making and online consultation and online interaction with citizen. There is mix perception of municipal employee on use of e-government platform. However, the respondents have higher trust on e-government initiative of municipality. To sum up, there is need to give policy priority for e-government services, budgeting in ICT, and capacity development activities to the municipal employee seems very important. The research contributes knowledge to all local governments of Nepal in their policy and planning to maintain e-governance.

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Abbreviation and Acronyms

LGs	Local Government
E-governance	Electronic Governance
UN	United Nations
G2C	Government to citizen
NGO	Non-Government Organization
ITC	Information Communication Technology \
MTEF	Mid Term Expenditure Framework
PP	Periodic Plan
EMIS	Employment Management Information System
LISA	Local Level Self-Assessment System
FRA	Fiscal Risk Assessment

CHAPTER ONE
INTRODUCTION

1.1 General Background

The government of Nepal defined important priorities regarding the development of ICT in the 2015 National Information and Communication Technology (ICT) Policy. This includes an increase of broadband access and measures to strengthen and stimulate the e-commerce sector. Based on the policy ICT will act an increasing role in numerous sectors from health to education (National Cybersecurity Policy, 2016).

Globalization's direct and indirect effects have made governance a top priority for both industrialized and developing nations. The field of governance has expanded with the development of information and communication technology (ICT), and the idea of e-government has arisen. ICTs are advancing more quickly than in the past, which helps with development and good governance. In general, industrialized countries consider it to be an effective mechanism for delivering services, and they generally link it with good governance (Jawadekar, 2019).

One of the most interesting subjects to surface in the field of public administration recently is electronic government, or E-government for short, which has grown to be a significant aspect of governance. Delivering public information, electronic commodities, and other technology media to citizens is its main goal. There are two types of e-government solutions: operational and information-based. Government operations can be transmitted through websites as part of information-based services, whereas transaction-oriented services aggregate several interactions between the public and the government and may need the vertical and horizontal integration of different public institutions. Repurposing traditional government services into E-government solutions has a number of advantages, such as cost-effectiveness, integration potential, lower administrative expenses, and quick adaptation to meeting the needs of citizens. Governmental organizations, however, face challenges(Rodriguez, et, al, 2020).

The evolution of e-government can be seen as a step toward better governance. It is becoming more and more clear that successful public investments in information and communications technology (ICT) could make a significant difference in achieving effective governance goals. Adoption of e-government is advised to end corruption. With great optimism, a number of today's developing economies are realizing how

important e-government is to offering people, businesses, and public officials premium, easy-to-use, and customer-focused services. Nevertheless, commitment and enough ICT infrastructure facilities are necessary for the effective implementation of E-government initiatives. The use of IT-based technology to improve government systems' capacity to serve the public, businesses, employees, and other governmental entities is known as e-government. The creation of the IT system and better public services delivery are the two most important advantages of e-government development (Kim, Kim, Lee, 2009)..

As a result, developing e-government requires more than just government support; it also depends on how willingly citizens are to accept and adjust to these new forms of administration. According to Transparency International's corruption ranking, Pakistan is rated 124th in the world and Bangladesh is ranked 119th. A number of earlier studies have looked at how e-government affects accountability, transparency, and the decrease of corruption in developed economies like the US and the UK. Contrarily, because e-government programs are not as widely implemented, developing nations have received less attention, and less research has been done on how e-government is being implemented in emerging economies (Chandio et al., 2018).

Therefore, attaining the development of e-government requires more than just government support; it also depends on citizens' willingness to accept and adjust to these e-government services. According to Transparency International's corruption ranking, Bangladesh is placed 119th in the world, whereas Pakistan is placed 124th. Previous research on the effects of e-government on accountability, transparency, and the decrease of corruption has been carried out in developed economies like the United States and the United Kingdom. However, because there has been less of an emphasis on e-government activities in developing nations, research on the subject of e-government implementation in emerging economies has been rather scant (Chandio et al., 2018).

E-governance is application of information and communication technology (ICT) for delivery governance services. E-governance is affair broad subject. Providing high quality services to citizen at reduced cost by using ICT (Subramaniam & Mia, 2018).

According to (UN e-government survey, 2008) Electronic government refers to the use of internet technology as a platform means for the exchange of information, services,

provision and as well as transacting amongst public business and other forms of government. E-government may be adopted by the executive, legislative or judiciary to improve internal effectiveness the delivery of services to citizen or procedure of democratic nonetheless, the key delivery model are government-to-customer or government-to-citizen(G2C),,government-to government (G2G),government-to-business(G2B)and government to employee(G2E) Following UN's five guiding principle shows the key notion of e-government are building services around citizen choices, making government and its services more accessible, social inclusion and Providing information responsible and using IT and human resources efficiently and effectively.

The e-governance include processes and structures pertinent for e-delivery of government services plus all forms of electronic communication between government and citizen, such as information, voting, polling, or discussion etc.., thereby enabling citizens to participate in the government's policy making (Tripathi et al, 2016). Keeping in view this, current Nepal's Government e-governance initiatives encapsulate the finer points of Governance for citizen centricity, services orientation & transparency beside the computerization of government departments.

The government of Nepal has also acknowledged the value of ICT, and long-term government public service delivery is intended to be accomplished via ICT cooperation for paperless governance, or e-governance.

When it comes to offering the public services, local bodies are in the lead. Local bodies continue to be the first line of communication between the government and public service with the adoption of new constitutions (Sarikas, 2021).

The duties of local government, particularly municipalities, will be strengthened by the country's new constitution. Taking these things into account, it made more sense to focus our research in the municipality. It considered more appropriate to conduct the study among existing municipalities as opposed to recently constituted ones. In order to implement ICT, some basic infrastructure and resources are needed. Suppose that recently established municipalities are still getting established. The more established municipalities offer a wider scope for our investigation in addition to giving us an overview of the current state of ICT deployment on local bodies. As a result, the sub-metropolitan city of Butwal has been selected as the study site.

1.2 Statement of the Problem

The foregoing provides the context for the statement of the problem of the study area on "Application Status of E-Governance in Nepal (A Case Study of Butwal Sub-metropolitan City of Nepal)". Making changes to the way public services are delivered requires handling situations in which the known environment is transformed into a mostly unknown one; in these cases, general theories or principles are unable to produce a successful transformation. In order to execute the transformation process using a tailored strategy for the provision of public services, there are some of the issues such as shortage of human resources, lack of IT skilled manpower and existence poor capacity of human resources on information technology causes the local e-governance is facing challenge to delivers the public services and efficient manner.

Local government has given higher priority in e-governance in recent years. The periodic plan, strategic plan, Mid Term Expenditure Framework and Annual plans has addressed in e-governance in the policy. Different local government have initiated for the development of ICT use in service delivery. Local government officials have been using the IT tools. In this context, the researcher would like to understand the e-governance initiative of Butwal Sub Metropolitan City. Butwal Sub Metropolitan City is one of the municipalities where RUPP progromme implemented. The programme previously initiated the IT initiative in the past. Coming to this period, the researcher wants to know the progress of e-governance and how far the municipal official are using the e-governance tools for the service delivery and what is their perception on e-governance that they are using. Different local government guidelines and laws address to invest in IT sector and capacity development of municipal officials in IT. The researcher wants to know the real use such tools and their experience and perception on service delivery using such e-governance tools and initiatives carried out by the municipality.

This study focused on following questions.

- What is the e-government initiatives by Butwal Sub Metropolitan City?
- What are the e-governance tools used by municipal employee?
- What is the status of e-government platform?

- What is the perception of municipal employees for application of e-government services?

1.3 Objective of Study

General objective of the study is to find out application status e-governance in Butwal Sub Metropolitan City.

The specific objectives are as follows:

- To assess the e-government initiatives by Butwal Sub Metropolitan City.
- To analyze the perception of municipal employees for application of e-government services

1.4 Significance of Study

E-governance helps in connecting the public with the government using internet promptness and reliability is one of the major advantages of e-governance. Rather than the traditional ways of paper communication, online communication has the advantage of being much faster and accessible People can access the government services from a single window.

Platform across anywhere in the world through the aid digital devices, transparency in the communication process is also another advantage as well as the provision up to date information about the latest government programs. This method of online communication also empowers the society to become much more informed than previously possible.

This kind of research has never been done before. There isn't a single study publication that focuses on determining the application state of local government e-governance.

According to the new constitution of Nepal, local government has 22 exclusive rights and other concurrent rights also. Similarly, Local Government Operation Act 2017 clearly states the different function of local government. So, there is need of e-governance system to support all local government functions in effective and efficient way. The study will explore the use of e-governance system by the municipal officials to prove different e-government services to the citizen.

1.5 Limitations of the Study

Efforts have been made to obtain reliable and accurate data and information from the respondents. Nevertheless, the study has the following limitations.

In developing nations, institutional accountability is frequently lacking or nonexistent. Finding reliable information can be challenging, and even when it is, there is often uncertainty about it. It can be challenging to obtain information or communicate with those who have access to it, and frequently there are delays in response times or none at all. The important limitation of the study is not to cover the information from the elected officials and public which may give the perception of e-governance from them and would be more interesting study. The study does not cover to the response of citizen, other government entities and private sector which is another limitation of the study.

1.6 Organization of the Study

The researcher has adopted following Steps while doing the research.

1. Finalization of research proposal
2. Finalization of Questionnaire, interview checklist –
3. Move to research area- Butwal Sub Metropolitan city
4. Conduct websites/inline service observation.
5. Conduct survey with municipal employees (Questionnaire and interview)- data collection
6. Data processing, analysis
7. Feedback taken from thesis supervisor on preliminary report
8. Draft thesis document submission
9. Final thesis document submission

The research is divided in following five parts.

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CHAPTER TWO
LITERATURE REVIEW

This chapter presents an overview of the literature on e-governance and an overview of past research in e-governance. It is a map that can help in interpretation and cover up the e-governance initiative of municipality. Hence, this chapter is intended to review the past relevant literatures on e-governance.

2.1 Theoretical Literature Review

The focus of theoretical literature review is on theory rather than on application. The theoretical framework is the structure that can grasp or support a theory of a research study.

2.1.1 Concept of Governance

E-governance refers to application of electronic means in governance with aim of fulfilling the requirements of common mean at affordable cost and it fastest possible time. The utilization of information technology (IT), Information and communication technologies (ICTs) and other web-based telecommunication technologies to improve in an efficiency and effectiveness of services to deliver in the public sector (Moon, 2004).

E-government denotes to the use of information technologies by government agencies (such as Wide Area Networks, the Internet, and mobile computing) that can transform relations with citizens, businesses, and other arms of government. These technologies can help a variety of different ends: better delivery of government services to citizens, improved interactions with businesses and industries, citizen empowerment through access of information, or more efficient government management. The resulting aids can be less corruption, increased transparency, greater suitability, revenue growth, and/or cost reductions (Adhikari, 2017).

E-government is defined as using the internet and the world-wide-web for delivering government information and services to citizens (Torres et al., 2005).

Electronic Commerce Global Business Dialogue (GCBDe): Administrative, legislative, and judicial bodies (including municipal governments) can digitize their internal and external activities and effectively employ networked technologies to

understand higher quality in the provision of public services. This is referred to as e-government, or electronic government.

E-Government: As per the Organization for Economic Co-operation and Development (OECD, 2012)

is more about government than it is about "e."

- It enhances effectiveness, enhances services,
- aids in the achievement of particular goals,
- can support broad policy objectives,
- can play a significant role in reform,
- fosters citizen-government trust,
- opens the policy process, challenges established methods of operation.
- seamless government services will bring agencies closer together.

According to Torres et al. (2005), governance refers to the policies, procedures, and practices that influence how public administration functions, or the structure and ethos of public administration. According to Moon (2004), governance is much more than the actual, established institutions, groups, and procedures found in the public sector.

He contends that the success of governance systems is especially crucial since, in the end, the government would be held responsible for any failures. Moon (2002) argued that the government's terms of reference should change in light of new ideas. According to Moon, citizens and organizations must now collaborate with the government and work in relationships with it. There is also a strong case to be made for the pursuit of mutual interests and shared values. There is also a compelling case to be made for a greater emphasis on ICT use in governance as we move into the twenty-first century in order to foster network structures and cooperative partnerships. According to Tan et al. (2005), national ICT policies should now prioritize e-Government in order to make the development of e-Government more feasible. They claim that the idea of e-Government, which addresses the many issues facing corporate management as a result of technological advancement, is far more comprehensive than e-Government. The authors use the concept of e-governance at four different levels, as proposed by Pablo and Pan (2002) and referenced by Tan et al. (2005).

- Modernizing government operations,

- Increasing communication, transparency, openness, and participation,

- A shift in the way the government interacts with its internal and external clients, which are categorized as G2C (government to citizen), G2B (government to business), G2E (government to internal employee client), G2G (government to other government institutional client), and C2C (citizen to citizen),

- The evolution of society through the creation of e-societies, which are networks of links made up of ties between non-governmental organizations (NGOs) and other citizens.

A multinational e-business research consulting firm called Gartner has developed a four-phase model for e-governance. These four phases will determine how mature the e-governance system becomes. Governments may use this model as a guide for developing an e-governance strategy overall, but not all nations must go through each of these stages (Robert and Thierauf, 2018).

In this phase, relevant government information will be obtainable on the web, thus providing service to the public (G2C - government to citizen and G2B - government to private sector). These sites would carry the government's plan, information such as official addresses, working hours, forms and applications for public use, economic reviews, corporate regulations for businesses, and budget allocations and expenditures (Robert and Thierauf, 2018).

The government will engage in G2C and G2B interactions with the public in the second phase. Email queries can be asked, information can be found via search engines, and a variety of forms and papers can be downloaded. Government agencies connect and share information internally (G2G) using email, intranets, and local area networks (LANs).

This stage, which involves less sophisticated technology, would represent direct communication between the government and pertinent organizations through internet services, income tax filing, property tax payments, license and passport renewals, and online voting. Phase three is complicated due to privacy and security concerns; for example, the legal transfer of services requires digital (or electronic) signatures. The government might start with e-procurement software on the commercial side (LANs).

The ideal vision of e-governance is realized at the last stage. Since all of the information systems are integrated, the general people can essentially obtain G2C and

G2B services at any counter. The objective is to have a single point of contact for all services (LANs).

2.1.2 E-Governance implementation strategies and Plans in Nepal

With the e-Governance Master plan 2006, wireless broadband Master plan 2010 and ICT in the Education Master Plan 2013-2017, there are certainly few strategies plans for implementation of e-Governance that have been on practice in Nepal (ITU,2012;KIPA,2006;Martin Chautari ,2014; Ministry of Education,2013;D.Shrestha ,2015). Various literatures discuss the e-governance implementation strategy in Nepal. Some articles reflects that the plans that have been formulated by the Government (Martin Chautari ,2014; Pariyar,2007) while other further discuss about the issue and challenges in implementing these plans (Ganesh Prassad Adhikari ,2011;Dhakal Istiaq Jamil ,2010;Pokheral &Park,2009; Sharma, Bao,&Peng, 2014;D. Shrestha,2015). There also are some other literatures which have focused on new dimension that need to be added to e-Governance implementation plans (Paudel & Kafle, 2016; Shah,2010;Shikha Shrestha,2007).

2.1.3 E-governance Initiatives in Nepal

The introduction of ICT has made it more difficult for developing nations like Nepal to absorb and modify the global knowledge that is accessible in affluent nations. The swift advancements in information and communication technologies have enabled governments to provide residents with services in a more effective manner. Like the governments of developed nations, Nepal is a developing nation that has made progress toward e-government transformation (Sukla, 2015). This is an enabling instrument that has fundamentally altered the idea, approach, and means by which the State must provide services by redefining the principles and altering the institutions and delivery mechanisms. In 2006, the Nepal Government made master plan to reduce cost and time Another obstacle when providing digital gadgets in the Nepalese environment is the adoption of technology. Many officers at the senior level lack proficiency with e-government tools. Municipalities have not prioritized website platforms and e-government. Most workplaces' decision-making officers are unaware of the benefits of e-governance. Some government employees who love using antiquated, non-digital technologies have a change-resistant mindset. Those who receive additional benefits

are not fond of digital gadgets because they believe they won't be able to maintain their advantageous position if new technology is introduced (Adhikari, 2017).

When providing digital gadgets in the Nepalese environment, another obstacle is the adoption of technology. A lot of upper level personnel are not very proficient with e-government tools. Municipalities have not given online platforms and e-government enough emphasis. The majority of office decision-makers are not aware of the benefits of e-governance. Certain federal workers who deride traditional, analog technology exhibit a change-resistant mindset. Those who profit more than others believe that they won't be able to maintain their advantage when new technology is introduced, hence they are not comfortable using digital devices (Adhikari, 2017).

The development of e-government in Nepal has involved multiple e-government implementation initiatives. Numerous governments, commercial companies, non-governmental organizations, and international organizations have contributed to the creation and execution of e-government in Nepal, according to published research. The local governments of Nepal have been the primary target of e-government projects, with a special focus on municipalities during the initial phase. The local government's action plan at the local level to provide government information via ICT is gradually giving priority to tele-centers that were formed through cooperative efforts between remote villages and local government. These tele-centers are not only disseminating Nepal government information in local level but also trying to pull local content in the central level (Adhikari, 2017).

For the purpose of disseminating information about its preventive role, educating the general public about anti-corruption, and raising awareness among individuals and institutions with NVC, Transparency International - Nepal (TIN) has created a website (20-60/61 B3).

2.1.4 Rural Urban Partnership Program and E-Governance

The Local Self-government Act -1999 (LSGA) established a framework for decentralized government in Nepal by consolidating various acts pertaining to Local Bodies (LBs).

The Nepalese municipal government provides municipal services to its inhabitants in accordance with the Local Self Governance Act (LSGA). The majority of municipalities primarily concentrate on the development of their physical infrastructure

and rely on traditional processes. Nevertheless, in many situations, planning is done in a top-down manner without the meaningful and active involvement of the public. The concept of urban development has taken on new dimensions with the advent of the Rural Urban Partnership Programme (RUPP). Some of these dimensions include social mobilization, public participation, enterprise development activities for livelihood options, rural urban linkages for balanced development, ICTs, and targeted actions for disadvantaged groups (DAG), among others.

The idea of the Rural Urban Partnership Program (RUPP) is to use e-government to support urban growth and good governance. RUPP and the Bharatpur municipality made significant contributions to e-governance, as it is a key component of ICT (information and communication technology) that strengthens good governance. Following Bharatpur's successful e-governance rollout, the initiative collaborated with additional partner municipalities to duplicate Bharatpur's e-governance model. Localities with Internet Access Recognizing that there was great potential to supplement RUPP's efforts in important areas of its wide operational mandate, the program assisted several of its partner municipalities and RMCs with their municipal e-governance and e-commerce (B2B) activities.The Program also helped create Tele Centers and e-Community Centers with the goal of bridging the digital gap and facilitating simple access to these ICT-based services.Tele Centers and e-Community Centers were established with the help of the program in order to facilitate simple access to ICT-based services and to help close the digital divide.The program also helped create Tele Centers and e-Com centers to facilitate simple access to these ICT-based services and to close the digital divide.Over 69,000 community members and municipal/VDC staff members attended trainings on topics such as social mobilization, leadership, gender, saving and credit mobilization, enterprise management, skill training, technology transfer, PMDP, local governance, HIV/AIDS, computer, B2B e-Commerce, info mobilization, tele center operation and management, etc. that were arranged by the HRDC. In addition, the Agro Enterprise Center/Federation of Nepalese Chambers of Commerce & Industry collaborated closely with the High Level Commission for Information Technology to provide the National B2B e-Commerce Services and the Agricultural Market Information System. Likewise, UN Habitat and the World Bank helped to construct Tele Centers and Cyber Cafes.

2.1.5 Harnessing digital means to meet public ends

Recognizing that there was great potential to support RUPP's efforts in important areas of its wide operational mandate, the Programme launched initiatives centered around municipal e-governance and e-commerce (B2B) in a few of its partner municipalities and RMCs. in order to bridge the digital gap and to make these ICT-based services easily accessible. The program also helped to establish a solid foundation for tele centers and e-community centers.

2.1.6 Tele centers, B2B e-Commerce Initiative, and Municipal E-Government

- The GUG activities as stated in the Local Self-Government Acts and Regulations passed by the Government of Nepal provide context for the RUPP's e-Government efforts. More specifically, the following goals have served as the foundation for the e-Government projects (Buckley, 2013).

  - To boost public involvement in urban government

  - To introduce a variety of online services in order to boost the effectiveness and efficiency of the services that the municipalities provide.

  - To improve openness in the operations of local government entities, particularly municipalities

  - To enable long-term access to information resources in order to support citizen-centric, bottom-up urban planning in accordance with RUPP's social mobilization methodology. The dissemination of daily agricultural market information and the execution of B2B e-Commerce initiatives by its partner municipalities, driven by the following goals, have been the other major areas of RUPP's strategic orientation regarding the application of ICTs: -

  -To give businesses and farmers access to price information,

  - To improve market accessibility for businesses situated in VDCs and partner municipalities by establishing a virtual trading hub using ICTs,

  - To provide a single electronic gateway to encourage economic links within the nation; - To enhance the potential for regional and international trade links.

The establishment of two-way communication among the nation's 1500 Tele Centers was allowed for under the 10th Five Year Plan. The following goals served as the program's pioneering guidance in the establishment of Tele Centers:

- ICT-based services should be easily accessible,
- the digital divide should be closed,
- two-way communication should be made possible,
- prejudice should not be a barrier to information access,
- and women, children, and underprivileged groups should be empowered (Buckley, 2013).

2.1.7 Municipal E-Governance

With the help of RUPP, the municipalities have established a participatory municipal planning process in which each member of the community-based Tole/Lane Organization (TLO) is in charge of creating, carrying out, and overseeing their development plans as part of their commitment to good governance. This has made it easier to guarantee increased agreement and involvement in the municipality's development. Additionally, the well-maintained Urban Information Center (UIC) of RUPP was founded. It served as both a municipality data bank and a citizen information distribution hub. Ensuring financial openness, the municipality has consistently and flawlessly fulfilled its commitment to make its yearly financial transactions public. Similarly, the municipalities have addressed the issue of equity and have implemented gender as a cross cutting issue and have been preparing gender-friendly policies and strategies. Similar to this, the towns have prepared gender-friendly policies and plans, addressed the issue of equity, and made gender a cross-cutting concern. By implementing the Entrepreneurship Development Program, they have been able to address the issue of equity and improve the lives of both urban poor people and underprivileged groups. With RUPP's technical assistance, municipalities have released a citizen charter aimed at upholding accountability and responsibility, promoting the rule of law, and improving the efficacy and efficiency of local programs and administration. These have made it possible for municipalities to establish policies and carry out operations that adhere to every facet of sound urban governance. There is already a strong relationship between the private sector and civil societies and the

municipality, which is well-documented in the municipality's operational procedures. This is because the partnership between the public sector, private sector, and civil societies is fundamental to good urban government. Above all, the municipalities have a solid reputation because they adhere to the citizen charter in its entirety. Since ICTs can significantly aid in the achievement of good governance goals and e-governance can increase the efficiency of governance, RUPP recognized that it would be beneficial to augment its efforts in this area with the application of ICTs in the context of municipalities that have already made some progress toward good governance. In order to empower citizens through the access and use of information, and most importantly, to allow direct participation of constituents in planning and decision-making without any discrimination, we must transform the efficiency, effectiveness, transparency, and accountability of informational and transactional exchanges within the government (municipal), between the government and government agencies at different levels, and between citizens and business (Adhikari, 2017.

2.1.8 Concept of E-governance Project

RUPP, introduced the concept of e-Governance at partnering municipalities. Since e-Governance is one of the major components under the ICT for strengthening good governance, RUPP jointly with the municipalities had conceptualized the e-governance and shared its Programme concept to the local CCI, civil society, TLOs (community-based organizations) and NGO/INGOs working in the municipalities.

In order to offer the public e-services, the private sector expanded its network of cybercafés in response to the demands of the moment. The government of Nepal's Ministry of Local Development was collaborating with the establishment of the municipal e-governance program. On January 10, 2003, the then-right honorable prime minister formally established e-Government in the Bharatpur municipality after realizing the significance and need of e-Government in Nepal. In order to ensure that cyber-café owners and NGOs, line agencies, and civil societies retain ownership of the e-governance, multiple rounds of seminars were also arranged.

The Urban Information Center is operated by a well-trained personnel that was assigned in accordance with the Municipality's e-governance commitment. Similar to this, a well-functioning Human Resource Development Center (HRDC) was essential in

helping community and municipal staff members receive trainings and orientations on the use and concept propagation of e-Government.

2.1.9 Legal and institutional Status of IT

The High Level Commission on Information Technology (HLCIT) is an elite organization that was established under the direction of the Rt. Hon. Prime Minister of Nepal to provide critical strategic guidance, assist in formulating suitable policy responses for the ICT sector's development in the nation, and integrate these technologies to address important developmental challenges and promote economic growth in order to reduce poverty. This effectively places HLCIT at the forefront of all ICT-related initiatives that may have implications for policy and development.

In order to create an environment that will promote the growth and development of knowledge-based enterprises and institutions and enable the creation of a knowledge-based society, the commission's primary goal will be to supervise the execution of national IT policies and strategies as well as supporting strategic policies. The commission is crucial in developing strategies to exploit information and communication technology for development, economic growth, and poverty alleviation, as well as in formulating suitable policy instruments in line with the sector's dynamic nature.

Nepal is the home of cyber laws. The legal practice of digital transactions and documents has been implemented through the establishment of a separate controller's office. Although certain government departments use IT applications, there is not enough IT use in the government overall. In order to facilitate Internet access and foster government network development between government Ministries and Departments, the Ministry of Science and Technology (MOST) has deployed a VSAT. It can provide access to rural areas up to the level of the village development committee with just minor upgrades (Adhikari, 2017).

2.1.10 Status of E-Government Projects in Nepal

The Financial Management Project (FMP) and the Rural-Urban Partnership Program (RUPP) in particular were tasked with introducing the idea of e-governance to Nepal. FMP is a joint initiative between HMG/N and DFID. It spent several years working in the financial management industry. According to DFID's ranking, the project is among

the most successful in the country. It has significantly improved cash flows, increased transparency and disbursement rates, shortened the time needed to formulate, authorize, and release the budget, provided HMG/N and the donor with immediate financial management information, and enhanced macro and microeconomic management (ENRD).

With assistance from RUPP/UNDP, Bharatpur Municipality became the first municipality in Nepal to implement e-government. Upon observing the triumphant execution of e-Government in Bharatpur, RUPP provided assistance to the remaining partner municipalities in emulating the Bharatpur e-Government model. Municipalities with access to ISPs have a strong desire to establish e-government and have actively begun raising awareness of it in their communities through RUPP's community mobilization approach. The majority of these municipalities also finished developing their e-governance portals. RUPP has supported all 12-partner municipalities to establish an Urban Information Center with well-trained staff permanently deputed to the Center. The staff was trained in line with the Municipality's commitment to e-governance. Staffs deputed to operationalize the E-Governance unit of the municipality. Similarly, RUPP established a well-set Human Resource Development Center (HRDC), which, presently, has been strengthening to cater training and orientation regarding good governance and poverty alleviation.

Challenges facing the promotion and adoption of IT in Nepal's government: Lack of coordination, IT funds, IT literacy, infrastructure, training, and political climate are some of the main issues that arise while implementing IT to improve government efficiency (ENRD).

The following are the success factors for e-Government that ENRD suggests: Begin with a small, basic initiative. Raising awareness, motivating and assisting departments Include senior leadership, Observe, evaluate, standardize, guarantee security, Consider everything. Enhance government human resources, budget resources, telecommunication infrastructure, e-business environment, and e-readiness. Encourage the private sector, plan nationally (ENRD).

2.1.11 ICT area by National Information Technology Center (NITC).

According to information posted on the Ministry of Science and Technology's official website, the National Information Technology Center's (NITC) priority areas and focus

are e-Government, Tele-Center, and Databank. The national e-governance master plan, which was created by NITC with assistance from the Korean International Cooperation Agency (KOICA) and HLCIT, outlines the necessary infrastructure, policies, standards, and procedures for IT governance and decision-making, as well as the practical vision and architecture (NITC, 2008).

A tele-center is a place of employment that offers convenient access to work with equipment that people do not have at home. It is typically located somewhere other than the organization's main office. The Tele-center strategy was started with the goal of reducing the Digital Divide. The fundamental idea behind the Tele-center concept is to help the underprivileged population advance by giving them access to current information technology services like email, fax, internet, photocopying, scanning, and other tools. Maximizing the use of ICT, giving rural communities access to the internet, fostering a knowledge-based society, and disseminating information about telemedicine and agriculture, as well as job opportunities, are the goals of Tele-Centers (NITC, 2008).

There are 43 Tele-Centers spread across the nation's districts, all of which were founded and are overseen by the NITC, the HLCIT, or with assistance from other donor agencies such as the UNDP and KOIKA. This is a critical step in the construction of infrastructure, which is required for e-government projects to succeed.

Establishing a data bank is the idea of creating a single, central repository for all significant government databases and information that is updated often, maintained, and accessible to stakeholders under certain guidelines. NITC launched the National Data Bank project with the goal of compiling and making all published data accessible to the public and government. All ministries and agencies of the Nepal government, as well as commercial companies that support the government, small and medium-sized businesses, individual users, and research groups are among the intended users (Adhikari, 2017).

2.1.12 Master Plan of Electronic Government Master Plan, 2006

The creation of an e-government master plan is a significant advancement in e-government. The Korean IT Industry Promotion Agency (KIPA) of the Korean government assisted in the development of the master plan in 2006. This master plan

for Nepal has developed an e-government vision called "The Value Networking Nepal," which is founded on the following principles (Sukla, 2015).

- citizen-centered service,
- transparent service,
- networked government,
- and knowledge-based society.

The goal statement of e-government is to: Enhance people's lives without discrimination, overcoming racial and regional divides, and achieve socioeconomic development by constructing an open government and offering high-quality, value-added services via ICT. Building government groupware systems, government portals, national identification, e-education, communication networks, corporate architecture, Public Key Infrastructure (PKI), and integrated data centers were the eight priority projects selected. The following factors were taken into account when choosing the priority projects. The computerization of central government operations is the first step in the Nepali e-Government agenda, and local governments should progressively adopt this technology as well. Creating the necessary infrastructure and ensuring the content should result in closing the digital gap. Computer illiteracy in rural areas can be eliminated with the use of e-education resources (EGMP, 2006).

The consulting team believes that via worldwide cooperation as well as cooperation between the government, university, and industry within Nepal, Nepal would successfully execute the e-Government project and grow into an IT powerhouse.

This project's primary objective is to construct efficient, organized, and fruitful e-government in order to promote social and economic development as well as good governance. To accomplish the purpose, the master plan was intended to include the following four points.

- Defining the framework, strategy, and vision,
- Deciding on important projects and creating the schedule,
- Outlining the execution organization's direction,
- Outlining the course for reorganizing the legal system.

The creation of the e-government master plan is a lengthy effort that will take longer than ten years to complete. However, it is preferable to shorten the project time and make periodic revisions to the plan to reflect new innovations and trends in ICT in order

to reflect the dynamic development in the ICT sector and to produce a realistic plan. Because of this, the project's five-year duration is planned for 2007 to 2011.

Electronic Transaction Act (2006): The Electronic Transactions Act, 2006 (Act) came into effect on 02 September 2006. The objective of this Act is to ensure the reliability and security of electronic transactions including the control of unauthorized use of electronic records or alteration in such records through illegal manner. Section 47 of the Electronic Transactions Act prohibits electronic publication or display of material deemed illegal under existing laws, including vaguely defined material which may be contrary to the public morality or decent behavior or any types of materials which may spread hate or jealousy against anyone.

The elimination of corruption is greatly aided by e-government because of its openness, accountability, and behavioral intention. During this speech, residents of Bangladesh and Pakistan, two emerging South Asian nations, were given particular attention. Only a few studies have shown all three characteristics—E-government, transparency, and accountability—in a scientific study, which makes this study unique in the South Asian context. Previous studies have concentrated on either E-government with transparency or E-government with accountability separately, and their impact on multiple factors. Moreover, statistical data offers a strong basis for the use of e-government as a tool to lessen corruption in underdeveloped nations (Tofail et al., 2023).

Since e-government is seen as transparent and accountable, its implementation has been advised as a means of eradicating corruption. E-government was created with the goal of attaining smart governance. This research aims to investigate if e-government adoption in developing nations contributes to the fight against corruption. The results of this study, which used a quantitative methodology, showed how important e-government is in the fight against corruption. By promoting accountability and transparency in the fight against corruption, e-government initiatives aim to improve behavioral intention. This study proposes to use the modified version of the TAM model from earlier research. The Sobel test was used for mediation analysis, and frequency, reliability, correlation, and multiple regression analysis were used to evaluate a total of 680 responses.The study finds strong evidence that e-government reduces corruption, with transparency and accountability having a positive impact as mediators between e-government and users' behavioral intentions. Behavioral intention also acts as a mediating factor in the relationship between e-government and corruption

reduction. The results also show that the reduction of corruption is significantly predicted by e-government services, accountability, and transparency. The study concludes by shedding light on how effective e-government has been in eliminating corruption. This can help guide future research and suggest policy changes that the government should make to further combat corruption (Tofail et al., 2023).

2.2 ICT Policies Development of Nepal

Ever since the government of Nepal adopted its first IT policy in 2000, the country has been gradually advancing its ICT and e-governance capabilities. The ICT and e-governance strategies in Nepal have been covered in a few accessible sources (Chapagain, 2006; International Development Research Centre, 2003; Martin Chautari, 2004). The adoption of e-Government in Nepal started out slowly. Development efforts were negatively impacted by the unstable political climate brought on by the Maoist Party of Nepal's continuing military struggle, which started with extensive infrastructure destruction (Lawoti, 2003).The economy suffered greatly. Nepal's real GDP growth rate decreased from 6.44% in 1990–91 to 4.9% in 2000–01 (Upreti, 2006).

Even though the 2000 policy was Nepal's first IT policy, the National Communication Policy was developed in 1992 by His Majesty's Government of Nepal, and the Telecommunication Act and regulations followed in 1997 (Chapagain, 2006).

"The Telecommunications Act of Nepal," played a part in setting up the IT infrastructure in Nepal. But Nepal implemented a more comprehensive IT policy in 2000 (International Development Centre, 2003; Shields, 2009). From the IT policy of 2000 to the policy of 2015, there has been a notable progress in Nepal's development of ICT policies. The evolution of Nepal's ICT policy is being discussed increasingly.

2.2.1 Telecommunication Act and Regulations (1997)

The Telecommunication Act and Regulations of 1997, which was passed after the National Communication Policy was created in 1992, was the first piece of legislation that liberalized the telecom sector and allowed the private sector and foreign direct investment (FDI) in the provision of telecommunication services (Chapagain, 2006; Martin Chautari, 2004). This also marked the beginning of the institutional and legal foundation for the regulation of the ICT sector. In 1998, the Nepal Telecommunication Authority was established as a separate regulatory body under this Act (Chapagain,

2006; NTA, 2004). This marked a significant shift in Nepal's ICT industry. Without taking this action, the state monopoly in the ICT sector would not have been eliminated, and the industry would not have been more competitive (Chapagain, 2006). The establishment of the Rural Telecommunication Development Fund was another significant Telecommunications Act of 1997 provision. According to this telecom license, they must contribute 2% of their yearly income to this fund, which will be utilized to build IT infrastructure in rural regions (Silva & Tuladhar, 2005).

2.2.2 Information Technology Policy of Nepal, 2000

The IT sector was chosen by the Nepali government as the most important area for development, and the IT Policy, 2000 was created to solidify the groundwork for improved living standards and national economic growth over the following five years, beginning in 2000. In order to facilitate quick development chances for other economic sectors including trade, tourism, agriculture, health, and education, the government intended to focus on the IT industry. Additionally, it would strengthen Nepal's vulnerability of having a population that is unevenly spread throughout its vast geographical area. Thus, the government set out to achieve the following goals, putting Nepal's ICT sector "on the global map within the next five years." As per the IT Policy, 2000 plans, the government functions as an enabler, regulator, and promoter (Silva & Tuladhar, 2005).

One of the policies that should be encouraged is the development of Internet content to promote Nepali art culture and rural areas. Other policies include the improvement of administrative efficiency through digitalization and the establishment of an open administration system through websites and Internet connections. A strategy was established to support e-commerce, e-health, and e-education to boost undeveloped sectors. Managing the foundation to government staffs to get personal computers and the other e-services, as well as digitizing institutional procedures, is imperative in accordance with these regulations (Silva & Tuladhar, 2005).

A few of the action plans created to encourage and sustain IT development through the upbringing of specialists include the implementation of computer education programs in middle schools, the provision of computer facilities to support the education of experts and specialists with bachelor's and master's degrees in universities ("Computer education to all by 2010"), and the promotion and support of domestic and international

training and education for the IT sector. In order for professionals and specialists to continue working in Nepal in order to gain knowledge and experience, it is vital to create relevant and varied education and training programs for the schools and academies. (Silva & Tuladhar, 2005)

2.2.3 Nepal Telecommunication Policy 2004

The Tele-communication Policy, 2004 came up with tele-communication as the "basic prerequisite of the development". (Silva & Tuladhar, 2005).

As per draft policy, Nepal Telecom Corporation (NTC) was decided to come into privatized and rebranded as Nepal Telecom (NT) (Gautam, 2016; Shields, 2009). The primary goal of the strategy was to work with the private sector to establish a conducive climate that would enable telecommunication services to be dependable, affordable, and available to everyone in the country. Realizing the role that ICT plays in national growth, the policy prioritized liberalization of the telecom industry and universal access to telecom services. The strategy cut import duties on telecommunication equipment for growth in rural areas, promoted license transparency, and increased private sector engagement (Shields, 2009). The policy played a crucial role in the infrastructure development of Nepal, particularly in the rural areas, by giving rural telecommunication providers with a specified annual income cap an exemption from paying an annual fee and a license (KIPA, 2006).

2.2.4 Information Technology Policy, 2010

After the 2004 IT policy was not legally enacted, a much-needed revision was made and it became the IT policy of 2010. The second IT policy in the nation took ten years to pass. In the policy, emphasis was placed on public-private partnerships (PPPs) (Martin Chautari, 2014). The mission and version statements restated the principles found in the 2000 policy. However, this time around, the policy covered important topics including e-Certification, data security and protection, intellectual property rights, standardization, and more. ICT education has also received emphasis in the 2010 IT policy (Martin Chautari, 2014; Ministry of Education, 2013).

2.2.5 National Information and Communication Technology (NICT) Policy of Nepal, 2015

The most recent ITC policy document for Nepal as of yet is the IT policy from 2015. According to the Ministry of Information and Communication (2015), this policy is "intended to create foundation ground work for an overarching vision of Digital Nepal." It focuses on the ideas of net neutrality, sustainable development, public-private partnerships (PPPs), environmental impact, and climate change. The agenda also includes targets like having 80% of government services available online and 100% of internet connection in Nepal by 2020. It appears that few writers have had a chance to read the policy paper. Nonetheless, news reports on the installation of 96 core fiber optic cable east-west in the mid-hill region in accordance with the policy indicate that the policy is being implemented gradually ("NTA, NT sign agreement to lay optical fiber," 2016). It has also drawn criticism for failing to recognize ICT freedom of expression (Freedom Forum, 2016).

2.3 Empirical Review

According to (UNESCO, 2021) E-governance is the public sectors use of information and communication technologies with the aim of improving information and services delivery encouraging citizen participation in the decision-making process and making government more accountable, transparent, and effective.

People now expect and desire better and higher-quality service delivery due to the advancements in internet technology (IT). The phrase "e-government" describes how government organizations use IT to change how they interact with businesses, citizens, and achieve other goals. E-government is seen as one of the government's most effective methods for cutting expenses, increasing revenue, and improving public service delivery (Saeed, 2012). It further aims to demonstrate the path of good governance and guarantee the effectiveness, accountability, and transparency of government operations (Harris, 2020).

Local governments are close to citizen and constitute for many the main representation of government .The relationship of citizens and local authorities tends to be one based on proximity as the interests at stake for both parties are clearly entwined concerning issues such a public services ,urban development education, public transport

,environmental concerns and local politics .it is at local level that impact of ICTs on the relationship governments and citizen can be most effective (UNESCO, 2021).

We see a rapid emergence of e-governance in the Government and public sector. It includes the continuous optimization of services delivery, participation and governance by technology, the internet and new media led relationship transformation (Gartner Industry Research, 2017).

Academics from a variety of social science fields have studied the relationship between e-government, behavioral intention, and corruption. They have also looked at the role that e-government plays in reducing corruption. Sociologists contend that social progress and community welfare are hampered by corruption, which has cultural and societal roots. According to social researchers, low-paid government employees, crooked institutions, and a lack of developed and reasonable market forces are all antecedents to corruption. Legal scholars claim that the specific legal framework and how it is applied have an impact on corruption. Although this study approaches corruption research through a political theory framework, this should not be seen as undervaluing the significance of alternative approaches. Starting with the conceptual viewpoints employed in earlier research on e-government and its impact on corruption, we link theories relevant to the study of corruption and make an effort to understand how e-government supports the fight against corruption via those lenses. Furthermore, we examine the potential additional benefits of e-government in the fight against corruption (Heidenheimer and Johnston, 2011).

The use of information and communication technologies by the government in tandem with institutional change to improve administrative structures and procedures is commonly referred to as e-government. The implementation of e-government is also thought to help municipalities operate more efficiently and reshape their interactions with citizens, businesses, and other federal sectors. By reimagining traditional government services to improve service delivery and security, e-government is thought to maximize web-based applications to foster flexible communication between state institutions with citizens and diverse general sector organizations. The UN's ongoing worries have led to the widespread adoption of e-government, which is currently taking place in 193 nations. Additionally, e-government greatly fosters public participation as a byproduct by encouraging citizens to communicate with the government (Twizeyimana and Andersson, 2019).

The focus of empirical studies on the adoption of e-government has shifted from user hesitancy to the slow adoption of e-government mechanisms to conventional theoretical frameworks of information systems and technology, such as the technology acceptance model and the theory of planned behavior, or combinations of these. A number of ideas put up in earlier research on the adoption of e-government were criticized for not taking into account circumstances unique to e-government because they made use of traditional information system components. As a result, an E-government-specific conceptual framework was created in order to address the unique issues related to the adoption of E-government, all the while preserving an unbiased research methodology from the E-government perspective and preserving information system/information technology models and theories. Depending on individuals' behavioral intents to integrate new technologies into their government framework, the rate at which e-government is adopted varies per nation. A number of challenges have arisen with the advent of e-government, such as a lack of trust, a scarcity of assessments of e-government offerings, different security apprehensions, and a lack of contemporary innovation (Ahmad, Markkula and Oivo, 2013).

Thus, residents' perspectives should constantly be given special consideration when adopting e-government services, and an evaluation should be carried out to resolve corruption concerns in developing economies. Lastly, it is anticipated that e-government will increase public participation with the government and so offset the decline in public trust in the government (Morgeson and Petrescu, 2011).

When it comes to e-government, transparency, and behavioral intention, transparency is seen as a phenomenon that meets citizens' expectations for relevant information and useful knowledge. Transparency now advances when public-government contacts rise and disputes fall. Government transparency is the comprehension, appraisal, and importance of public service in carrying out ongoing reforms to produce outcomes. Three essential elements of a robust E-government system were engagement, transparency, and public participation. Kwak and Lee outlined the five fundamental components of the ideal open government phenomenon: initial conditions, data openness, citizen participation, cooperation with governmental bodies, and, most all, international engagement (Bokhari and Myeong, 2022).

A survey conducted across multiple EU areas found that the use of ICT with social media integration capabilities can enhance openness in the public sector. IT specialists

performed a number of ICT-based evaluations using the E-government survey and came to the conclusion that E-government is not a fantasy but rather a requirement for citizens to have their demands met in a way that is more accountable, transparent, and accessible. In a governmental organization, transparency is only an idea that gains traction through various public sector initiatives. These programs could include a long-term, incremental deployment strategy and use the IT department to achieve E-government goals. Furthermore, in order for information authentication—which is fundamental to transparency—to be accepted, both government and non-government institutions must make such information publicly available (Wikhamn and Hall, 2014).

Accountability system, which are defined as institutional entities or governments that make elected representative accountable for their involvement in policy preparation that can happen in a range of situations—have been the subject of several studies. The majority of them are focused on the interaction between the public and appointed or elected officials, as well as business lessees. In summary, electronic government has long been recognized as a powerful means of enhancing public service accountability and establishing citizen rights. According to Dubnick and Frederickson (2014), as a result, it increased the government's awareness of the benefits and limitations of individual citizen interaction.

In relation to the Mediating Role of Behavioral Intention, corruption is a pervasive problem that is hidden in several divisions. In developing nations, bribery is the most pervasive kind of corruption when it comes to government incentives and other favors like corporate licenses and permits. The type of corruption is identified by the volume of money exchanged and the industry in which it first appears. Petty corruption, big corruption, and political corruption are the three main types of corruption. One technologically amazing tool for fighting corruption is e-government. Corruption is emphasized in specialized literature on e-government entities. Digital service delivery (tax returns for computer processing and online application submission, for example) may lessen moral decline and corruption. Moreover, Han and Hong (2019) assert that accountability, openness, cutting out intermediaries, and connectedness can all help close the gap that exists between citizens and governments.

While some studies have shown the connection between e-government and governmental corruption, others have used data collection and correlation analysis to demonstrate the close relationship between a nation's inclination to adopt e-government

and its levels of corruption. Empirical data indicates a favorable correlation between e-government and the elimination of corruption. In general, all institutions should be managed so that, in addition to redesigning the corporate structure to lessen the cancer known as corruption, the constitution can eradicate corruption and corrupt government officials can be eradicated from their source simultaneously (Wangrow, Kolev, Hughes-Morgan, 2019).

2.4 E- governance Status of Nepal

The first United Nations E-Government Survey was issued in 2001. The 2022 Survey is the twelfth edition of a biennial publication offered to pursuing the global development of e-government in all United Nations Member States. The below table shows the status of e-governance of Nepal in global context published by United nation in the interval of each two years.

Table: 2.4.1 E- governance Status of Nepal

Index Rank/Value	2022	2020	2018	2016	2014	2012	2010	2008	2005	2004	2003
E-Government Development Index rank	125	132	117	135	165	164	153	150	126	132	130
E-Government Development Index value	0.51	0.47	0.47	0.34	0.23	0.26	0.256	0.27	0.30	0.280	0.268
E-Participation Index rank	143	137	55	89	110	134	127	152	73	75	61
E-Participation Index value	**0.23**	0.37	0.78	0.50	0.29	0.02	0.057	0.02	0.07	0.06	0.13
Online Service Index value	**0.4592**	0.4	0.688	0.399	0.16	0.288	0.1683	0.29	0.4	0.3359	0.3188
Telecommunication Infrastructure Index value	0.512	0.47	0.24	0.16	0.17	0.06	0.022	0.01	0.006	0.006	0.006

Human Capital Index value	0.563	0.54	0.49	0.47	0.38	0.45	0.58	0.52	0.5	0.5	0.48

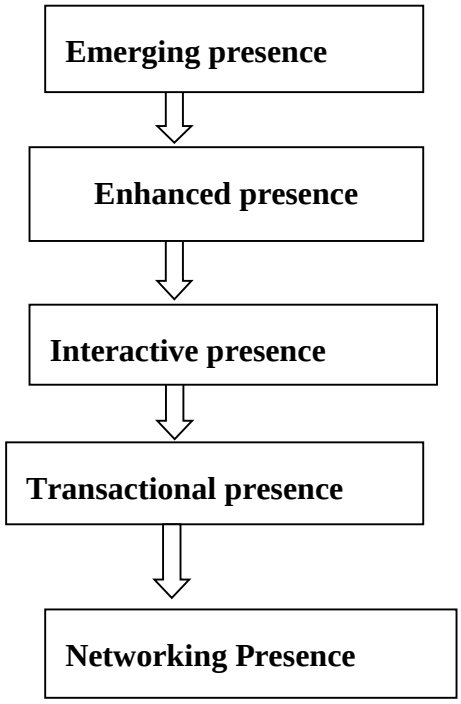
Source: United nations Global E-government Report, 2022

The table shows that E-Government Development Index rank of Nepal in 2022 period is 125 and its value is 0.51. Similarly, E-Participation Index rank is 143 and its value is 0.23. Online Service Index value is 0.45, Telecommunication Infrastructure Index value is 0.51, and Human Capital Index value is 0.56. The data shows that e-participation is weak in Nepal while other indicators are gradually improving but the status is not satisfactory.

2.5 Conceptual Framework

Review of literature has sufficiently provided the sources for the identification of research concept. Following conceptual framework has operationalized in this study. The conceptual framework of the study is as follows:

Figure 1 E-Government Implementation Model



Source: Web Presence Measurement Model, United Nations Global E-government Report, 2003

2.6 Research Gap

The analysis of the literature reveals that no prior study of this kind has been carried out. There isn't a single study publication that focuses on determining the application status and impact of e-governance. There are a few e-government-related articles in Nepalese national publications, but the majority of them are conceptual and theoretical works that represent the writers' opinions based on accepted theory and are not at all grounded in the actual operations of public sector organizations in Nepal. Even while ministries and municipalities have undertaken a number of attempts to build e-government services, especially with donor organization money, those endeavors have not been consistent, and the majority of them have ceased their impact on project completion. There is a lack of empirical research that has been conducted to assess e-government efforts. Thus, in order to determine the application state of e-governance at the Butwal Sub-metropolitan city, researchers discovered a gap in the Nepalese study area. It is expected that the research will contribute to the municipality's e-government status, which will have implications for planning and policy for all municipalities in Nepal. An effort has been made to close the deficit.

CHAPTER THREE
RESEARCH METHODOLOGY

Methods and procedures are key elements of any research. To obtain the objectives of the study, researcher must follow appropriate methodology and procedures. This chapter incorporates research design, nature and sources of data, population, sample and sampling procedure, data collection procedure, data analysis tools and techniques, reliability and validity of the data and ethical considerations.

3.1 Research Design

Design of the study refers to the overall strategy that the researcher selects to integrate the different components of the study in a coherent and logical way. It is a logical sequence in which the study is carried out, and constitutes the blueprint for collection, measuring and analysis of data (Kothari, 2004). Qualitive research design was used to achieve the basic objective of the study.

3.2 Nature and Sources of Data

In this study both primary data are used to fulfill the objectives. The primary data are collected from field survey using the structured questionnaire and interview schedules. Next primary data are obtained from research municipal websites through observation and analysis of web platform and online system. Both qualitative and quantitative aspects characterized the data. The websites of the Nepali government ministries, the national planning commission, municipalities, the central bureau of statistics, the websites of the United Nations, various theses from Tribhuvan University, and other foreign universities were the primary sources of the literature review.

The researcher conducted a face-to-face interview in the municipal office to gather primary data using both open-ended and structured questionnaires. Within the Butwal Sub-metropolitan city, the departments, sections, and ward offices of the municipalities serve as the application sites for primary data sources. Qualitative data of the nominal and ordinal types are used as the measurement scale. Quantitative data are gathered to conduct research. Similarly, the researcher has observed the municipal website and online service to explore the e-government platform and e-services handled by municipal employee.

3.3 Population, Sample and Sampling Procedure

Municipalities where implemented e-government service so total population of study is one district of Rupandhai considered as population of the study. Out of it, application status of e-governance of Butwal Sub-metropolitan City is taken as a sample of the study based on convenience sample method. The researched wanted to carry out research to that municipality where already had been practice of E-government. The Butwal Sub Metropolitan City is selected due to the long practice of e-government service initially supported by Rural Urban Partnership Project (RUPP) based on literature review. Another reason of selection of this municipality is limited time and financial resources available to researcher to carry out research. There are 491 municipal staffs and only 100 samples are considered for the purpose of the present study based on convenience sample method. The researcher needs to cover the respondents from eight departments and their sections, and other 19 wards offices. Considering the convenience for data collection from different department, section and wards, the researcher has taken 100 sample respondents so that sufficient information

would be covered. The researcher has believed that higher number of sample (100 municipal employee) will represent different range of opinion and thoughts all population of municipal employees.

All the respondents, who are now employed by the municipality, were chosen from among various departments, divisions, units, and 19 ward offices. The majority of the officers chosen are senior in their positions and have some knowledge of e-Government, which enables them to better respond and offer more strategic information while also reflecting the organization's goals and viewpoints. IT section and infraction section of the municipality is given more priority. The Chief Administrative Officer was consulted by the researcher to learn about significant efforts in municipal e-governance. The majority of those surveyed are in their 40s. 15% of responses are female, while 85% of respondents are male.

3.4 Tools of Data Collection

Questionnaire

The questionnaire is prepared for the information collection of the study area. Both the open-ended and closed questions were asked for the research purpose. The respondents were requested to fill up the questionnaires. The researcher supported them to fill up the answers. The researcher has considered the ethics while consulting with the respondents.

The questionnaire for the first objective is based on the e-governance maturity index and e-governance readiness index of UN report 2003. The researcher also developed some questions based on e-government policy, laws, and Local Government Operation act 2017 of Nepal but the questions are related to the UN e-government index. Triangulation of different e-government models are incorporated in questionnaire.

The collection of data was completed with the help of questionnaire where statements are used. Each statement has five columns of opinion as very great extent, great extent, moderate extent, little extent and not at all. A psychometric response scale prior used in questionnaire to obtain participants preferences or degree of agreement with a set of statement Likert scales are a non-comparative scaling techniques and are unidimensional in nature that has scoring procedures. The questionnaire was pre-tested with the municipal staffs of Butwal Sub Metropolitan City. Based on the suggestion and feedback of thesis supervisor, the questionnaires were finalized .

3.5 Data Collection Procedure

Primary data is included as source of information. The researcher went to the field, which includes municipal departments, sections, ward offices, and websites observation, to gather the required information.

In order to collect primary data, the researcher personally visited various department, section, and ward offices with questionnaires and engaged in as many discussions as possible with senior municipal officers. This allowed for the collection of more trustworthy responses. In order to find the expected answer and higher-quality information, the researcher maintained direct communication with the respondents throughout the data collecting time. The researcher also made sure to explain the purpose of the study, research ethics, and a little bit about e-government.

Researched has consulted to IT Officer of municipality and other technical staffs to observe the websites status and its observation based on we-maturity questionnaire developed.

The collection of data was completed with the help of questionnaire where statements are used. Each statement has five columns of opinion as very great extent, great extent, moderate extent, little extent and not at all. A psychometric response scale prior used in questionnaire to obtain participants preferences or degree of agreement with a set of statement Likert scales are a non-comparative scaling techniques and are unidimensional in nature that has scoring procedures as following.

Meaning of rating	**Statement**
Very great extent	5
Great extent	4
Moderate extent	3
Little extent	2
Not at all	1

The respondents have provided to indicate their level of agreement with given statement by an ordinal scale.

3.6 Data Analysis Tools and Techniques

The process of data analysis was started after the collection of raw data from questionnaire and interview. The process of data analysis was started after the collection of raw data from questionnaire and interview. Data analysis is a procedure that includes tabulating, coding, editing, and classification of the gathered information (Kothari, 2004). The study employed descriptive analysis for frequency analysis and descriptive tabulation to ascertain the existence of the necessary elements for the establishment of e-government and its efficacious usage. Tools for data analysis and report writing are employed while this research project is being conducted. Using programs like Word and Excel, a personal computer is utilized to examine the survey results.

3.7 Reliability and Validity of Data

Research study of this type requires procedure that was helped to reduce bias and increase reliability. This study is related to application status of E-Governance in Nepal (A Case study of Butwal Sub-metropolitan city Municipality of Nepal. Validity and reliability of the tool was maintained by related literature review. A research guide and e-government experts are consulted for this research. Research work should be reliable, credible, and plausible. To earn trustworthiness, multiple sources of information, methods, investigators, and theories known as triangulation are used. To verify the trustworthiness of the qualitative data, present researcher has tried to triangulate the data collected from different sources. Researcher has collected data regarding field of application status of E-Governance. Researcher checked the plausibility of research with supervisor and/or colleagues before embarking on detailed research design. Similarly, to enhance the reliability and validity of the data and analysis, all the research processes are made transparent.

The researcher has developed the questionnaire based on three e-government model such as UN Web Presence Maturity Model, UN E- participation Model and Online e-government model of Layne and Lee. A pilot test of questionnaires was used to determine the reliability and validity of the questionnaires. The findings of the pilot were used to adjust questions that needed clarity and simplify those that were a bit confusing to respondents. The questionnaire tool was very reliable.

Sufficient Sample size (100) was taken for the representation of different range of opinion from different department and section and wards of municipality using

convenience sample method. The researcher has carefully checked validity and reliability of web presence stages, availability of e-government facilities and municipal staffs' perception in questionnaire.

3.8 Ethical Consideration

Ethical issues were paramount important matters in the primary research due to ethical issues relating to fair and unbiased selection of sources and analysis. Ethical principles guide the researcher that no one suffers from any adverse consequences from the survey. This research is carried out in consideration of ethical principles. There is no record of participant personal identity and name. The researcher has maintained ethical obligations towards respondents in this survey. The researcher has taken the consent of respondents to give the answer. The researcher has applied fair behavior while asking the question to the respondents. The respondents are voluntary only.

CHAPTER FOUR
DATA ANALYSIS AND PRESENTATION

This chapter deals with the data presentation and interpretation. The agglomerated primary data from the field survey have been tabulated and their interpretation had been made thoroughly. The surveyed data has been examined, described, and interpreted in this chapter. By looking through papers, conducting surveys, visiting municipal websites, and conducting interviews, the existing states of e-government are examined. Municipal websites are scrutinized to determine the level of e-government maturity, taking into account several indicators discovered from the literature study portion.

4.1 E-governance Initiative by Municipality

E-Governance applications include data management tools for government agencies. These tools help in collecting, storing, and analyzing data, enabling better decision-making and policy formulation.

ICT Infrastructure, Computer available, Computer maintained and supported, Computer backup system and server as application server/file server and or printer server are fundamental aspects of ICT Infrastructure available to support e-governance in this subsection.

This subsection will discuss on following topic based first objective of the research.

- The observation of the maturity of the municipal websites system using the Layne and Lee model.
- Examining the various stages of municipal websites status using UN / ASPA– Five Stages of e-Government Development
- Municipal E-participation Analysis using UN / ASPA E-participation Index.
- E-governance tools used by municipal officials.

4.1.1 The observation of the maturity of the municipal websites system using the Layne and Lee model.

The observation of the maturity of municipal websites and online system using the Layne and Lee model has been provided in following Table.

Table 4.1.1: Website maturity status using the Layne and Lee model

Stages	**Initiatives**
Catalogue	Website, Facebook, email, government domain
Transaction	Online application, online payment system, Electronic Building Permit System, house numbering system, online revenue payment system, e-bidding, online job portal, use of QR code for payment, online grievance handling, auto message system on tax and other information to public, digital location identification system, e-education profile of students and teachers, use of online revenue collection from the wards, public Wi-Fi, digital board, Employment Management Information System (EMIS), WhatsApp groups
Vertical Integration	Electronic Building Permit System, Vital registration, SUTRA, LMBIS, Foreign Employment Management System (FIMS), health Agriculture, Livestock and Cooperative online reporting system, LISA and FRA online system with Ministry of Federal Affair and General Administration, National Identity Card, social security
Horizontal Integration	Not achieved

Source: Field Survey, 2024

The observation of various initiatives done by municipality to make the service available through the websites, web portal and online system. The table shows that catalogue, Transaction and Vertical Integration are fulfilled while Horizontal Integration related activities are not present in web platform.

The first stage of model identified as catalogue has been achieved with initiatives like Website, Facebook, email, government domain These initiatives indicate that the first stage is fully achieved.

The second stage of model is transaction where the citizens can transact information with the government using the online. There are different services available such as Online application, online payment system, Electronic Building Permit System, house numbering system, online revenue payment system, e-bidding, online job portal, use of QR code for payment, online grievance handling, auto message system on tax and other information to public, digital location identification system, e-education profile of students and teachers, use of online revenue collection from the wards, public Wi-Fi, digital board, Employment Management Information System (EMIS), WhatsApp groups.

The third stage of the model is vertical integration stage where the similar organizations at local, and federal level should be connected for shared data processing. In case of municipality, the vertical integration is established with federal government and its department through electronic platform. The purpose is for Electronic Building Permit System, Vital registration, SUTRA, LMBIS, Foreign Employment Management System (FIMS), health Agriculture, Livestock and Cooperative online reporting system, LISA and FRA online system with Ministry of Federal Affair and General Administration, National Identity Card, social security.

The fourth stage of the model is horizontal integration stage, where different agencies having different functionalities are connected to provide one stop shop for government services to the citizens. The municipal initiative of this stage is not achieved.

4.1.2 Examining E-government Readiness (UN Web Presence Measurement Model)

It is predicated on the theoretical Web Presence Measurement Model of UN e-governance, a five-stage model that builds on the prior degree of complexity of a government's online presence and is ascending in nature. The Web Measure Index methodology uses a scale of more complex services to determine e-government

readiness phases. The Model assigns a higher ranking to the availability of e-services and e-products based on a numerical classification that corresponds to five stages. The five phases of e-government presence on the internet are arranged in the schema below in theoretical order of increasing maturity or sophistication. These include: Transactional Presence, Interactive Presence, Enhanced Presence, Emerging Presence, and Networked Presence. survey removes all room for judgment, even for flawless ratings, and instead presents a value assessment from the viewpoint of the researcher. They are predicated on a questionnaire that asked the researchers to rate an indicator as binary or non-binary depending on whether or not particular electronic facilities or services were offered (UN Global E-government Report, 2003). Based on how these five phases in the maturity indices are progressing, the researcher has evaluated the online platform.

Table 4.1.2: Stage I: Emerging Presence

Stages	**Statements regarding online service delivery**	**Score**	**Stage score**
Stage I: Emerging Presence			1
1	Online presence is available	1	
2	Municipality has official email in "gov.np" domain	1	
3	Municipality has official websites	1	
4	Municipal portal and official homepage	1	
5	Links to government entities	1	
6	server as application server/file server and printer server	1	

Source: Field Survey, 2024

The above table belongs to the first stage of e-government development developed by UN/ASPA. There are six statements related to web and online services based on this stage. This stage is the beginning stage. So, all the statements are fulfilled based on the website observation and analysis. So, this the first emerging presence stage gets full score 1.

Table 4.1.3: Stage 2 (Enhanced Web Presence)

Stages	Statements regarding online service delivery	Score	Stage score
			1
1	Web search facility	1	
2	Online services	1	
3	such as policies, laws and regulation, reports, newsletters, and downloadable databases	1	
4	The user can search for a document and there is a help feature and a site map provided	1	
5	Contacts no's, email ID of responsible officials available	1	
6	ICT Infrastructure available for e-governance	1	
7	Are the delivery period, cost of service well specified?	1	
8	Acts/rules/Gazette/Circular/official notices available ?	1	
9	Is the website of municipality updated?	1	

Source: Field Survey 2024

Enhanced web presence is the second stage of UN e-government maturity index. Based on web observation of the municipality, all nine statements are in place of municipality. So, this stage is also getting 1 score. It means that the municipality has the highly satisfying status of web services to the municipal employee, public and all other stakeholders.

Table 4.1.4: Stage 3 Interactive Web

Stages	Statements regarding online service delivery	Score	Stage score
Stage 3 (Interactive Web)			0.78
1	Providing application number against application	1	

2	Online/SMS notification of required documents	1	
3	Online/SMS notification of application submission	1	
4	Facility for citizen feedback/comments on the service	1	
5	Token System, Online Registration, Computer Billing, Services through online or software	1	
6	Public information through Audio and video capability	1	
7	Security features and link	0	
8	Queries and response facility	1	
9	Queue Management System	1	
10	Group SMS	1	
11	Live telecast of local events from social media	1	
12	Municipal Facebook Page for Grievance Handling	1	
13	Public response through email	1	
14	Online Reporting System with public, tole lane organization	0	

Source: Field Survey, 2024

Interactive web is the third stage of UN e-government maturity index. Based on web observation of the municipality, 12 statements are in place of municipality while online Reporting System with public and tole lane organization and security features and link are not applicable in web service of the municipality. So, the stage gets 0.78. It means that the municipality has the satisfying status of web services to the municipal employee, public and all other stakeholders.

Table 4.1.5: Stage 4 (Transactional Web Presence)

(Transactional Web Presence	Statements regarding online service delivery		0.5
1	on-line transactions, taxes and fees through credit, bank, or debit card	0	
2	on-line bidding – e procurement system	1	
3	E- processing of application	1	
4	Inter-connected to other departments and section of municipality	0	
5	users to complete entire tasks electronically at any time.	0	
6	Grievance Handling System	1	

Source: Field Survey, 2024

Transactional Web Presence is the fourth stage of UN e-government maturity index. Based on web observation of the municipality, 3 statements are in place of municipality while three other web-services such as on-line transactions, taxes and fees through credit, bank, or debit card, Inter-connected to other departments and section of municipality, and users to complete entire tasks electronically at any time are not applicable on web service of the municipality. There is equal division of presence and absence of web service under this stage. So, the stage gets 0.50 score. It means that the municipality has the neutral status of web services to the municipal employee, public and all other stakeholders.

Table 4.1.6: Stage 5 (Fully Integrated Web Presence)

Stage	Statements regarding online service delivery	score	Stage Score
Stage 5 (Fully Integrated Web Presence)			0.16
1	Municipal consultation and collective decision on community issues	0	
2	Municipal consultation and collective decision on community issues	0	
3	solicits feedback through on-line polling mechanism; discussion forums; and on-line consultation facilities	0	
4	A calendar of upcoming government events exists with a government invitation to participate	0	
5	Online discussion forums; and on-line consultation facilities	0	
6	Automatic validation of record.	0	
7	Automatic processing of application.	1	

Source: Field Survey, 2024

Fully Integrated Web Presence is the fifth stage of UN e-governance maturity index. Based on web observation of the municipality considering to this stage, 1 web service statement is in place of municipality while six other web-services are not applicable on web service of the municipality. So, the stage gets 0.6 score. It means that the municipality has very low web service in this stage to the municipal employee, public and all other stakeholders. There is need more exercise to carry our in web and e-service in coming days.

4.1.3 Municipal E-participation Analysis using UN / ASPA E-participation Index.

One of UN/ASPA's E-government Readiness Indexes is the E-participation Index. According to the UN E-government Report (2003), it is a qualitative metric that uses proxy indicators to gauge the caliber of the goods and services the company provides on its websites. This e-participation indicator was used by the researcher in this study. Globally, e-participation initiatives span a wide range of interactions between citizens, non-governmental organizations, and commercial enterprises (UN E-government Report, 2003).

This survey is restricted to examining the government's willingness to use ICT to advance certain groups. As a result, it is limited to web interactions between citizens and governments (C2G and G2C). Evaluations of e-participation are exclusively qualitative in character. They are predicated on a questionnaire that asked the researchers to rate an indicator as binary or non-binary depending on whether or not particular electronic facilities or services were offered (UN E-government Report, 2003). Based on this structure, the current researcher has adapted and created a few more questionnaires.

E-participation Analysis

Table 4.1.7: E-participation Analysis

E-participation categories	Statement	E-participation Score
E-information		**1**
	The government websites offer information on policies and program budgets, laws and regulations, and other briefs of key public interest	1
	Tools for dissemination of information is timely access	1
	Use of public information, including web forums, e-mail lists, newsgroups, and chat rooms	1
E-consultation		**0.33**
	website explains e-consultation mechanisms and tools	0
	It offers a choice of public policy topics online for discussion with real time and archived access to audios and videos of public meetings.	0
	The government encourages citizens to participate in discussions	1
E-decision making		**0**
	The government indicates that it will take citizen input into account in decision making	0
	provides actual feedback on the outcome of specific issue	0
	Average Score	**0.44**

Source: Field Survey, 2024

There are three e-participation categories in this index such as E-information, E-consultation, and E-decision making as presented above. The e-information stage is fully filled having 1 score. The second stage e-consultation gets 0.33 score. The websites do not explain e-consultation mechanisms and tools and public policy topics online for discussion with real time and archived access to audios and videos of public meetings. So, both statements get 0 score. It means that this stage is poor and there is much more scope of improvement.

E-decision making is the third stage of the index. Based on this stage, there are two statements as mentioned above. The observation of municipal websites that the first statement, government indicates that it will take citizen input into account in decision making and the second statement the web service provides actual feedback on the outcome of specific issue are not applicable which indicates the e-decision making status of the municipality is very poor. So, the total average score of the municipality in e-participation score is 0.44 which is near to average score.

4.1.4 E-governance tools used by municipal employee.

This section describes different field survey related on E-governance tools used by municipal employee.

Table No. 4.1.4.1: ICT Infrastructure available to support e-governance

ICT Infrastructure	To What Extent?						
	1= Not at all	2= little extent	3= Moderate extent	4= Great Extent	5= Very great Extent	Total Value	Mean
Computer available	-	-	60	20	20	360	3.6
Computer maintained and supported	-	-	60	40	-	340	3.4
Computer backup system	○	20	20	60	○	340	3.4

ICT Infrastructure	To What Extent?						
	1= Not at all	2= little extent	3= Moderate extent	4= Great Extent	5= Very great Extent	Total Value	Mean
server as application server/file server and or printer server	○	○	80	20	○	320	3.2

Source: Field Survey, 2023

All the above discussion and collated facts give the clear glimpse of ICT infrastructure available to support e-governance. Statement about computer available which is significant 60 respondents mentioned moderate extent. 20 respondents Great Extent and 20 respondents mention Very great Extent. Mean value 3.6 indicated that most of the respondents are used computer in their official work. It means respondent responses are positive with this statement. Regarding the statement about computer maintained and supported, 60 respondents mentioned moderate extent and 40 respondents Great Extent. Mean value 3.4 indicated that most of the respondents are satisfy with computer maintained and supported. It means respondent responses are positive with this statement. Statement about computer backup system, 20 respondents mentioned little extent, 20 moderate extents and 60 respondents Great Extent. Mean value 3.4 indicated that most of the respondents satisfy with computer backup system, it means respondent responses are positive with this statement. Regarding the statement about server as application server/file server and or printer server, 60 respondents mentioned moderate extent and 20 respondents Great Extent. Mean value 3.2 indicated that most of the respondents view about server as application server/file server and or printer server. It means respondent responses are positive with this statement.

Table No. 4.1.4.2: Status of Official Websites and Email

Official websites and email	1= Not at all	2= little extent	3= Moderate extent	4= Great Extent	5= Very great Extent	Total Value	Mean

Municipality has official email in "gov.np" domain					100	500	5
Municipality has official websites					100	500	5
Key feature of new websites :	20	20	40	20	○	260	2.6

Source: Field Survey, 2023

The table indicates the status of official websites and email. Out of the 100 respondents, statement about municipality has official email in "gov. np" domain which is significant 100 respondents mentioned Very great Extent. Mean value 5 indicated that all of the respondents mentioned municipality has official email in "gov.np" domain. It means respondent responses are very much positive with this statement.

Regarding the statement about municipality has official websites, 100 respondents mentioned Very great Extent. Mean value 5 indicated that all of the respondents mentioned municipality has official websites. It means respondent responses are very positive with this statement. Statement about key feature of new websites: Content Management System, document archival and instant search, uniform domain names, hosted in Nepal Government Data center, ownership of data, control and access to respective organization themselves, 20 respondents mentioned Not at all, 20 respondents mentioned little extent, 40 moderate extent and 20 respondents Great Extent. Mean value 3.6 indicated that most of the respondents view about key feature of new websites. It means respondent responses are positive with this statement.

Table No. 4.1.4.3 Effectiveness of different software used in municipality.

Various Software	1=Not at all	2=little extent	3=Moderate extent	4=Great Extent	5= Very great Extent	Total Value	Mean
Social Security (Online System of Ministry)	-	-	20	80	○	380	3.8

Various Software	1=Not at all	2=little extent	3=Moderate extent	4=Great Extent	5= Very great Extent	Total Value	Mean
Municipal Accounting	-	-	○	80	20	420	4.2
Vital Registration	-	-	20	60	20	400	4.0
Revenue/Tax Collection	-	-	20	80	-	380	3.8
Planning (Online)	60	40	-	-	-	140	1.4
Ward level Accounting	-	-	40	60	-	360	3.6
E-Procurement System	-	-	20	60	20	400	4.0
Personnel Information	20	20	40	20	-	260	2.6
Assets Management	-	20	60	20	-	300	3.00
NGO Management	60	40	-	-	-	140	1.4
Disaster related	80	20	-	-	-	120	1.2
Social Mobilization	80	20	-	-	-	120	1.2
Mapping/Electric Building Permit System (EBPS)	-	-	20	60	20	400	4.0
Drawing and Structural Analysis		20	20	40	20	360	3.6

Source: Field Survey, 2024

The above table indicates the effectiveness of different software's used in municipality for different purposes. Statement about Social Security (Online System of Ministry), 20 respondents mention moderate extent, 80 respondents mention great extent. Mean value 3.8 indicated that most of the respondents mentioned municipality has Social

Security (Online System of Ministry). It means respondent responses are positive with this statement.

Regarding the statement about Municipal Accounting (SUTRA), 80 respondents mention great extent and 20 respondents mention very great extent. Mean value 4.2 indicated that most of the respondents mentioned municipality has Municipal Accounting (SUTRA). It means respondent responses are positive with this statement. Statement about Vital Registration (Online System of Ministry), 20 respondents Moderate extent, 60 respondents mention great extent and 20 respondents mention very great extent. Mean value 4 indicated that most of the respondents mentioned municipality has Vital Registration (Online System of Ministry). It means respondent responses are positive with this statement.

Statement about Revenue/Tax Collection, 20 respondents Moderate extent, 80 respondents mention great extent and 20 respondents mention very great extent. Mean value 3.8 indicated that most of the respondents mentioned municipality has Revenue/Tax Collection. It means respondent responses are positive with this statement.

Statement about Planning (Online System of Municipality), 60 respondent not at all and 40 respondents mention little extent. Mean value 1.4 indicated that most of the respondent mentioned municipality has Planning (Online System of Municipality). It means respondent responses are negative with this statement. Statement about Ward level Accounting, 40 respondent Moderate extent and 60 respondents mention great extent. Mean value 3.6 indicated that most of the respondents mentioned municipality has Ward level Accounting. It means respondent responses are positive with this statement. Statement about E-Procurement System, 20 respondent Moderate extent, 60 respondents mention great extent and 20 respondents mention Very great Extent. Mean value 4.0 indicated that most of the respondents mentioned municipality has E-Procurement System. It means respondent responses are positive with this statement. Regarding the statement about Personnel/Staffs Information, 20 respondent not at all, 20 little extend, 40 Moderate extent and 20 respondents mention great extent. Mean value 2.6 indicated that few respondents mentioned municipality has Personnel/Staffs Information. It means respondent responses are negative with this statement. Regarding the statement about Assets Management/Store - (PAMS), 20 little extend and 60 Moderate extent. Mean value 3 indicated that respondents mentioned municipality has

Assets Management/Store - (PAMS). It means respondent responses are positive with this statement.

Regarding the statement about NGO Management, 60 Not at all and 40 little extend. Mean value 1.4 indicated that respondents are not mentioned municipality has NGO Management. It means respondent responses are negative with this statement. Regarding the statement about Disaster related, 80 Not at all and 20 little extend. Mean value 1.2 indicated that respondents are not mentioned municipality has Disaster related. It means respondent responses are negative with this statement. Regarding the statement about Social Mobilization, 80 Not at all and 20 little extend. Mean value 1.2 indicated that respondents are not mentioned municipality has Social Mobilization. It means respondent responses are negative with this statement. Statement about Mapping/Electric Building Permit System (EBPS), 20 respondents Moderate extent, 60 respondents mention great extent and 20 respondents mention very great extent. Mean value 4.0 indicated that most of the respondents mentioned municipality has Mapping/Electric Building Permit System (EBPS). It means respondent responses are positive with this statement. Statement about Drawing and Structural Analysis, 20 little extent, 20 respondents' Moderate extent, 40 respondents mention great extent and 20 respondents mention very great extent. Mean value 3.6 indicated that most of the respondents mentioned municipality has Drawing and Structural Analysis. It means respondent responses are positive with this statement.

Table No. 4.1.4.5.: Status of New System Developed

New System Developed	1= Not at all	2= little extent	3= Moderate extent	4= Great Extent	5= Very great Extent	Total Value	Mean
Online Budget Authorization	-	-	40	40	20	380	3.8
Online Reporting System	20	40	20	20	-	240	2.4
Digital Letterhead	40	40	20	-	-	180	1.8
Mobile App	20	40	40	-	-	220	2.2
Office Automation System	60	40	-	-	-	140	1.4

Source: Field Survey, 2024

The table 4 indicates the Status of New System Developed. Statement about Online Budget Authorization, 40 respondents mention moderate extent, 40 respondents mention great extent and 20 respondents mention very great extent. Mean value 3.8 indicated that most of the respondents mentioned municipality has Status of New System Developed. It means respondent responses are positive with this statement. Regarding the statement about Online Reporting System, 20 respondents mention not at all, 40 respondents mention little extent, 20 Moderate extent and 20 Great Extent. Mean value 2.4 indicated that respondents are not mentioned municipality has Online Reporting System. It means respondent responses are negative with this statement. Statement about Digital Letterhead, 40 respondents mention not at all, 40 respondents mention little extent and 20 Moderate extent. Mean value 1.8 indicated that respondents are not mentioned municipality has Digital Letterhead. It means respondent responses are negative with this statement.

Regarding the statement about Mobile App, 20 respondents mention not at all, 40 respondents mention little extent and 40 Moderate extent. Mean value 2.2 indicated that respondents are not mentioned municipality has Mobile App. It means respondent responses are negative with this statement. Regarding the statement about Office Automation System, 80 respondents mention not at all and 40 respondents mention little extent. Mean value 2.2 indicated that respondents are not mentioned municipality has Office Automation System. It means respondent responses are negative with this statement.

Table No. 4.1.4.6.: Networking Status

New System Developed	1= Not at all	2= little extent	3= Moderate extent	4= Great Extent	5= Very great Extent	Total Value	Mean
Official Facebook page for information dissemination	-	-	40	60	--	360	3.6
Municipal Facebook Page for Grievance Handling	60	40	-	-	-	140	1.4
Municipality has official twitter page	100	-	-	-	-	100	1.0
Municipality has official YouTube Account	80	20	-	-	-	120	1.2
Live telecast of local events from social media	60	40	-	-	-	140	1.4

Source: Field Survey, 2024

The table indicates the Social Networking Status. Statement about Official Facebook page for information dissemination, 40 respondents mention moderate extent and 40 respondents mention great extent. Mean value 3.6 indicated that most of the respondents mentioned municipality has Official Facebook page for information dissemination. It means respondent responses are positive with this statement. Statement about Municipal Facebook Page for Grievance Handling, 60 respondents mention Not at all, and 40 respondents mention little extent. Mean value 1.4 indicated that most of the respondents mentioned municipality has not good Official Facebook page for information dissemination. It means respondent responses are negative with this statement. Statement about Municipality has official twitter page, 100 respondents mention Not at all. Mean value 1 indicated that most of the respondents mentioned municipality has not good Municipality has official twitter. It means respondent responses are negative with this statement.

Statement about Live telecast of local events from social media, 60 respondents mention Not at all and 40 mention little extent. Mean value 1.2 indicated that most of

the respondents mentioned municipality has not good Live telecast of local events from social media. It means respondent responses are negative with this statement. Statement about Municipality has official YouTube Account, 80 respondents mention Not at all and 20 mention little extent. Mean value 1.4 indicated that most of the respondents mentioned municipality has not good Municipality has official YouTube Account. It means respondent responses are negative with this statement.

Table No. 4.1.4.7: Organization (Function and Resource Mobilization)

Organization (Function and Resource Mobilization)	1= Not at all	2= little extent	3= Moderate extent	4= Great Extent	5= Very great Extent	Total Value	Mean
Municipality Administration and Revenue System (MARS)	20	20	40	20	-	260	2.6
E- attendance		20	60	20	-	340	3.4
CCTV Surveillance		20	20	40	20	360	3.6
Digitization of paper records	80	20	-	-	-	120	1.2

Source: Field Survey, 2024

The table indicates the Organization (Function and Resource Mobilization). Statement about Municipality Administration and Revenue System (MARS), 20 respondents mention not at all, 20 respondents little extent, 40 mention moderate extent and 20 Great Extent Mean value 2.6 indicated that most of the respondents are not mentioned municipality not good MARS (Office Automation System and Staffs Management System). It means respondent responses are negative with this statement.

Statement about Effective Attendance, 20 respondents little extent, 60 mention moderate extent and 20 Great Extent Mean value 3.4 indicated that most of the respondents are mentioned municipality has good Effective Attendance. It means respondent responses are positive with this statement.

Statement about CCTV Surveillance, 20 respondents little extent, 20 mention moderate extent, 40 Great Extent and 20 mention Very great Extent Mean value 3.6 indicated

that most of the respondents are mentioned municipality has good CCTV Surveillance. It means respondent responses are positive with this statement. Statement about Digitization of paper records, 80 respondents little extent, 20 mention moderate extent. Mean value 1.2 indicated that most of the respondents are mentioned municipality not good Digitization of paper records. It means respondent responses are negative with this statement. Statement about Auto Notice Board, 100 respondents mention not at all. Mean value 1.0 indicated that most of the respondents are mentioned municipality has not Auto Notice Board. It means respondent responses are negative with this statement. Statement about Digital Notice System, 100 respondents mention not at all. Mean value 1.0 indicated that most of the respondents are mentioned municipality has not Digital Notice System. It means respondent responses are negative with this statement.

Table No. 4.1.4.8: Status of Information /Service Delivery

Information /Service Delivery	1= Not at all	2= little extent	3= Moderate extent	4= Great Extent	5= Very great Extent	Total Value	Mean
Queue Management System	20	20	40	20	-	260	2.6
Group SMS	20	20	40	20	-	260	2.6
Digital Display Boards	90	10	-	-	-	100	0.8
Digital Citizen Charter	90	10	-	-	-	100	0.8
Free Wi-Fi Zone	90	10	-	-	-	100	0.8
Auto Notice Board	100	-	-	-	-	100	1.00
Digital Notice System	100	-	-	-	-	100	1.00

Source: Field Survey, 2024

The table 8 indicates the Status of Information /Service Delivery. Statement about Queue Management System, 20 respondents little extent, 60 mention moderate extent

and 20 Great Extent Mean value 3 indicated that most of the respondents are mentioned municipality good Queue Management System. It means respondent responses are positive with this statement.

Statement about Group SMS, 20 respondents mention Not at all, 20 respondents little extent, 40 mention moderate extent and 20 Great Extent Mean value 2.6 indicated that most of the respondents are mentioned there has Group SMS. It means respondent responses are negative with this statement. Statement about Digital Display Boards, 90 respondents not at all, 10 mention little extent Mean value 0.8 indicates respondent responses are negative with this statement. Statement about Digital Citizen Charter, 90 respondents not at all, 10 mention little extent Mean value 0.8 indicates respondent responses are negative with this statement. Statement about Free Wi-Fi Zone, 90 respondents not at all, 10 mention little extent Mean value 0.8 indicates respondent responses are negative with this statement.

Table No. 4.1.4.9: Capacity Building and support in e-governance

Capacity Building and support	1= Not at all	2= little extent	3= Moderate extent	4= Great Extent	5= Very great Extent	Total Value	Mean
Information Communication Technology (ICT) training conducted for municipal staffs	80	20	-	-	-	120	1.2
ICT training conducted for Elected Representatives	100	-	-	-	-	100	1.0
ICT training to municipal stakeholders	100	-	-	-	-	100	1.0
E-governance training provided to municipal staffs by other than municipality	100	-	-	-	-	100	1.0
E-governance related exposure visit to other municipalities	100	-	-	-	-	100	1.0

Source: Field Survey, 2024

The table 9 indicates the Capacity Building and support in e-governance. Statement about Information Communication Technology (ICT) training conducted for municipal staffs by municipality, 80 respondents mention not at all and 20 respondents' little extent. Mean value 1,2 indicated that most of the respondents are mentioned municipality has not Information Communication Technology (ICT) training conducted for municipal staffs by municipality. It means respondent responses are negative with this statement.

Statement about ICT training conducted for Elected Representatives, 100 respondents mention not at all. Mean value 1.0 indicated that most of the respondents are mentioned municipality has not ICT training conducted for Elected Representatives within 1 year. It means respondent responses are negative with this statement.

Statement about E-governance training provided to municipal staffs by other than municipality, 100 respondents mention not at all. Mean value 1.0 indicated that most of the respondents are mentioned municipality has not E-governance training provided to municipal staffs by other than municipality within 1 year. It means respondent responses are negative with this statement.

Statement about E-governance training provided to municipal staffs by other than municipality, 100 respondents mention not at all. Mean value 1.0 indicated that most of the respondents are mentioned municipality has not E-governance training provided to municipal staffs by other than municipality within 1 year. It means respondent responses are negative with this statement. Statement about E-governance related exposure visit to other municipalities, 100 respondents mention not at all. Mean value 1.0 indicated that most of the respondents are mentioned municipality has not E-governance related exposure visit to other municipalities. It means respondent responses are negative with this statement.

Table No. 4.1.4.10: Websites Status

E-government websites quality indicator factors	How do you rate the website quality indicator factors?						
	1= Not at all	2= little extent	3= Mode rate extent	4= Great Extent	5= Very Great Extent	Total Value	Mean
Online services	20	60	20	-	-	200	2.0
Online databases	80	20	-	-	-	120	1.2
Online audio clips	80	20	-	-	-	-120	1.2
Information update rate	-	40	40	20	-	280	2.8
Site attractiveness		40	30	20	-	250	2.5
Security features	40	30	15	15	-	205	2.05
Queries/response facility	20	40	30	10	-	230	2.3
User friendliness (feel easy find information)	40	45	5	10	-	185	1.8
Motivation for citizens to use the websites	20	25	20	20	-	210	2.1
Web search facility	-	-	-	50	50	450	4.5
Downloadable forms	-	-	-	10	90	490	4.9
Digital signature	80	20	-	-	-	120	1.2
Job listing /opening notices	80	20	-	-	-	120	1.2
Job applications provision	100	-	-	-	-	100	1.0
Disability access	100	-	-	-	-	100	1.0
Knowledge Management Blog	100	-	-	-	-	160	1.0
GIS Use	80	20	-	-	-	120	1.2

Source: Field Survey, 2024

The above Table is about Websites Status which is concentrated with E-government websites quality indicator factors. Regarding the Web search facility mean value is 4.5 whereas downloadable forms mean vale is 4.9 which is also significance. Online services, online databases, online audio clips, information update rate, site attractiveness, security features, queries and response facility, user friendliness (feel easy find information), motivation for citizens to use the websites, digital signature, job listing /opening notices, job applications provision, disability access, knowledge management blog and GIS application are under the average value which indicates additional initiative and priority required.

Table No. 4.1.4.11: Policy Priority of Municipality in e-governance

Municipality Priority in e-governance	To What Extent?						
	1=Not at all	2= little	3= Moderate	4= Great	5= Very great	Total Value	Mean
Policy Priority in municipal Annual Plan	60	40	-	-	-	140	1.4
Budget Allocation in e-governance activities (hardware parts)	40	40	20	-	-	180	1.8
Budget Allocation in capacity development (Software parts)	60	40	-	-	-	140	1.4
E-governance reflected in Municipal Periodic Plan	80	20	-	-	-	120	1.2
E-governance reflected in MTEF	40	60	-	-	-	160	1.6
Support of stakeholders and development partners in e-governance and ICT	80	20	-	-	-	120	1.2

Source: Field Survey, 2024

The above table indicates the Priority of Municipality in e-governance. Statement about Policy Priority in municipal Annual Plan, 60 respondents not at all and 40 respondents mention little extent. Mean value 1.4 indicated that most of the respondents are mentioned municipality not good Policy Priority in municipal Annual Plan. It means respondent responses are negative with this statement. Statement about Budget Allocation in e-governance activities (hardware parts), 40 respondents not at all, 40 respondents mention little extent and 20 mention moderate extent. Mean value 1.8 indicated that most of the respondents are mentioned municipality Budget Allocation in e-governance activities (hardware parts). It means respondent responses are negative with this statement. Statement about Budget Allocation in capacity development (Software parts), 60 respondents not at all and 40 respondents mention little extent. Mean value 1.4 indicated that most of the respondents are mentioned municipality Budget Allocation in e-governance activities (hardware parts). It means respondent responses are negative with this statement. Statement about E-governance reflected in Municipal Periodic Plan, 80 respondents not at all and 20 respondents mention little extent. Mean value 1.2 indicated that most of the respondents are mentioned municipality E-governance reflected in Municipal Periodic Plan. It means respondent responses are negative with this statement.

Statement about E-governance reflected in MTEF, 40 respondents not at all and 60 respondents mention little extent. Mean value 1.6 indicated that most of the respondents are mentioned municipality E-governance reflected in MTEF. It means respondent responses are negative with this statement. Statement about Support of stakeholders and development partners in e-governance and ICT, 80 respondents not at all and 20 respondents mention little extent. Mean value 1.2 indicated that most of the respondents are mentioned municipality Support of stakeholders and development partners in e-governance and ICT. It means respondent responses are negative with this statement.

4.2 Perception of municipal employee on application of e-government platform

This sub section explains the field survey on perception of municipal employee on application of e-government platform. There are four statements asked to the respondents on the trust on e-government tools used in municipality.

Table No. 4.2.1: Level to which application of e-government platform enhances service delivery.

Performance support (efficiency and effectiveness)	Level of Extent						
	1= Not at all	2= little	3= Moderate	4= Great	5= Very great	Total Value	Mean Value
Supported in service delivery	-	20	20	40	20	360	3.6
satisfaction with delivery of services	-	20	40	20	20	340	3.4
Supported to save the time	-	20	20	40	20	360	3.6
Enhanced efficient delivery of services	-	20	40	40	-	320	3.2
Supported in cost saving	-	20	40	40	-	320	3.2
Enhanced quality in delivery of services	20	20	40	20	-	260	2.6
Improved communication	-	20	40	20	20	340	3.4

Source: Field Survey, 2024

The Table indicates the Level to which application of E-Governance Enhances Performance of Municipal Employees. Statement about Supported in service delivery, 20 respondents mention little, 20 respondents mention moderate extent, 40 respondents mention great extent and 20 Very great. Mean value 3.6 indicated that most of the respondents mentioned municipality has Supported in service delivery. It means respondent responses are positive with this statement. Statement about Enhanced satisfaction with delivery of services, 20 respondents mention little, 40 respondents mention moderate extent, 20 respondents mention great extent and 20 Very great. Mean value 3.4 indicated that most of the respondents mentioned municipality has Enhanced satisfaction with delivery of services. It means respondent responses are positive with

this statement. Statement about Supported to save the time, 20 respondents mention little, 20 respondents mention moderate extent, 40 respondents mention great extent and 20 Very great. Mean value 3.6 indicated that most of the respondents mentioned municipality has Supported to save the time. It means respondent responses are positive with this statement. Statement about Enhanced efficient delivery of services, 20 respondents mention little, 40 respondents mention moderate extent and 40 respondents mention great extent. Mean value 3.2 indicated that most of the respondents mentioned municipality has Enhanced efficient delivery of services. It means respondent responses are positive with this statement. Statement about Supported in cost saving, 20 respondents mention little, 40 respondents mention moderate extent and 40 respondents mention great extent. Mean value 3.2 indicated that most of the respondents mentioned municipality has Supported in cost saving. It means respondent responses are positive with this statement. Statement about Enhanced quality in delivery of services, 20 respondents mention not at all, 20 respondents mention little, 40 respondents mention moderate extent and 20 respondents mention great extent. Mean value 2.6 indicated that most of the respondents mentioned municipality has not enhanced quality in delivery of services. It means respondent responses are negative with this statement. Statement about Enhanced quality in delivery of services, 20 respondents mention not at all, 20 respondents mention little, 40 respondents mention moderate extent and 20 respondents mention great extent. Mean value 2.6 indicated that most of the respondents mentioned municipality has not enhanced quality in delivery of services. It means respondent responses are negative with this statement. Statement about Improved communication, 20 respondents mention little, 40 respondents mention moderate extent 20 respondents mention great extent and 20 very great. Mean value 3.4 indicated that most of the respondents mentioned municipality has Improved communication. It means respondent responses are positive with this statement.

Table No. 4.2.2: Level to which e-government platform supports for performance

Statement	Level of Extent						
	1= Not at all	2= little	3= Moderate	4= Great	5= Very great	Total Value	Mean
Enhanced performance at municipality		20	40	30	10	330	3.3
Enhanced performance at municipal employee	-	20	40	20	20	340	3.4
Convenient to use the system		20	40	20	20	340	3.4
Information is easily available in websites	20	20	40	20	-	260	2.6
E-governance information is up-to date	20	20	40	20	-	260	2.6

Source: Field Survey, 2024

The table 15 indicates the Level to which e-governance tools Enhances. Statement about Enhanced performance of municipality, 20 respondents mention little, 40 respondents mention moderate, 30 respondents mention great, and 10 respondents mention very great extent. Mean value 3.3 indicated that most of the respondents mentioned municipality has better performance from use of e-governance tools. It means respondent responses are positive with this statement.

Statement about Enhanced performance at municipal employee, 20 respondents mention little, 40 respondents mention moderate, 20 respondents mention great, and 20 respondents mention very great extent. Mean value 3.4 indicated that most of the respondents mentioned municipality has better performance from use of e-governance tools. It means respondent responses are positive with this statement. Statement about convenient to use the system, 20 respondents mention little extent , 40 moderate, 20

respondents mention great extent, 20 respondents mention vegreat extent and 20 Very great. Mean value 2.6 indicated that most of the respondents are not mentioned municipality has convenient to use the system. It means respondent responses are negative attitude with this statement. Statement about municipal information is easily available, 20 respondents mention not at all, 20 respondents little extent, 40 moderate, 20 respondents mention great extent, 20 respondents mention great extent and 20 Very great. Mean value 2.6 indicated that most of the respondents are not mentioned municipality has Municipal information is easily available. It means respondent responses are negative attitude with this statement. Statement about E-governance information is up-to date, 20 respondents mention not at all, 20 respondents little extent, 40 moderate, 20 respondents mention great extent and 20 respondents mention great extent. Mean value 2.6 indicated that most of the respondents are not mentioned municipality has E-governance information is up-to date. It means respondent responses are negative attitude with this statement.

Statement about Motivation to use e-governance, 40 respondents mention not at all, 40 respondents little extent and 20 moderate. Mean value 1.8 indicated that most of the respondents are not mentioned municipality has motivating using e-governance. It means respondent responses are negative attitude with this statement.

Table No. 4.2.3: Level to which E-government platform influences to use e-government tools.

	Level of Extent						
Statement (culture, peer influence)	1= Not at all	2= little	3= Moderate	4= Great	5= Very great	Total Value	Mean
Colleagues expect better service using e-government	-	20	20	40	20	360	3.6
Colleagues expect you can use e-governance efficiently	-	20	40	20	20	340	3.4
Municipal residents believe that E-governance is essential to improving service delivery	-	-	20	20	60	440	4.4
Colleagues influence you to use e-governance services	20	20	20	40	-	280	2.8
You are trained on how to use e-governance tools	40	20	40	-	-	240	2.4

Source: Field Survey, 2024

The above table indicates the level to which social environment affects application of E-Governance of municipal employees. Statement about Your colleagues expect better service using e-government, 20 respondents mention little, 20 respondents mention moderate, 40 great extent and 20 Very great. Mean value 3.6 indicated that most of the respondents mentioned municipality has your colleagues expect better service using e-government. It means respondent responses are positive with this statement. Statement about your colleagues expect you can use e-governance efficiently, 20 respondents mention little, 40 respondents mention moderate, 40 great extent and 20 Very great. Mean value 3.4 indicated that most of the respondents mentioned municipality has Your colleagues expect you can use e-governance efficiently. It means respondent responses are positive with this statement. Statement about E-governance is essential to improving service delivery, 40 respondents mention moderate, 20 great extent and 60 Very great. Mean value 4.4 indicated that most of the respondents mentioned municipality has E-

governance is essential to improving service delivery. It means respondent responses are positive with this statement.

Statement about Colleagues influence you to use e-governance services, 20 respondents mention not at all, 20 respondents mention little, 20 respondents moderate, and 40 great extent. Mean value 2.8 indicated that most of the respondents mentioned municipality has E-governance is essential to improving learning environment on e-government tools. It means respondent responses are negative with this statement. Statement about You are trained on how to use e-governance tools, 40 respondents mention not at all, 20 respondents mention little, and 40 respondents mention moderate which make 2.4 mean value means respondent responses is negative with this statement.

Table No. 4.2.4: Level in which e-government is high priority in institutional system

Facilitating Conditions (IT infrastructure, accountability, and policy priority)	Level of Extent						
	1= Not at all	2= little	3= Moderate	4= Great	5= Very great	Total Value	Mean
Adequate I.T infrastructure for Application of e-governance	20	20	20	40	-	280	2.8
I.T infrastructure enabled faster and quicker delivery of e-government services	-	-	80	20	-	320	3.2
Enough resources use in e-government	-	40	40	20	-	280	2.8
E-governance services accessible on different ICT forums of municipality	40	20	20	20	-	220	2.2

Facilitating Conditions (IT infrastructure, accountability, and policy priority)	Level of Extent						
	1= Not at all	2= little	3= Moderate	4= Great	5= Very great	Total Value	Mean
E-governance enhanced to standardize the services	-	-	20	40	40	420	4.2
Training to staffs on e-governance facilitated application of e-governance	80	20	-	-	-	120	1.2
Municipal policies enhanced adoption of e-governance services	40	40	20	-	-	180	1.8

Source: Field Survey, 2023

The table indicates Level to which Facilitating Conditions effects on Application of E-Governance. Statement about Adequate I.T infrastructure for Application of e-governance, 20 respondents mention not at all, 20 respondents mention little, 20 respondents mention moderate, and 40 great extent. Mean value 2.8 indicated that most of the respondents mentioned municipality has not sufficient IT infrastructure can use e-governance efficiently. It means respondent responses are negative with this statement. Statement about adequate I.T infrastructure for Application of e-governance, 80 respondents Moderate and 20 greate extend and 20 very great extent with total mean value 3.2 indicated that the response is above the average mean value which his positive. The Statement about Enough resources required to access e-governance services, 40 respondents little and 40 great extend with total mean value 2.8 indicated that the response is below the average mean value which his negative. The Statement about E-governance services accessible on different ICT forums of municipality, 40 respondents not at all, 20 respondents little, 20 respondents moderate and 20 great extend with total mean value 2.1 indicated that the response is below the average mean value which his negative. The Statement about E-governance enhanced to standardize the services of municipality, 20 respondents moderate extent, 40 respondents great extent, and 40 respondents not at all extend with total mean value 4.2 indicates that the response is above the average mean value

which his positive. The Statement about Training to staffs on e-governance facilitated application of e-governance of municipality, 80 respondents not at all extent, 20 respondents little extent with total mean value 1.2 indicates that the response is below the average mean value which his negative. The Statement about Municipal policies enhanced adoption of e-governance services, 40 respondents not at all extent, 40 respondents little extent and 20 respondents Moderate with total mean value 1.8 indicates that the response is below the average mean value which his negative.

CHAPTER FIVE
FINDINGS AND DISCUSSION

5.1 Municipal Initiative in E-governance

5.1.1 Status of municipality on Layne and Lee web maturity model

The researcher has applied the Layne and Lee model to explore the maturity status of websites of Butwal Metropolitan City. The model has four maturity stages. Based on this municipal website analysis, municipal has achieved the three maturity stages catalogue, transaction, a vertical integration. There is no achievement of horizontal stage

Catalogue stage: The first stage of model identified as catalogue stage has been achieved having presence of website, Facebook, email, municipal domain.

Transaction stage: The second stage of model is transaction where the citizens can communicate information with the government using the online which has been fulfilled in municipality. Some online facility specially in Electronic-Building Permit System (E-BPS) is in practice and there is government to citizen and citizen to government communication through the web platform. Online application, online payment system, house numbering system, online revenue payment system, e-bidding, online job portal, use of QR code for payment, online grievance handling, auto message system on tax and other information to public, digital location identification system, e-education profile of students and teachers, use of online revenue collection from the wards, public Wi-Fi in municipality and some wards, Employment Management Information System (EMIS), WhatsApp groups are available in municipal web platform.

Vertical integration stage: The third stage of the model is vertical integration stage where municipal has online functional linkage with the federal ministries and its departments specially in budgeting, vital registration, health, education, cooperatives and close online interaction with Ministry of Federal Affair and General Administration (MoFAGA).. Vital registration, SUTRA, LMBIS, Foreign Employment Management System (FIMS), health Agriculture, Livestock and Cooperative online reporting system, LISA and FRA online system with Ministry of Federal Affair and General Administration, National Identity Card, social security system are under vertical stage.

Horizontal Integration: The fourth stage of the model is horizontal integration stage criteria of this stage. Horizontal linkage is electronic linkage with different government, and non-government organization, community organization and non-government organization. The municipality has linkages with these organizations, but here is no interaction and communication through web platform. So, this stage is not matured.

Table: 5.1.1 Status of municipality on Layne and Lee web maturity model

Stages	Web Status	Status
1. Catalogue	Achieved	Matured
2.Transaction	Achieved	Matured
3.Vertical Integration	Achieved	Matured
4.Horizontal Integration	Not Achieved	Not Matured

Source: Field Survey, 2024

5.1.2 Examining e-government maturity status of municipality (based on UN Web Presence Measurement Model)

It is based upon a theoretical Web Presence Measurement Model of UN e-governance, which is a five-stage model, ascending in nature, and building upon the previous level of sophistication of a government's on-line presence. The five stages are Emerging Presence, Enhanced Presence, Interactive Presence, Transactional Presence and Networked Presence are the five measuring stages of this index (UN Global E-government Report, 2003).

Emerging Presence stage: The Emerging Presence stage belong to online presence is available, municipality has official email in "gov.np" domain, municipality has official websites, municipal portal and official homepage, **links to government entities,** server as application server/file server and printer server statements. All web facilities are available in the web platform. So, each statement gets 1 score out of 1. Hence, municipality has already fulfilled this stage.

Enhanced Presence: Enhanced Presence is second stage of the web index. The statements web search facility, online services, policy and laws presence, contact number, ICT Infrastructure available, cost of service well specified, official notice and

documents, website update. Each of the web service is available and each of the statements gets 1 score and total score is also 1, So, this stage is also matured.

Interactive Presence: The third stage is Interactive Presence. The score of each statement is provided as Providing application number against application gets 1 score, Online/SMS notification of required documents gets 1 score, Online/SMS notification of application submission gets 1 score, Facility for citizen feedback/comments on the service gets 1 score, Token System, Online Registration, Computer Billing, Services through online or software gets 1 score, Public information through Audio and video capability gets 1 score, Security features and link gets 1 score, Queries and response facility gets 1 score, Queue Management System gets 1 score, Group SMS 1 score, Live telecast of local events from social media gets 1 score, Public response through email gets 1 score and Online reporting system with public, tole lane organization gets 1 score. Based on web observation of the municipality, 12 statements are in place of municipality while online reporting system with public and tole lane organization and security features and link are not applicable in web service of the municipality. So, the stage gets 0.78. It means that the municipality has the satisfying status of web services to the municipal employee, public and all other stakeholders.

Transactional Web Presence: Transactional Web Presence is the fourth stage of UN e-government maturity index. Based on web observation of the municipality, 3 statements are in place of municipality while three other web-services such as on-line transactions, taxes and fees through credit, bank, or debit card, Inter-connected to other departments and section of municipality, and users to complete entire tasks electronically at any time are not applicable on web service of the municipality. There is equal division of presence and absence of web service under this stage. So, the stage gets 0.50 score. It means that the municipality has the neutral status of web services to the municipal employee, public and all other stakeholders.

Fully Integrated Web Presence: Fully Integrated Web Presence is the fifth stage of UN e-governance maturity index. Based on web observation of the municipality considering to this stage, 1 web service statement is in place of municipality while six other web-services are not applicable on web service of the municipality. So, the stage gets 0.6 score. It means that the municipality has very low web service in this stage to the municipal employee, public and all other stakeholders. There is need more exercise to carry our in web and e-service in coming days.

The researcher has assessed the web platform based on the progress status of above five stages in the web maturity indexes. This research finds average score of the municipality is 0.68 which his higher than the online service index value that is 0.459 according to UN Global E-government Survey Report 2022.

Table 5.1.2: E-government maturity status of municipality (based on UN Web Presence Measurement Model)

Web Presence Stage	Total Statements	Score	Web Presence	Status
Stage I: Emerging Presence	6	1	Achieved	Matured
Stage 2 (Enhanced Web Presence)	9	1	Achieved	Matured
Stage 3 Interactive Web	14	0.78	Achieved	Matured
Stage 4 (Transactional Web Presence)	6	0.5	Not Achieved	No Matured
Stage 5 (Fully Integrated Web Presence)	7	0.16	Not Achieved	No Matured
	Score Value	0.68		

Source: Field Survey, 2024

5.1.3 E-participation Analysis

There are three e-participation in this assessment such as E-information, E-consultation, and E-decision making.

E-information stage: The first E-information stage is fully matured having 1 score.

E-consultation stage: The second stage e-consultation gets 0.33 score and maturity is not achieved. It means that this stage is poor and there is much more scope of improvement.

E-decision making stage : The third stage is E-decision making which gets zero score and maturity is not achieved. It means that e-decision making is very poor in municipality. This research finds that average score of the municipality in e-participation is 0.44 which his higher than the Nepal E-government Development Index that is 0.238 according to UN Global E-government Survey Report 2022. Although, the score seems higher than the country, but e-consultation is and specially e-participation

needs higher attention by municipality and other level of provincial and Nepal government.

Table 5.1.3 : E-participation Analysis

rticipation categories	Statement	E-participation Score	Status
E-information	2	1	Matured
E-consultation	2	0.33	Not Matured
E-decision making		0	Nat Matured
	Average Score	0.44	

Source: Field Survey, 2024

5.1.4 Application of E-governance tools

All the above discussion and collated facts give the clear glimpse of ICT infrastructure available to support e-governance. Statement about computer available which is significant 60 respondents mentioned moderate extent. 20 respondents Great Extent and 20 respondents mention Very great Extent. Mean value 3.6 indicated that most of the respondents are used computer in their official work. It means respondent responses are positive with this statement. Regarding the statement about computer maintained and supported, 60 respondents mentioned moderate extent and 40 respondents Great Extent. Mean value 3.4 indicated that most of the respondents are satisfied with computer maintained and supported. It means respondent responses are positive with this statement. Statement about computer backup system, 20 respondents mentioned little extent, 20 moderate extents and 60 respondents Great Extent. Mean value 3.4 indicated that most of the respondents satisfy with computer backup system, it means respondent responses are positive with this statement. Regarding the statement about server as application server/file server and or printer server, 60 respondents mentioned moderate extent and 20 respondents Great Extent. Mean value 3.2 indicated that most of the respondents view about server as application server/file server and or printer server. It means respondent responses are positive with this statement.

- Out of the 100 respondents, statement about municipality has official email in "gov. np" domain which is significant 100 respondents mentioned Very great Extent. Mean

value 5 indicated that all of the respondents mentioned municipality has official email in "gov.np" domain. It means respondent responses are very much positive with this statement.

- 100 respondents mentioned Very great Extent. Mean value 5 indicated that all of the respondents mentioned municipality has official websites. It means respondent responses are very positive with this statement. Statement about key feature of new websites: Content Management System, document archival and instant search, uniform domain names, hosted in Nepal Government Data center, ownership of data, control and access to respective organization themselves, 20 respondents mentioned Not at all, 20 respondents mentioned little extent, 40 moderate extent and 20 respondents Great Extent. Mean value 3.6 indicated that most of the respondents view about key feature of new websites. It means respondent responses are positive with this statement.
- Statement about Social Security (Online System of Ministry), 20 respondents mention moderate extent, 80 respondents mention great extent. Mean value 3.8 indicated that most of the respondents mentioned municipality has Social Security (Online System of Ministry). It means respondent responses are positive with this statement.
- Regarding the statement about Municipal Accounting (SUTRA), 80 respondents mention great extent and 20 respondents mention very great extent. Mean value 4.2 indicated that most of the respondents mentioned municipality has Municipal Accounting (SUTRA). It means respondent responses are positive with this statement. Statement about Vital Registration (Online System of Ministry), 20 respondents Moderate extent, 60 respondents mention great extent and 20 respondents mention very great extent. Mean value 4 indicated that most of the respondents mentioned municipality has Vital Registration (Online System of Ministry). It means respondent responses are positive with this statement.
- Statement about Revenue/Tax Collection, 20 respondents Moderate extent, 80 respondents mention great extent and 20 respondents mention very great extent. Mean value 3.8 indicated that most of the respondents mentioned municipality has Revenue/Tax Collection. It means respondent responses are positive with this statement.
- Statement about Planning (Online System of Municipality), 60 respondent Moderate extent and 40 respondents mention great extent. Mean value 3.4 indicated that most of the respondents mentioned municipality has Planning (Online System of Municipality). It means respondent responses are positive with this statement. Statement about Ward

level Accounting, 40 respondent Moderate extent and 60 respondents mention great extent. Mean value 3.6 indicated that most of the respondents mentioned municipality has Ward level Accounting. It means respondent responses are positive with this statement. Statement about E-Procurement System, 20 respondent Moderate extent, 60 respondents mention great extent and 20 respondents mention Very great Extent. Mean value 4.0 indicated that most of the respondents mentioned municipality has E-Procurement System. It means respondent responses are positive with this statement. Regarding the statement about Personnel/Staffs Information, 20 respondent not at all, 20 little extend, 40 Moderate extent and 20 respondents mention great extent. Mean value 2.6 indicated that few respondents mentioned municipality has Personnel/Staffs Information. It means respondent responses are negative with this statement. Regarding the statement about Assets Management/Store - (PAMS), 20 little extend and 60 Moderate extent. Mean value 3 indicated that respondents mentioned municipality has Assets Management/Store - (PAMS). It means respondent responses are positive with this statement. Regarding the statement about Office Automation, 80Not at all and 20 little extend. Mean value 1.2 indicated that respondents are not mentioned municipality has Office Automation. It means respondent responses are negative with this statement.

- Regarding the statement about NGO Management, 60 Not at all and 40 little extend. Mean value 1.4 indicated that respondents are not mentioned municipality has NGO Management. It means respondent responses are negative with this statement. Regarding the statement about Disaster related, 80 Not at all and 20 little extend. Mean value 1.2 indicated that respondents are not mentioned municipality has Disaster related. It means respondent responses are negative with this statement.
- Regarding the statement about Social Mobilization, 80 Not at all and 20 little extend. Mean value 1.2 indicated that respondents are not mentioned municipality has Social Mobilization. It means respondent responses are negative with this statement. Statement about Mapping/Electric Building Permit System (EBPS), 20 respondents Moderate extent, 60 respondents mention great extent and 20 respondents mention very great extent. Mean value 4.0 indicated that most of the respondents mentioned municipality has Mapping/Electric Building Permit System (EBPS). It means respondent responses are positive with this statement. Statement about Drawing and Structural Analysis, 20 little extent, 20 respondents' Moderate extent, 40 respondents mention great extent and 20 respondents mention very great extent. Mean value 3.6

indicated that most of the respondents mentioned municipality has Drawing and Structural Analysis. It means respondent responses are positive with this statement.

- Regarding the statement about Mobile App, 20 respondents mention not at all, 40 respondents mention little extent and 40 Moderate extent. Mean value 2.2 indicated that respondents are not mentioned municipality has Mobile App. It means respondent responses are negative with this statement. Regarding the statement about Office Automation System, 80 respondents mention not at all and 40 respondents mention little extent. Mean value 2.2 indicated that respondents are not mentioned municipality has Office Automation System. It means respondent responses are negative with this statement.
- Statement about Official Facebook page for information dissemination, 40 respondents mention moderate extent and 40 respondents mention great extent. Mean value 3.6 indicated that most of the respondents mentioned municipality has Official Facebook page for information dissemination. It means respondent responses are positive with this statement. Statement about Municipal Facebook Page for Grievance Handling, 60 respondents mention Not at all and 40 respondents mention little extent. Mean value 1.4 indicated that most of the respondents mentioned municipality has not good Official Facebook page for information dissemination. It means respondent responses are negative with this statement. Statement about Municipality has official twitter page, 100 respondents mention Not at all. Mean value 1 indicated that most of the respondents mentioned municipality has not good Municipality has official twitter. It means respondent responses are negative with this statement.
- Statement about Live telecast of local events from social media, 60 respondents mention Not at all and 40 mention little extent. Mean value 1.2 indicated that most of the respondents mentioned municipality has not good Live telecast of local events from social media. It means respondent responses are negative with this statement. Statement about Municipality has official YouTube Account, 80 respondents mention Not at all and 20 mention little extent. Mean value 1.4 indicated that most of the respondents mentioned municipality has not good Municipality has official YouTube Account. It means respondent responses are negative with this statement.
- Statement about Digital Display Boards, 40 respondents mention little extent and 60 mention moderate extent. Mean value 2.6 indicated that most of the respondents are mentioned there has Digital Display Boards. It means respondent responses are negative with this statement.

- Statement about Digital Citizen Charter, 20 respondents mention Not at all, 40 respondents little extent and 60 mention moderate extent. Mean value 2.8 indicated that most of the respondents are mentioned there has Digital Display Boards. It means respondent responses are negative with this statement.
- Statement about Free Wi-Fi Zone, 60 respondents little extent, 20 mention moderate extent and 20 Great Extent Mean value 2.6 indicated that most of the respondents are mentioned there has Free Wi-Fi Zone. It means respondent responses are negative with this statement.
- Statement about E-governance training provided to municipal staffs by other than municipality within 1 year, 100 respondents mention not at all. Mean value 1.0 indicated that most of the respondents are mentioned municipality has not E-governance training provided to municipal staffs by other than municipality within 1 year. It means respondent responses are negative with this statement. Statement about E-governance training provided to municipal staffs by other than municipality within 1 year, 100 respondents mention not at all. Mean value 1.0 indicated that most of the respondents are mentioned municipality has not E-governance training provided to municipal staffs by other than municipality within 1 year. It means respondent responses are negative with this statement. Statement about E-governance related exposure visit to other municipalities, 100 respondents mention not at all. Mean value 1.0 indicated that most of the respondents are mentioned municipality has not E-governance related exposure visit to other municipalities. It means respondent responses are negative with this statement.
- Statement about Auto Notice Board, 100 respondents mention not at all. Mean value 1.0 indicated that most of the respondents are mentioned municipality has not Auto Notice Board. It means respondent responses are negative with this statement. Statement about Digital Notice System, 100 respondents mention not at all. Mean value 1.0 indicated that most of the respondents are mentioned municipality has not Digital Notice System. It means respondent responses are negative with this statement. Statement about Digital Display, 40 respondents mention not at all, 40 respondents mention little extent and 20 respondents mention Moderate extent. Mean value 1.8 indicated that most of the respondents are mentioned municipality has not Digital Display. It means respondent responses are negative with this statement.
- Regarding the Web search facility mean value is 4.5 which is significance whereas Downloadable forms mean vale is 4.9 which is also significance. Online services,

Online databases, Online audio clips, Information update rate, Site attractiveness, Security features, Queries and response facility, User friendliness (feel easy find information), Motivation for citizens to use the websites, Digital signature, Job listing /opening notices, Job applications provision, Disability access, Knowledge Management Blog and GIS Use is not significance because mean value is less than 3.0.

- Statement about Policy Priority in municipal Annual Plan, 60 respondents not at all and 40 respondents mention little extent. Mean value 1.4 indicated that most of the respondents are mentioned municipality not good Policy Priority in municipal Annual Plan. It means respondent responses are negative with this statement. Statement about Budget Allocation in e-governance activities (hardware parts), 40 respondents not at all, 40 respondents mention little extent and 20 mention moderate extent. Mean value 1.8 indicated that most of the respondents are mentioned municipality Budget Allocation in e-governance activities (hardware parts). It means respondent responses are negative with this statement. Statement about Budget Allocation in capacity development (Software parts), 60 respondents not at all and 40 respondents mention little extent. Mean value 1.4 indicated that most of the respondents are mentioned municipality Budget Allocation in e-governance activities (hardware parts). It means respondent responses are negative with this statement. Statement about E-governance reflected in Municipal Periodic Plan, 80 respondents not at all and 20 respondents mention little extent. Mean value 1.2 indicated that most of the respondents are mentioned municipality E-governance reflected in Municipal Periodic Plan. It means respondent responses are negative with this statement.
- Statement about E-governance reflected in MTEF, 40 respondents not at all and 60 respondents mention little extent. Mean value 1.6 indicated that most of the respondents are mentioned municipality E-governance reflected in MTEF. It means respondent responses are negative with this statement. Statement about Support of stakeholders and development partners in e-governance and ICT, 80 respondents not at all and 20 respondents mention little extent. Mean value 1.2 indicated that most of the respondents are mentioned municipality Support of stakeholders and development partners in e-governance and ICT. It means respondent responses are negative with this statement.
- Statement about Enhanced quality in delivery of services, 20 respondents mention not at all, 20 respondents mention little, 40 respondents mention moderate extent and 20 respondents mention great extent. Mean value 2.6 indicated that most of the

respondents mentioned municipality has not enhanced quality in delivery of services. It means respondent responses are negative with this statement.

- Statement about Improved communication, 20 respondents mention little, 40 respondents mention moderate extent 20 respondents mention great extent and 20 very great. Mean value 3.4 indicated that most of the respondents mentioned municipality has Improved communication. It means respondent responses are positive with this statement. Statement about Reduced corruption in accessing services, 20 respondents mention not at all, 60 respondents mention little, 20 respondents mention moderate extent. Mean value 2 indicated that most of the respondents mentioned municipality has not Reduced corruption in accessing services. It means respondent responses are negative with this statement. Statement about Enhanced performance at municipality, 20 respondents mention not at all, 60 respondents mention little, 20 respondents mention moderate extent. Mean value 2 indicated that most of the respondents mentioned municipality has not Enhanced performance at municipality. It means respondent responses are negative with this statement.
- Statement about municipal information is easily available, 20 respondents mention not at all, 20 respondents little extent, 40 moderate, 20 respondents mention great extent, 20 respondents mention great extent and 20 Very great. Mean value 2.6 indicated that most of the respondents are not mentioned municipality has Municipal information is easily available. It means respondent responses are negative attitude with this statement.
- Statement about E-governance information is up-to date, 20 respondents mention not at all, 20 respondents little extent, 40 moderate, 20 respondents mention great extent and 20 respondents mention great extent. Mean value 2.6 indicated that most of the respondents are not mentioned municipality has E-governance information is up-to date. It means respondent responses are negative attitude with this statement.
- Statement about motivating using e-governance, 40 respondents mention not at all, 40 respondents little extent and 20 moderate. Mean value 1.8 indicated that most of the respondents are not mentioned municipality has motivation on use of e-governance. It means respondent responses are negative attitude with this statement.
- Statement about your colleagues expect you can use e-governance efficiently, 20 respondents mention little, 40 respondents mention moderate, 40 great extent and 20 Very great. Mean value 3.4 indicated that most of the respondents mentioned municipality has Your colleagues expect you can use e-governance efficiently. It means respondent responses are positive with this statement.

- Statement about E-governance is essential to improving service delivery, 40 respondents mention moderate, 20 great extent and 60 Very great. Mean value 4.4 indicated that most of the respondents mentioned municipality has E-governance is essential to improving service delivery. It means respondent responses are positive with this statement.

5.2 Perception of municipal employee on use of e-government tools

- The respondents were asked about their trust on the statement about E-government platform enhances for service delivery, The mean value of different statements are as the e-platform supports in service delivery (3.6), enhanced satisfaction with delivery of services(3.4), supported to save the time(3.6), enhanced efficient delivery of services(3.2), supported in cost saving(3.2), enhanced quality in delivery of services(3.6), and improved communication(3.4). The mean value of all given statements is higher than average mean value. It indicates that municipal employee has positive perception in e-government platform and service delivery is better through the e-government platform.
- The respondents were asked about their trust on the statement about e-government platform supports for municipal performance, The mean value of different statements is as enhanced performance at municipality (3.3), enhanced performance at municipal employee (3.4), convenient to use the system(3.4), information is easily available in websites(2.6), and e-governance information is up-to date(2.6). The mean values of statements are higher than average mean value except information is easily available in websites and e-governance information is up-to date. It indicates that municipality requires to give high priority to maintain websites quality, timely update the information and upload much information of different services.
- Different e-platform, online system and available electronic service in organization influences the employee to use such e-government tools. The employees are influenced by other colleagues and social environment also. The respondents were asked about their trust on the statement about E-government platform influences to use e-government tools. The mean value of different statements is as colleagues expect better service using e-government (3.6), colleagues expect you can use e-governance efficiently (3.4), municipal residents believe that e-governance is essential to improving service delivery (4.3), colleagues influence you to use e-governance services (2.8), and you are trained on how to use e-governance tools (2.4). The obtained mean value

indicates that municipality has poor learning environment to each other, and capacity development activities are also poor.

- The respondents were asked about their trust on e-government is high priority in institutional system. The mean value of different statements is as adequate I.T infrastructure for application of e-governance (2.8), I.T infrastructure enabled faster and quicker delivery of e-government services (3.2), enough resources use in e-government (2.8), e-governance services accessible on different ICT forums of municipality (2.2), and e-governance enhanced to standardize the services (4.2). The mean value on adequate I.T infrastructure for application of e-governance, mean value on enough resources uses in e-government, and e-governance services accessible on different ICT forums of municipality is below the average which indicates that municipality should give high policy and investment priority in these areas.

CHAPTER SIX

SUMMARY, CONCLUSION AND IMPLICATION

6.1 Summary

According to (UN e-government survey, 2008). Electronic government refers to the use of internet technology as a platform means for the exchange of information, services, provision and as well as transacting amongst public business and other forms of government. The government of Nepal defined key priorities regarding the development of ICT in the 2015 National Information and Communication Technology (ICT) Policy.

Application Status of E-Governance in Nepal (A Case study of Butwal Sub-metropolitan city is a representative vision of the reality. Main thrust of the present study is to explore the situation of E-governance in Butwal Sub Metropolitan City, to find out the e-government initiative, to assess the application status of e-governance City and to explore the perception of municipal employees on application of e-government platform.

Qualitive research methodology was used to describe the application status of e-governance at Butwal Sub-metropolitan City. In this study both primary is used to fulfill the objectives. The primary data are collected from field survey using the structured questionnaire and interview schedules. Similarly, primary data and information have been obtained from website of municipality. Both qualitative and quantitative aspects characterized the data. The majority of the literature review's sources were acquired from websites, namely those of the United Nations, national planning commission, municipalities, central bureau of statistics, and several Nepali government departments.

In order to gather primary data using structured questionnaires, the researcher conducted direct interviews while present at the respective offices. Butwal Sub-metropolitan City served as the main data sources' offices. Qualitative data of the nominal and ordinal types are used as the measurement scale. Information is gathered in both qualitative and quantitative forms. Municipalities where implemented e-government service so total population of study is Rupandehi district as population of the study. Out of it, application status of e-governance of Butwal Sub-metropolitan city is taken as a sample of the study based on convenience sampling method. 100 samples

were for purpose of the present study based on convenience sampling. The age range of the responders ranged from 20 to 50, with the majority being in their 40s. Male respondents made up 85% of the sample, while female respondents made up 15%. The primary instruments for gathering data were the questionnaire, interview and municipal website/online observation. All the chosen respondents work in municipal offices and are employed by municipalities at the moment. The questionnaire for the first objective is based on Layne and Lee Web Maturity Model, E-governance Maturity Model and E-governance Readiness Index reviewed from UN Global E-government report, 2003. The questionnaire for the perception of municipal employee on application of e-government tools is developed based on the concept of Venkatesh et al., 2003 and Web Presence Measurement Model of United Nations. The researcher also developed some questions based on e-government policy, laws, and Local Government Operation act 2017 of Nepal. The researcher has given more time on review of literature and questionnaire development. Researcher has taken important suggestion and guidance from the thesis supervisor.

The researcher wants to know the progress of e-governance and how far the municipal official are using the e-governance tools for the service delivery and what is their perception on e-governance that they are using. Different local government guidelines and laws address to adopt e-government serves and capacity development of municipal officials in e-government. The researcher wants to know the real use of such e-government tools and perception of municipal employee on service delivery and other ITC initiatives carried out by the municipality. Even though there have been some earlier attempts to carry out research in e-government, they have been constrained both theoretically and practically, making the research success rate low. Despite the National planning Commission 's of Nepal stated high priority for ICT, this did not appear to be reflected at the local government level reported by different government publications.

The summary of the research is provided as following.

6.1.1 Status of municipality on Layne and Lee web maturity model

The researcher has applied the Layne and Lee Web Maturity Model to explore the maturity status of websites of Butwal Metropolitan City. The model has four maturity stages. Based on this municipal website analysis, municipal has achieved the two maturity stages catalogue, transaction. vertical integration is partially fulfilled.

The first stage of model identified as catalogue stage has been achieved having presence of website, Facebook, email, municipal domain. The second stage of model is transaction where the citizens can communicate information with the government using the online which has been fulfilled in municipality. Some online facility specially in Electronic-Building Permit System (E-BPS) is in practice and there is government to citizen and citizen to government communication through the web platform. Online application, online payment system, house numbering system, online revenue payment system, e-bidding, online job portal, use of QR code for payment, online grievance handling, auto message system on tax and other information to public, digital location identification system, e-education profile of students and teachers, use of online revenue collection from the wards, public Wi-Fi in municipality and some wards, Employment Management Information System (EMIS), WhatsApp groups are available in municipal web platform.

The third stage of the model is vertical integration stage where municipal has online functional linkage with the federal ministries and its departments specially in budgeting, vital registration, health, education, cooperatives and close online interaction with Ministry of Federal Affair and General Administration (MoFAGA).. Vital registration, SUTRA, LMBIS, Foreign Employment Management System (FIMS), health Agriculture, Livestock and Cooperative online reporting system, LISA and FRA online system with Ministry of Federal Affair and General Administration, National Identity Card, social security system are under vertical stage. So, The fourth stage of the model is horizontal integration stage criteria of this stage.

Horizontal Integration: Horizontal linkage is electronic linkage with different government, and non-government organization, community organization and non-government organization. The municipality has linkages with these organizations, but here is no interaction and communication through web platform. So, this stage is not matured.

6.1.2 Examining e-government maturity status of municipality (based on UN Web Presence Measurement Model)

It is predicated on the theoretical Web Presence Measurement Model of UN e-governance, a five-stage model that builds on the prior degree of complexity of a government's online presence and is ascending in nature. The five stages of this index's

measurement are Emerging Presence, Enhanced Presence, Interactive Presence, Transactional Presence, and Networked Presence (UN Global E-government Report, 2003).

The Emerging Presence stage belong to online presence is available, municipality has official email in "gov.np" domain, municipality has official websites, municipal portal and official homepage, Links to government entities, server as application server/file server and printer server statements. All web facilities are available in the web platform. So, each statement gets 1 score out of 1. Hence, municipality has already fulfilled this stage.

Similarly, Enhanced Presence is second stage of the web index. The statements web search facility, online services, policy, and laws presence, contact number, ICT Infrastructure available, cost of service well specified, official notice and documents, website update. Each of the web service is available and each of the statements gets 1 score and total score is also 1, So, this stage is also matured.

The third stage is Interactive Presence. The score of each statement is provided as Providing application number against application gets 1 score, Online/SMS notification of required documents gets 1 score, Online/SMS notification of application submission gets 1 score, Facility for citizen feedback/comments on the service gets 1 score, Token System, Online Registration, Computer Billing, Services through online or software gets 1 score, Public information through Audio and video capability gets 1 score, Security features and link gets 1 score, Queries and response facility gets 1 score, Queue Management System gets 1 score, Group SMS 1 score, Live telecast of local events from social media gets 1 score, Public response through email gets 1 score and Online reporting system with public, tole lane organization gets 1 score. Based on web observation of the municipality, 12 statements are in place of municipality while online reporting system with public and tole lane organization and security features and link are not applicable in web service of the municipality. So, the stage gets 0.78. It means that the municipality has the satisfying status of web services to the municipal employee, public and all other stakeholders.

Transactional Web Presence is the fourth stage of UN e-government maturity index. Based on web observation of the municipality, 3 statements are in place of municipality while three other web-services such as on-line transactions, taxes and fees through

credit, bank, or debit card, Inter-connected to other departments and section of municipality, and users to complete entire tasks electronically at any time are not applicable on web service of the municipality. There is equal division of presence and absence of web service under this stage. So, the stage gets 0.50 score. It means that the municipality has the neutral status of web services to the municipal employee, public and all other stakeholders.

Fully Integrated Web Presence is the fifth stage of UN e-governance maturity index. Based on web observation of the municipality considering to this stage, 1 web service statement is in place of municipality while six other web-services are not applicable on web service of the municipality. So, the stage gets 0.6 score. It means that the municipality has very low web service in this stage to the municipal employee, public and all other stakeholders. There is need more exercise to carry our in web and e-service in coming days.

6.1.3 E-participation Analysis

Municipal e-participation status is measured by application United Nations E-participation Index based on United Nations e-participation framework. There are three e-participation in this assessment such as -information, E-consultation, and E-decision making. The first E-information stage is fully matured having 1 score. The second stage e-consultation gets 0.33 score and maturity is not achieved. It means that this stage is poor and there is much more scope of improvement. The third stage e-decision making which gets zero score and maturity is not achieved. It means that e-decision making is very poor in municipality. This research finds that average score of the municipality in e-participation is 0.44 which his higher than the Nepal E-government Development Index that is 0.238 according to UN Global E-government Survey Report 2022. Although, the score seems higher than the country, but e-consultation is and specially e-participation needs higher attention by municipality and other level of provincial and Nepal government.

6.1.4.E-government tools used by municipal employee

ICT Infrastructure: ICT infrastructure availability is found above average level as responded by municipal employee. All seven ICT infrastructures such as computer available (3.6), computer maintained and supported (3.4), computer backup system (3.4) and server as application mean value (3.2) is above average mean value. Although,

the municipality achieved maturity in three stages, there is still room for improvement and investment in IT infrastructure.

Status of New System Developed: The mean value of different statement varies as online budget authorization (3.8), online reporting system (2.4), digital letterhead (1.8), Mobile App(2.2) and office automation System(1.4). The mean value of online reporting system, digital system, application of mobile apps system linking to web platform are below than average mean value. It indicates to give priority in these e-services in coming days by municipality.

Social Networking Status: The mean value of social networking availability is found below average level as responded by municipal employee except on statement of official Facebook page for information dissemination (3.6). The social networking tools as municipal Facebook page for grievance handling (1.4), official twitter page (1), official YouTube Account (1.2)and live telecast of local events from social media(1.4) are below the average value indicates that the status of these services is very poor. So, municipality needs to focus to those e-services.

Organization management and Resource Mobilization) : The mean value of most of organization management related statements as e-service availability are found above average level as responded by municipal. The mean value of different statements which is provided as Municipality Administration and Revenue System (MARS) (2.6), e-attendance (3.4), CCTV surveillance (3.6), and digitization of paper records (1.2). The municipality should focus on e-services which is below the average mean value as Municipality Administration and Revenue System (MARS) and digitization of paper records in coming days.

Modernization ICT: All the statements related to modernization of ICT fall below the average mean value as queue management (2.6), group SMS (2.6), digital display Boards (0.8), digital citizen charter (0.8), and Free Wi-Fi Zone (0.8), Auto Notice Board (1), digital notice system (1), digital display (1.8). So, municipality should give priority in digital record and digital service to the citizen and all other SMS systems, free WI-FI zone in public areas and digital communication system.

Capacity building and support in e-governance: All statement on capacity building on e-government is below the average mean value that indicates that there is poor capacity development initiative both for elected and non-elected municipal officials.

The mean value of the statements varies as information Communication Technology (ICT) training conducted for municipal staffs (1.2), ICT training conducted for Elected Representatives within 1 year (1), ICT training to municipal stakeholders within 1 year (1), E-governance training provided to municipal staffs by other than municipality within 1 year (1), and E-governance related exposure visit to other municipalities (1). The mean value of each statements indicates higher investment and policy priority is required in capacity development.

Websites Status: The mean value of web search facility is 4.5 whereas downloadable forms mean vale is 4.9 which are above the average mean value. Online services, online databases, online audio clips, information update rate, site attractiveness, security features, queries and response facility, user friendliness (feel easy find information), motivation for citizens to use the websites, digital signature, job listing /opening notices, job applications provision, disability access, knowledge management blog and GIS application are under the average value which indicates additional initiative and priority required in these web-services.

Addressing e-governance in different policy and planning: Municipality should address the e-governance in municipal policy, planning and ICT guideline. The average mean value varies in different e-governance statements under the policy planning priority of municipality in e-governance as policy priority in municipal annual plan (1.4), budget allocation in e-governance activities (hardware parts) (1.8), budget allocation in capacity development (Software parts)(1.4), e-governance reflected in municipal periodic plan(1.2), e-governance reflected in Mid Term Expenditure Framework (MTEF)(1.6), and support of stakeholders and development partners in e-governance and ICT(1.2). The research identified that the average mean value of all statements related to municipal policy and planning are below the average mean value which indicates the poor priority of municipality through the planning system. There is poor alignment between policy planning and e-government.

6.2 Perception of municipal employee on use of e-government tools

6.2.1 Level to which e-government platform enhances for service delivery.

The respondents were asked about their trust on the statement about E-government platform enhances for service delivery, The mean value of different statements are as

the e-platform supports in service delivery (3.6), enhanced satisfaction with delivery of services(3.4), supported to save the time(3.6), enhanced efficient delivery of services(3.2), supported in cost saving(3.2), enhanced quality in delivery of services(3.6), and improved communication(3.4). The mean value of all given statements is higher than average mean value. It indicates that municipal employee has positive perception in e-government platform and service delivery is better through the e-government platform.

6.2.2 Level to which e-government platform supports for municipal performance.

The respondents were asked about their trust on the statement about e-government platform supports for municipal performance, The mean value of different statements is as enhanced performance at municipality (3.3), enhanced performance at municipal employee (3.4), convenient to use the system (3.4), information is easily available in websites(2.6), and e-governance information is up-to date(2.6). The mean values of statements are higher than average mean value except information is easily available in websites and e-governance information is up-to date. It indicates that municipality requires to give high priority to maintain websites quality, timely update the information and upload much information of different services.

6.2.3 E-government platform influences to use e-government tools

Different e-platform, online system and available electronic service in organization influences the employee to use such e-government tools. The employees are influenced by other colleagues and social environment also. The respondents were asked about their trust on the statement about E-government platform influences to use e-government tools. The mean value of different statements is as colleagues expect better service using e-government (3.6), colleagues expect you can use e-governance efficiently (3.4), municipal residents believe that e-governance is essential to improving service delivery (4.3), colleagues influence you to use e-governance services (2.8), and you are trained on how to use e-governance tools (2.4). The obtained mean value indicates that municipality has poor learning environment to each other, and capacity development activities are also poor.

6.1.5 Level to which e-government is high priority in institutional system

The respondents were asked about their trust on e-government is high priority in institutional system. The mean value of different statements is as adequate I.T infrastructure for application of e-governance (2.8), I.T infrastructure enabled faster and quicker delivery of e-government services (3.2), enough resources use in e-government (2.8), e-governance services accessible on different ICT forums of municipality (2.2), and e-governance enhanced to standardize the services (4.2). The mean value on adequate I.T infrastructure for application of e-governance, mean value on enough resources uses in e-government, and e-governance services accessible on different ICT forums of municipality is below the average which indicates that municipality should give high policy and investment priority in these areas.

In conclusion, e-government projects in Nepalese municipalities are limited to a very small number of entities and are only at a very medium stage. The government has recently launched a few projects, like the e-government master plan. The majority of respondents think that Nepalese municipalities benefit from the implementation of an e-government system. The Study explores that application status of e-governance in Nepal is one of the burning topic which should be develop in every municipality. Government should pay top attention for the development of the e-governance.

6.2 Conclusion

The researcher has applied the Layne and Lee Web Maturity Model to explore the maturity status of websites of Butwal Metropolitan City. The model has four maturity stages. Based on this municipal website analysis, municipal has achieved the three maturity stages catalogue, transaction and vertical integration. The result demands that municipality needs to establish horizontal linkage through the municipal web and e-government platform with different government, and non-government organization, tole lane organizations, community organization and non-government organization.

The researcher has assessed the web platform based on the progress status of above five stages in the web maturity indexes. This research finds average score of the municipality is 0.68 which his higher than the online service index value that is 0.45 according to UN Global E-government Survey Report 2022. Although, the municipality achieved maturity in three stages, there is still room for improvement and investment in IT infrastructure.

This research finds that average score of the municipality in e-participation is 0.44 which his higher than the Nepal E-government Development Index that is 0.238 according to UN Global E-government Survey Report 2022. Although, the score seems higher than the country, but e-consultation is and specially e-participation needs higher attention by municipality and other level of provincial and Nepal government.

Online reporting system, digital system, digital paper record, digital signature application of mobile apps system linking to web platform are below than average mean value. It indicates to give priority in these e-services and facilities. Social networking tools as municipal Facebook page, official twitter page, YouTube Account and live telecast of local events from social media are below average mean . It indicates to give priority in these e-services and facilities. Similarly, Queue management, group SMS system, digital display Boards and citizen charter and other digital application and service is below average mean value. It indicates to give priority in these e-services and facilities. Capacity Building and support in e-governance is below mean value. It indicates to give priority for capacity development of municipal employees. Websites services online audio clips, information update rate, security features, queries and response facility, job listing /opening notices, job applications provision, disability access. It indicates to give priority in these e-services and facilities. Web platform practice of Electronic Building Permit System (E-BPS) practice of municipality is found good practice in e-government platform. It is a web-based application which has five stages: online registration, tracking permit status, management of building Permit application, compliance checking, archiving building permit data, GIS/addressing support.

Municipal employees have trust on application of e-government tools in e-governance. But the municipality should give high priority for of websites, timely update the information, capacity development, technical support, managing high speed of internet, online service and response system to people, online payment system etc.

The research is carried out based on conceptual framework of Web Presence Measurement Model of United Nations. The research goes in conclusion that municipal e-government status is in progress and achieved maturity status in most of the maturity stage. There is still room to improvement in e-government specially establishing horizontal linkage, e-interaction, e-decision making and online consultation and online interaction with citizen. To sum up, there is need to give policy priority for e-

government services, budgeting in ICT, and capacity development activities to the municipal employee seems very important. The research contributes knowledge to all local governments of Nepal in their policy and planning to maintain e-governance.

6.3 Implications

Based on research findings and analysis, the research has following implication.

- The researcher has applied the Layne and Lee Web Maturity Model to explore the maturity status of websites of Butwal Metropolitan City. The model has four maturity stages. Based on this municipal website analysis, municipal has achieved the two maturity stages catalogue, transaction. vertical integration is partially fulfilled. Municipality needs establish horizontal linkage through the municipal web and e-government platform with different government, and non-government organization, tole lane organizations, community organization and non-government organization.
- The researcher has assessed the web platform based on the progress status of five stages in the web maturity indexes. This research finds average score of the municipality is 0.68 which his higher than the online service index value that is 0.459 according to UN Global E-government Survey Report 2022. Although, the municipality achieved maturity in three stages, there is still room for improvement and investment in IT infrastructure.
- This research finds that average score of the municipality in e-participation measured from UN e-participation index is 0.44 which his higher than the Nepal E-government Development Index that is 0.238 according to UN Global E-government Survey Report 2022. Although, the score seems higher than the country, but e-consultation is and specially e-participation needs higher attention by municipality and other level of provincial and Nepal government.
- Online reporting system, digital system, application of mobile apps system linking to web platform are below than average mean value. It indicates to give priority in these e-services in coming days by municipality.
- Web platform services and tools such as municipal Facebook page for grievance handling official twitter page, official YouTube Account, live telecast of local events from social media, Municipality Administration and Revenue System (MARS) and digitization of paper records, SMS systems, free WI-FI zone in

public areas are below the average value indicates that the status of these services is very poor. So, municipality needs to focus to those e-services.

- Web platform services such as online services, online databases, online audio clips, information update rate, site attractiveness, security features, queries and response facility, user friendliness (feel easy find information), motivation for citizens to use the websites, digital signature, job listing /opening notices, job applications provision, disability access, knowledge management blog and GIS application are under the average value which indicates additional initiative and priority required in these web-services.
- Capacity Building activities are very low which indicates higher investment and policy priority is required in capacity development.
- The research identified that the average mean value of all statements related to municipal policy and planning are below the average mean value which indicates the poor priority of municipality through the planning system. There is poor alignment between policy planning and e-government.
- The perception of municipal employees on the statement of e-government platform enhances for service delivery has got positive result. It indicates that municipal employee has positive perception in e-government platform and service delivery is better through the e-government platform.
- The perception of municipal employees on the statement of level to which e-government platform supports for municipal performance has got negative result. It indicates that municipality requires to give high priority to maintain websites quality, timely update the information and upload much information of different services.
- The perception of municipal employees on the statement of level to which E-government platform influences to use e-government tools has balanced response. Municipal has social environment pt learn the e-government platform. But municipality should carry our capacity development activities and peer to peer learning environment in e-governance and ICT.
- The perception of municipal employees on the statement of level to which e-government is high priority in institutional system has negative result. So, municipality should give priority to e-government services on policy, periodic plan, Mid Term Expenditure Framework, Annual Plan, sectoral plans, acts,

guidelines. Most importantly, municipality needs to make E-government strategy policy and plan based on national and provincial e-government policy and framework.

The research is carried out based on conceptual framework of Web Presence Measurement Model developed by United Nations. The research goes in conclusion that municipal e-government status is in progress and achieved maturity status in most of the maturity stage while there is still room to improvement in e-government specially establishing horizontal linkage, e-interaction, e-decision making and online consultation and online interaction with citizen. The study provides new insights on applicability of Web Presence Measurement Model of United Nations in municipalities of Nepal context. This is a small area of research because it covered only a municipality of Nepal. Therefore, it may not be possible to generalize the findings to larger populations. This study needs be replicated to determine if the results would be the same in another future research with a larger population in more municipalities. The research has further implication of study on adoption of E-government platform by elected representatives, vertical and horizontal government and no-n government agencies and private sectors.

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Questionnaire

Initiative in Butawal Sub Metropolitan City of E-governance

(a) Personal Information

Please check the appropriate one (○) or multiple options (□)

1. Where do you use internet?

   □ Home

   □ Office

   □ Cyber

   □ Other places

   □ Not applicable

2. What for do you use Computer?

   □ Internet

   □ Email

   □ Word

   □ Excel

   □ PowerPoint

   □ Games

   □ Scanning photos

   □ Others

3. IT Skills

   a) Basic

   b) Intermediate

   c) Professional

   d) None

4. Do you know about any government services which are provided through internet?

   a) Yes

   b) No

   c) No Idea

5. Do you have mobile with you?

   a. Yes

   b. No

(B) ICT Infrastructure situation

ICT Infrastructure	1= Not at all	2= little	3= Moderate	4= Great	5= Very great
Quality of the service delivery has been raised after implementation of EG	○	○	○	○	○
Computer maintained and supported :	○	○	○	○	○
Municipality procured and implemented backup system	○	○	○	○	○
Municipality procured and implemented server as application server/file server and or printer server	○	○	○	○	○

(B) Situation of Capacity Building and support

Capacity Building and support	1= Not at all	2= little	3= Moderate	4= Great	5= Very great
ICT training conducted for municipal staffs	○	○	○	○	○
ICT training conducted for disadvantaged groups	○	○	○	○	○
ICT training conducted for local schools and clubs	○	○	○	○	○
ICT training conducted for other government agencies, health, agriculture, livestock	○	○	○	○	○

(B) Situation of **Additional system setups**

Additional system setups	Strongly Disagree	Disagree	I don't know	agree	Strongly agree
Group SMS	○	○	○	○	○
Auto Notice Board	○	○	○	○	○
CCTV Camara	○	○	○	○	○
Queue Management System	○	○	○	○	○
Digital Notice System					
Bio Metric Attendence					
Digital Display					

(B) Situation of Various Software

Various Software	1= Not at all	2= little	3= Moderate	4= Great	5= Very great
Social Security	○	○	○	○	○
Municipal Accounting	○	○	○	○	○
Vital Registration	○	○	○	○	○
Revenue/Tax Collection	○	○	○	○	○

Social Mobilizatiuon					
Ward level Accounting					
E-Procurement System					
Personnel/Staffs Information					
Assets Management/Store					
Accrual Accounting					
Planning					
Office Automation					
NGO Management					
Disaster related					

Implementation Status of E-governance at Butwal Sub-Metropolitan City

(B) Situation of Official websites and email

Official websites and email	1= Not at all	2= little	3= Moderate	4= Great	5= Very great
Municipality has official emailin "gov np" domail	○	○	○	○	○
Municipality has official websites	○	○	○	○	○
Key feature of new websites : Content Mnagement System, document archival and instant search, uniform domain names, hosted in Nepal Government Data center, ownership of data, control and access to respective organization themselves	○	○	○	○	○

(B) Nepalese Officer's Perception in E-governance

Outcome and performance gains	Strongly Disagree	Disagree	I don't know	agree	Strongly agree
Quality of the service delivery has been raised after implementation of EG	○	○	○	○	○
Time have been saved due to EG services	○	○	○	○	○
Less manpower can do the same work after EG is implemented	○	○	○	○	○
Cost have been saved by the EG services	○	○	○	○	○
Citizen satisfaction have been raised	○	○	○	○	○

EG services have exceed the citizen expectations	○	○	○	○	○
EG services meet the public expectations	○	○	○	○	○
EG has met the public expectations	○	○	○	○	○
EG brings flexibility in works	○	○	○	○	○
EG has standardize the services	○	○	○	○	○
Stakeholders regularly surveyed to find the satisfaction level	○	○	○	○	○

(B) Situation of New System Developed

New System Developed	Strongly Disagree	Disagree	I don't know	agree	Strongly agree
Online Budget Authorization	○	○	○	○	○
Online Reporting System	○	○	○	○	○
Digital Letterhead	○	○	○	○	○
Mobile App					
Office Automation System					

(B) Situation of Social Networking

New System Developed	1= Not at all	2= little	3= Moderate	4= Great	5= Very great
Official facebook page	○	○	○	○	○
Municipality uses Facebook Page for Grievance Handling	○	○	○	○	○
Municipality has official twitter page	○	○	○	○	○
Municipality has official Youtube Account					

(B) Situation of Information Service Request from Public

Information Service Request from Public	1= Not at all	2= little	3= Moderate	4= Great	5= Very great
Websites	○	○	○	○	○
Digital front office	○	○	○	○	○
Citizen Interaction System	○	○	○	○	○
Grievance Handeling System					

(B) Situation of Organisation (Function and Resource Mobilization)

Organisation (Function and Resource Mobilization)	1= Not at all	2= little	3= Moderate	4= Great	5= Very great
MARS (Office Automation System and Staffs Management System)	○	○	○	○	○
Effective Attendence	○	○	○	○	○
CCTV Surveillance	○	○	○	○	○
Digitization of paper records					

(B) Situation of Information /Service Delivery

Information /Service Delivery	1= Not at all	2= little	3= Moderate	4= Great	5= Very great
Queue Management System	○	○	○	○	○
Group SMS	○	○	○	○	○
Digital Display Boards	○	○	○	○	○
Digital Citizen Charter					
Free WiFi Zone					

nalysis and Evaluation: E-commerce, E- business, People friendly, efficient services.

(C) Website Evaluation

URL name:

Organization Name:

Evaluation of government websites delivering EG services					
e-government website quality indicator factors	How do you rate the website quality indicator factors?				
	0	1	2	3	4
Online services	1= Not at all	2= little	3= Moderate	4= Great	5= Very great
Online databases	○	○	○	○	○
Online audio clips	○	○	○	○	○
Online videos	○	○	○	○	○
Information update rate	Rare	No Plans/Records	Monthly	Weekly	daily
Site attractiveness	Poor	Satisfactory	Average	Good	Very good
Security features	○	○	○	○	○
FAQ facility	○	○	○	○	○
Queries and response facility	○	○	○	○	○
User friendliness (feel easy find information)	○	○	○	○	○
Motivation for citizens to use the websites (e.g. Less money for those who come through internet)	○	○	○	○	○

Open Ended Questionnaire

How do you understand about e- governance?

…….

…….

…….

…….

Do you think it is being properly?

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…….

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…….

What are the problems in e- governance?

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What is the improvement in e- governance?

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…….

Do you think e- governance maturity improvement ?

…….

…….

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…….

Do you think e- governance is People friendly?

…….

…….

…….

How can e- governance make efficient services?

……...

…….

…….

…….

Annexes 1

Stages	Statements regarding online service delivery	Score	Stage score
Stage I: Emerging Presence			1
	Online presence is available.	1	
	Municipality has official email in "gov.np" domain	1	
	Municipality has official websites	1	
	Municipal portal and official homepage	1	
	Links to government entities	1	
	server as application server/file server and or printer server	1	
Stage 2 (Enhanced Web Presence)			1
	Web search facility	1	
	Online services	1	
	such as policies, laws and regulation, reports, newsletters, and downloadable databases	1	
	The user can search for a document and there is a help feature and a site map provided	1	
	Contacts no's, email ID of responsible officials available	1	
	ICT Infrastructure available for e-governance	1	
	Are the delivery period, cost of service well specified?	1	
	Are all Acts/rules/Gazette/Circular related to this office available there?	1	

Stages	Statements regarding online service delivery	Score	Stage score
	Is the website of municipality updated?	1	
Stage 3(Interactive Web			**0.78**
	Providing application number against application	1	
	Online/SMS notification of required documents for	1	
	Online/SMS notification of application submission.	1	
	Facility for citizen feedback/comments on the service	1	
	Token System, Online Registration, Computer Billing, Services through online or software	1	
	Public information through Audio and video capability	1	
	Security features and link	0	
	Queries and response facility	1	
	Queue Management System	1	
	Group SMS	1	
	Live telecast of local events from social media	1	
	Municipal Facebook Page for Grievance Handling	1	
	Public response through email	1	
	Online Reporting System with public, tole lane organization	0	
Stage 4 (Transactional Web Presence)		0.5	

Stages	Statements regarding online service delivery	Score	Stage score
	on-line transactions, taxes and fees through credit, bank, or debit card	0	
	on-line bidding – e procurement system	1	
	E- processing of application	1	
	Inter-connected to other departments and section of municipality	0	
	users to complete entire tasks electronically at any time.	0	
	Grievance Handling System	1	
Stage 5 (Fully Integrated Web Presence)			0.16
	Municipal consultation and collective decision on community issues	0	
	solicits feedback through on-line polling mechanism; discussion forums; and on-line consultation facilities	0	
	A calendar of upcoming government events exists with a government invitation to participate	0	
	Online discussion forums; and on-line consultation facilities	0	
	Automatic validation of record.	0	
	Automatic processing of application.	1	

Appendix 2

Municipal adopting e-governance based on legal provision = tabulated from LISA Result, Butwal Sub Metropolitan City

Laws		**Adoption of E-governance services (2078/079)**	**Full Marks**	**Score Achieved by Municipality**
Governance System				
LISA Guideline 2077, 1.1.1	LGOA 2017, Article 19	Municipal Council letters and decisions are kept in municipal websites	100%	100%
LISA Guideline 2077, 1.1.3	LGOA 2017, Article 102, Sub Article 3, Nepal Constitution Article 27	Municipal and Executive Decisions and laws are kept in websites	100%	100%
LISA Guideline 2077, 1.2.2	LGOA 2017, Article 17	Executive committee meeting invitation are attendance are sent through email and SMS	100%	100%
Organization and Administration				

Laws		**Adoption of E-governance services (2078/079)**	**Full Marks**	**Score Achieved by Municipality**
LISA Guideline 2077, 2.1.2	LGOA 2017, Article 32 (3)	Regularly sent the reports (income, expentidure and progress reports) to Federal and Provincial government through email and timely oploaded in official websites	100% (1)	100% (1)
LISA Guideline 2077, 2.2.1	LGOA 2017, Article 83	Municipal Organisation Structure is kept in official websites, Electronic Attendence	100% (1)	100% (1)
Fiscal and Economic Management				
LISA Guideline 2077, 4.3.1	LGOA 2017, Article 79	Use of SUTRA	100% (1)	100% (1)
Service Delivery				

Laws		**Adoption of E-governance services (2078/079)**	**Full Marks**	**Score Achieved by Municipality**
LISA Guideline 2077, 5.2.1	LGOA 2017, Article 11, Sub Article 2 (Na 1)	Token System,, Online Registration, Computer Billing, Services through online or software	100% (1)	100% (1)
LISA Guideline 2077, 5.2.2	LSOA 2017, Article 11, Sub Article 2 (Na 1)	Service Operation Procedure (SOP) in websites	100% (1)	100% (1)
LISA Guideline 2077, 5.2.3	LGOA 2017, Article 11, Sub Article 2 (Ga 7)	E-payment	100% (1)	100% (1)
LISA Guideline 2077, 5.3.6	LGOA 2017, Article 11, Sub Article 2 (Ja)	Education MIS System	100% (1)	100% (1)
LISA Guideline 2077, 5.3.7	LGOA 2017, Article 11, Sub Article 2 (Jha	Health MIS	100% (1)	100% (1)
Total			100% (1)	100% (1)

Source: Butwal Sub Metropolitan city, 2079

Annexes 3 Website maturity status using the Layne and Lee model

Stages	**Initiatives**
Catalogue	
Transaction	
Vertical Integration	
Horizontal Integration	

Source: Field Survey, 2024

Annexes 4 : E-participation Analysis

E-participation categories	Statement	E-participation Score
E-information		**1**
	The government websites offer information on policies and program budgets, laws and regulations, and other briefs of key public interest	1
	Tools for dissemination of information is timely access	1
	Use of public information, including web forums, e-mail lists, newsgroups, and chat rooms	1
E-consultation		**0.33**
	website explains e-consultation mechanisms and tools	0
	It offers a choice of public policy topics online for discussion with real time and archived access to audios and videos of public meetings.	0

E-participation categories	Statement	E-participation Score
E-information		**1**
	The government websites offer information on policies and program budgets, laws and regulations, and other briefs of key public interest	1
	Tools for dissemination of information is timely access	1
	Use of public information, including web forums, e-mail lists, newsgroups, and chat rooms	1
	The government encourages citizens to participate in discussions	1
E-decision making		**0**
	The government indicates that it will take citizen input into account in decision making	0
	provides actual feedback on the outcome of specific issue	0
	Average Score	**0.44**

Source: Butawal Sub Metropolitan City, 2024