



# e-Governance in Nepal: Prospects and Challenges in Implementation

---

**Deepak Bahadur Dhami**  
*Corvinus University of Budapest*  
*Hungary*

# Contents

---

- ❖ Introduction
- ❖ Scope of e-Governance
- ❖ Objective of the Thesis work
- ❖ Literature Review
- ❖ Research Methodology and Data Analysis
- ❖ Finding of the Research work
- ❖ Research Achievements and Recommendation
- ❖ Conclusion and Further works

# Introduction

---

- ❖ **Information Age:** ICT technology is the major driver
- ❖ **“e-Governance”** refers to the use of ICT and e-commerce to provide access to government information, communicating within the government organization, delivery of public services to their citizens and business partners.
  - ❖ Strategic Objectives:
    - ❖ Service to the Public
    - ❖ Efficient Government
- ❖ **ICT** plays the key role to Create, Access, Circulate, Process, Analyze and Uses the Information. It helps to transform traditional government by making it accessible, transparent, effective and accountable.

# Introduction Continue..

---

- ❖ Government more accountable by making its operations more transparent that will reduce corruption.
- ❖ ICT based online service is the most democratic and unbiased system. It offers equal opportunity to all races, genders and ethnic groups.
- ❖ E-Government breaks the barrier of geographical diversity and makes the government services handy to all citizens at villages who are even not connected by roads and opens up many opportunities, provided Internet connectivity is available either through wireless communication, fiber optic cables, dial-ups, VSATs or whatever other medium.

# Introduction Continue..

---

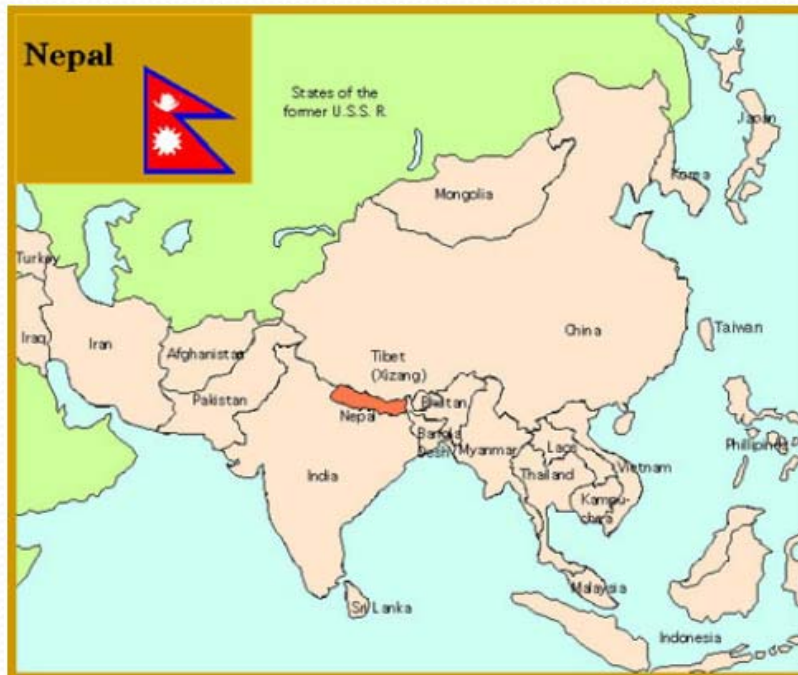
- ❖ e-Governance Master Plan (e-GMP) by HLCIT-2006  
*“Improve the quality of people’s life without any discrimination, transcending regional and racial differences, and realize socio-economic development by building a transparent government and providing value added quality services through ICT”*
- ❖ ICT and e-Governance in Nepal: Hope for overcome **Poverty and improve economic development**
- ❖ Major Problem: **Implementation**

# Introduction Continue..

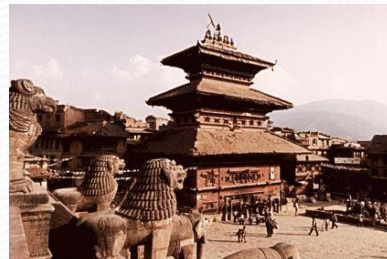
---

- ❖ Nepal is a landlocked and underdeveloped country
- ❖ with about 29.3 million people.
- ❖ It lies between India and China.
- ❖ Nepal is characterized by Diverse and difficult terrain including highest mountain “Mount Everest”
- ❖ Poor Literacy Rate and Technological Culture
- ❖ Poor access of Government services by the People of remote and rural area of Nepal

# Where is Nepal?



- ❖ Capital: Kathmandu
- ❖ Language : Nepali
- ❖ Government: Republic ( May 28, 2008)
- ❖ Population: 29.3 million (approx)
- ❖ Area: 1,47,181 square km
- ❖ Literacy Rate: 57% (approx)
- ❖ GDP Per capita: \$470 (2009)



# Scope of e-Governance

---

- ❖ Citizens are benefited from the information
- ❖ Improve Transparency, Accountability and reduce Corruption
- ❖ Rural poverty alleviation and improved service delivery to the community.
- ❖ Enhanced productivity and Economic development
- ❖ More effective rule-of-law with a stronger legal system and law enforcement



# Objective of the Study

---

- ❖ To know the current status of e-governance in Nepal.
- ❖ Finding the social, economical and political aspect of e-Governance implementation rather than technological.
- ❖ To find out the factors that influence e-Governance implementation.
- ❖ List out the Challenges on its implementation.
- ❖ Readiness of government to its implementation.
- ❖ Comparative study of the government office with/without implementation.
- ❖ To find out whether the available resource is utilized or not.

# Literature Review

---

## Definitions:

E-government is the use of information and communications technologies (ICT) to transform the traditional government by making it accessible, transparent, effective and accountable.

➤ World Bank, 2007

“E-Government” refers to the use by government agencies of information technologies (such as Wide Area Networks, the Internet, and mobile computing) that have the ability to transform relations with citizens, businesses, and other arms of government. These technologies can serve a variety of different ends: better delivery of government services to citizens, improved interactions with business and industry, citizen empowerment through access to information, or more efficient government management. The resulting benefits can be less corruption, increased transparency, greater convenience, revenue growth, and/or cost reductions.

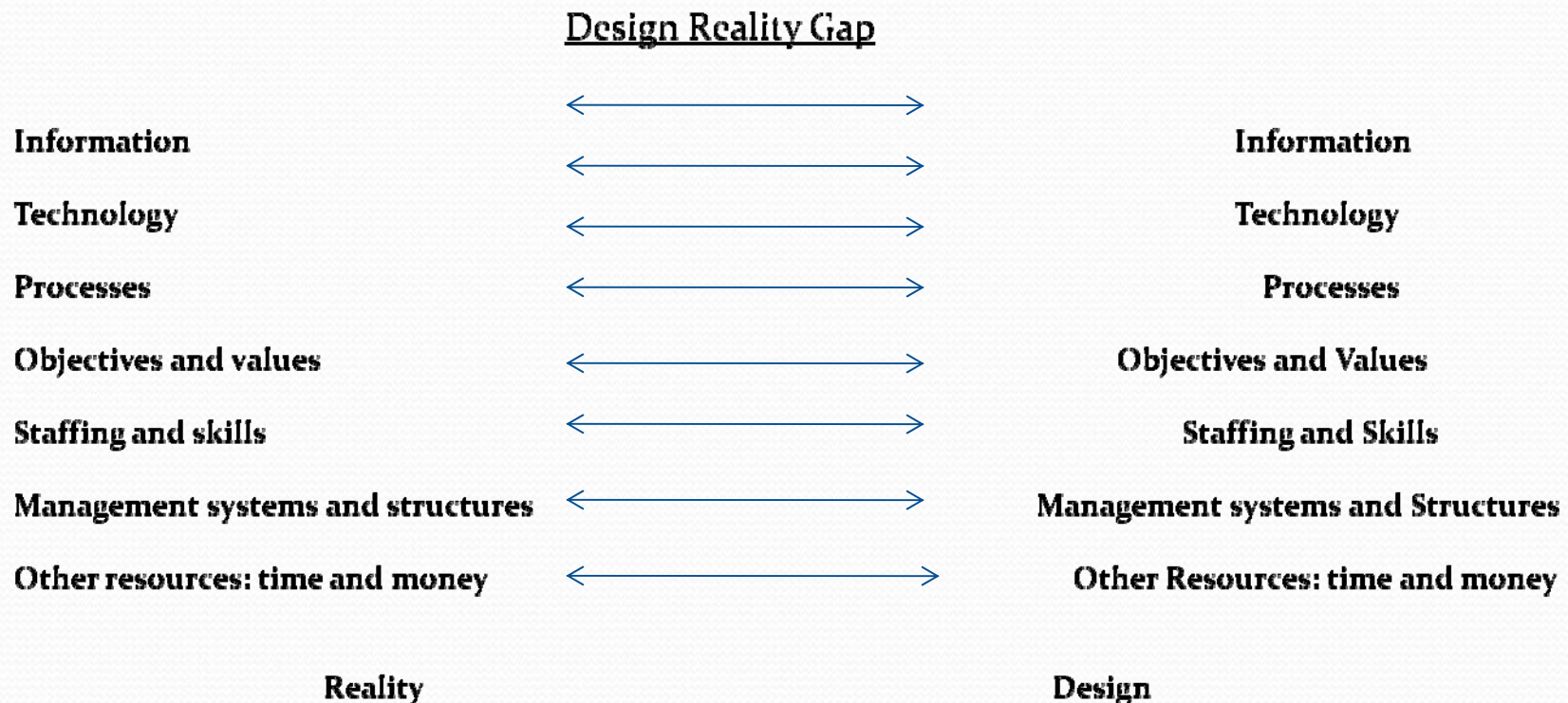
# Literature Review continue...

---

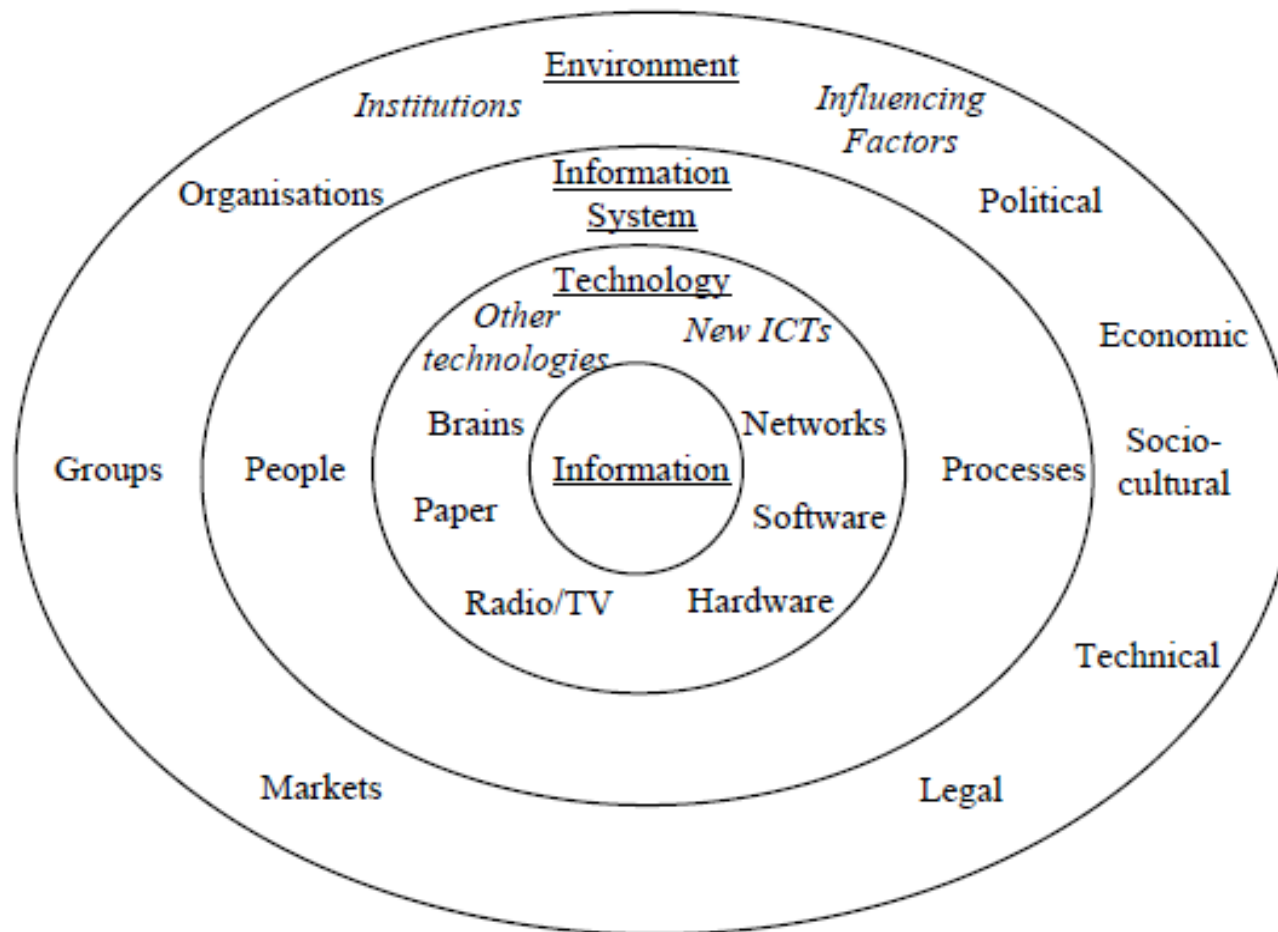
- An e-government is a complex socio-technical system in which heterogeneous stakeholders are interactively entangled to fulfill their best interests. Rich and diverse researches have examined and analyzed multiple issues in implementing the e-government among developed countries (Nour et al., 2007).
- Sharing and delivering services to citizens and businesses for the purpose of reducing corruption, strengthening accountability, reducing time and cost, and increasing transparency. Bhatnagar (2002)

# Literature Review continue...

- the majority of e-government-for-development projects fail either totally or partially. most implementation of e-Governance implementation in developing and least developed countries fail, with 35% being classified as total failures and 50% as partial failures. Heeks (2003)



# Literature Review continue...



The Onion Ring Model  
Source: Heeks(2005)

# Literature Review continue...

---

- **Categories of e-Governance**

Category	Abbreviation
Government to Citizen	G2C
Government to Government	G2G
Government to Business	G2B
Government to Employee	G2E

- Table : e-Governance Categories

# Literature Review continue...

---

- **Why e-Governance for Development?**
- Three basic change potentials for good governance for development:
  - *Automation*
  - *Informatisation*
  - *Transformation*
- five main benefits to governance for development:
  - *Efficiency gains:*
    - *Governance that is cheaper*
    - *Governance that does more*
    - *Governance that is quicker*
  - *Effectiveness gains:*
    - *Governance that works better:*
    - *Governance that is innovative*

# Literature Review continue...

---

## ICT and e-Government in Hungary

- In 2005, GSM penetration was 86%.
- UN e-readiness index of Hungary is 0.6494 (30) in 2008 and 0.6315 in 2010 (27).
- **Computer Infrastructure**
  - Central administration: 0.93 computer/employee ( practically complete)
  - Local administration: 0.89 computer/employee
- **Network Infrastructure**
  - Central: 500 institutes on government backbone, LAN: 98%, Internet access : 97%
  - Local : Internet access: 88%, LAN: 36%
- **Home Pages**
  - Central : > 90%
  - Local : < 40%



# Literature Review continue...

---

## Development of e-Governance in Hungary

❖ **Initial Phase:** Early 1990's, Modernization of office equipment and exchanging typewriters for PCs

❖ **Development Phase:**

In 2000, new institution, the Office of the Government Commissioner for Information and Communication Technology (*Informatikai Kormánybiztosság – IKB*), was established in the Prime Minister's Office.

Within IKB a separate organizational unit, the Division of Electronic Government, was established to co-ordinate the development of government information systems

By that time, several ministries and institutions had developed their own networks connecting their own areas of responsibility.

e-government development was financed by the PHARE1 programme, because of the substantial transit trade that had to be controlled according to EU standards.

# Literature Review continue...

---

## Development of e-Governance in Hungary

### ❖ Implementation Phase:

In mid 2003, Electronic Government Centre (*Elektronikus kormányzat-központ – EKK*) was established. Since then EKK has been responsible for the co-ordination of e-government development at the central level.

In November 2004, a new version of the Governmental Portal, *www.magyarország.hu*, was launched, and the **Electronic Government Backbone** (*Elektronikus Kormányzati Gerinchálózat – EKG*),

Since April 2005, a transactional gateway, the **Client Gate** (*Ügyfélkapu*), has allowed users to securely identify themselves on line and gain access to transactional e-government services.

In July 2005, the *Act on the Freedom of Information by Electronic Means* was adopted; its goal is the establishment of the legal environment required to create a transparent digital state.

# Literature Review continue...

## New e-Governance Services under implementation in Hungary:

Institution	E-services under implementation
Hungarian National Public Health and Medical Officer Service (ÁNTSZ)	Epidemic reports – 24.000 /year will be sent electronically. Laboratory test results (30.000 / year) will be sent electronically.
Employment and Social Affairs Office (FSZH),	Declaration of staff number cutbacks over 12 employees at the same time.
Central Office for Administrative and Electronic Public Services (KEKKH)	Electronic handling of applications for new ID cards. Electronic registration in ownership changing of cars. Applications for “ethical certificate” necessary for certain jobs. Electronic “ethical certificate”
Central Statistical Office	Electronic declaration of statistical data (mandatory for businesses)
Ministry of Foreign Affairs	Electronic data transfer from the Hungarian Embassies to the Ministry, when new Passport should be issued for Hungarian citizens living abroad.
Hungarian Office for Mining and Geology (MBFH)	Electronic handling of mining permissions

# Literature Review continue...

## **New e-Governance Services under implementation in Hungary:**

<b>Institution</b>	<b>E-services under implementation</b>
Hungarian Patent Office (MSZH)	Electronic forms for patent related queries
Ministry of Economy and Transport (NFGM)	Electronic handling of building permits Electronic data collection
National Consumer Protection Office (NFH)	Electronic handling of complaints
National Health Insurance Company (OEP)	Electronic handling of applications for public care attendance
Educational Authority (OH)	Electronic handling of all cases in the competency of the Authority.
Central Administration of National Pension Insurance (ONYF)	Electronic access to personal pension data

# Research Methodology and Data Analysis

---

- Research Categories:

1. **Quantitative Analysis:** systematic empirical investigation of quantitative properties and phenomena and their relationships. E.g. Survey
2. **Qualitative Analysis:** aim to gather an in-depth understanding of human behavior and the reasons that govern such behavior. The qualitative method investigates the *why* and *how* of decision making, not just *what*, *where*, *when*. E.g. Interviews, review of records and observations

# Research Methodology and Data Analysis

---

- **Data Collection Techniques:**

- **1. Primary Data Collection:**

- ❖ **Data Sources:**

1. Ministry of Finance 2. Ministry of Land and reform 3. Ministry of Science and technology 4. Ministry of General administration

- ❖ **Questionnaire:**

4-sets of questionnaire for survey: Type 1,2,3 and 4

- ❖ **Sample Size:**

Ministry Staff: 50

Citizens : 100

# Research Methodology and Data Analysis

---

- **Data Collection Techniques:**

- **1. Secondary Data Collection:**

- ❖ **Data Sources:**

1. Annual Reports of government agencies and NGOs
2. Websites
3. Articles
4. National and International papers
5. Reviewing experts views and interviews

# Research Methodology and Data Analysis

---

- **Qualitative Data Analysis:**
  - **Analysis of Structured Questionnaire interview and research papers of**
    - ❖ **Vice Chairman, HLCIT**
    - ❖ **E-Governance Expert**
    - ❖ **Coordinator of e-Governance implementation**
    - ❖ **Computer Engineer, HLCIT**
    - ❖ **Former Member Secretary, HLCIT**
  - **Number of Structured Questions: 12**



# Research Methodology and Data Analysis

## ❖ Analysis of Ministries Employee Survey:

Questions	Option a	Option b	Option c	Option d
IT training courses	Professional training (61%)	Hardware and networking courses (30%)	How to use pc (9%)	
IT infrastructure capabilities	Networked computers (90%)	Stand alone computers (10%)		
Operating system and application software in use	Windows xp (60%)	Linux (25%)	Ubuntu (5%)	Others (10%)

# Research Methodology and Data Analysis

## ❖ Budget Allocation in ICT for different Ministries :

✓ HRD Budget: Very Low

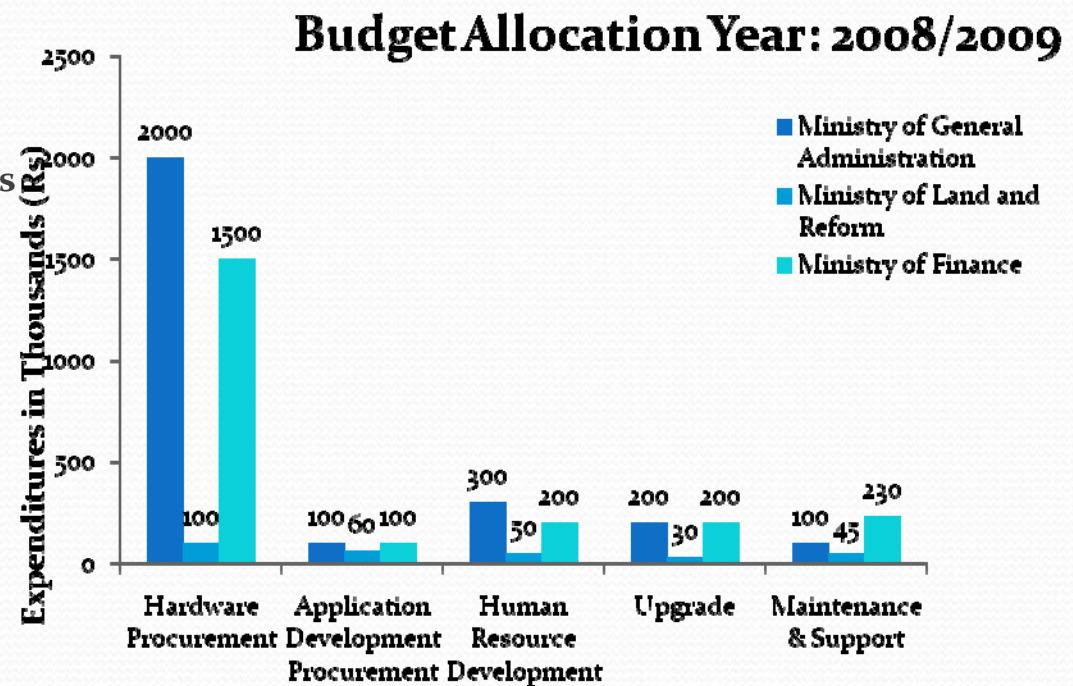
✓ Result:

Very poor technical human resources

Poorly utilized hardware resources

And proper maintenance and

Support in the ministry.



# Research Methodology and Data Analysis

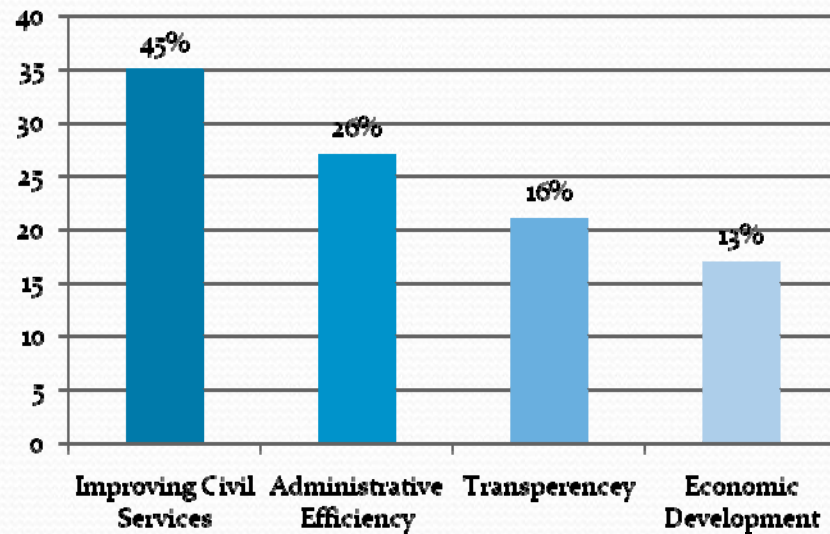
## ❖ Analysis of Citizen Survey:

Questions	Option a	Option b	Option c	Option d	Option e
Satisfaction on administrative services	Normal or below (91%)	Good or very good (9%)			
Ways to get administrative services	Visit government offices (47%)	Query through telephone lines (27%)	Uses internet (18%)	Postal services (8%)	Fax (0%)
Administrative services to be computerized	National ID services (44%)	Customers service (20%)	Tax service (16%)	Real Estate (10%)	License service (10%)

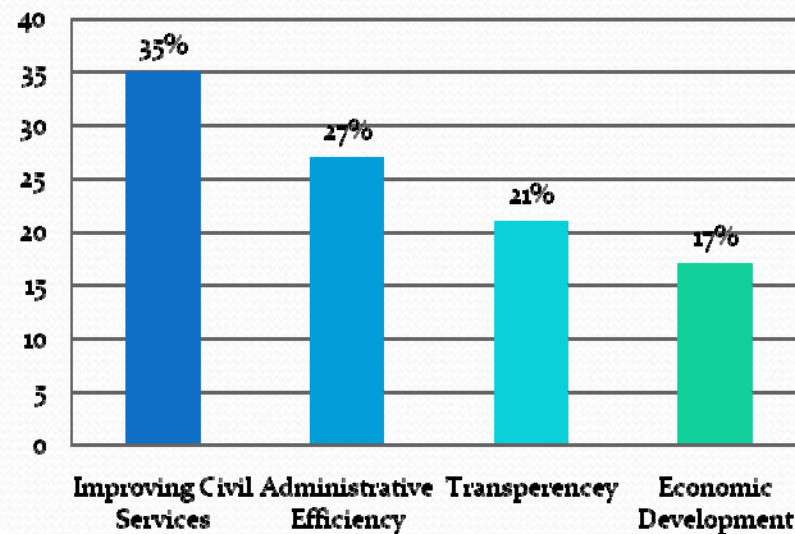
# Research Methodology and Data Analysis

## ❖ Analysis of Citizen Survey:

### Steps to improve Administrative Services



### Goal of the e-Governance Project



# Current Status of ICT and e-Governance Development

---

## Brief History

- ❖ 1972: Introduction of computer for census (IBM 1401)
- ❖ 1974: Establishment of Electronic Data Processing Center
- ❖ 1982: First Private Overseas Investment in software development by establishing company for export, Data Systems International (p) LTD
- ❖ 1985: Distribution of Personal Computers
- ❖ 1990: Liberalization on imports of equipment
- ❖ 1992: Establishment of Computer Association of Nepal
- ❖ 1996: Establishment of the Ministry of Science & Technology
- ❖ 2000: Announcement of the first IT policy, “IT Policy 2000”
- ❖ 2001: Establishment of National Information Technology Center (NITC)
- ❖ 2003: Establishment of High Level Commission for Information Technology (HLCIT)
- ❖ 2007: Enactment of Electronics Transaction Act

# Key Institutions and Organizations dealing with ICT in Nepal

---

- ❖ Ministry of Science and Technology (MoST)
- ❖ High Level Commission for Information Technology (HLCIT)
- ❖ Nepal Information Technology Center (NITC)
- ❖ Nepal Telecommunication Authority (NTA)
- ❖ Internet Service Providers' Association of Nepal (ISPAN)
- ❖ Nepal Telecom (NT), United Telecom Limited (UTL), Spice Nepal Pvt. Ltd. (SNPL)

## NGO's and Organizations:

- ❖ E-Networking Research and Development (ENRD)
- ❖ Computer Association of Nepal (CAN)

# Development of ICT Infrastructure and Networks

---

- ❖ Progress in Connectivity across the country is positive.
- ❖ In recent years Nepal has remarkably improved the ICT and Telecommunication facilities.
- ❖ Telecommunication and internet Backbone:
  - ❖ East-West (900 km) Optical fiber network is almost completed and will be connected to India via several connecting points.
  - ❖ fiber optic project (115-kilometre Arniko Highway) linking Kathmandu to Khasa, which borders China on the north, is set to complete the project.
- ❖ At present there is a project to connect, via very small aperture terminals (VSATs), 1,000 Village Development Committees (VDCs) out of Nepal's 3,915 VDCs in mountainous regions where other modes of telecommunications are not considered to be feasible.

# Development of ICT Infrastructure and Networks

continue...

---

- ❖ The installation of small Wireless Networks in rural and remote areas are increasing using Wireless Fidelity (WiFi) technology.
- ❖ By the end of 2009, The number of fixed lines has reached to 818526 and more than 6 million ( 6286942) mobile telephone lines were distributed by the same date.
- ❖ Currently More than 30 ISP's and Total International internet bandwidth used is in the ratio of 1:2.25 with 52 Mbps and 116 Mbps for uplink and downlink



# Development of ICT Infrastructure and Networks

continue...

## ❖ Service Penetration:

Services	Penetration ( %)
Fixed Lines	2.97
Mobile	22.86
Others (Limited Mobility)	0.87
Internet (Subscriber only)	2.55

Note: Projected total population for 2009 is 275, 04,280.

❖ Although the progress of telecommunication facilities in Nepal is good enough but still the rate of use of internet is very low.

# Development of ICT Infrastructure and Networks

continue...

## ❖ E-Readiness Index:

Country	2010 Index	2008 Index	2010 Ranking	2008 Ranking
Maldives	0.4392	0.4491	92	95
Sri Lanka	0.3995	0.4244	111	101
India	0.3567	0.3814	119	113
Pakistan	0.2755	0.3160	134	131
Bhutan	0.2598	0.3074	146	134
Bangladesh	0.3028	0.2936	152	142
<b>Nepal</b>	<b>0.2568</b>	<b>0.2725</b>	<b>153</b>	<b>150</b>
Afghanistan	0.2098	0.2048	168	167
<b>Region</b>	<b>0.3248</b>	<b>0.3395</b>		
<b>World</b>	<b>0.4406</b>	<b>0.4514</b>		

**Nepal – 150<sup>th</sup> position out of 192 Countries in 2008**  
**Nepal – 153<sup>rd</sup> position in 2010**

## Development of ICT Education

---

- ❖ Universities : Four(Tribhuvan University, Kathmandu University, Pokhara University, and Purbanchal University)
- ❖ Affiliated ICT Colleges: 55 (Approx)
- ❖ ICT training Institutes: Many
- ❖ They provide Higher education and IT training in Nepal.
- ❖ According to CAN statistics, some 4,000 ICT graduates are produced every year. Only 22.49% of the IT graduates are engaged in real ICT activities.
- ❖ Production is positive but higher percentage of them are migrated for better opportunities.

# Government Initiatives, Opportunities and Achievements

---

- ❖ With the support of Korea IT Industry Promotion Agency (KIPA), prepared an e-Government Master Plan (EGMP) in November 2006.
- ❖ In order to establish the foundation for the investment phase of the Master Plan, the Asian Development Bank (ADB) provided a project preparatory technical assistance (PPTA) to the Government of Nepal.
- ❖ With the financial and technical support of Korea International Cooperation Agency (KOICA), the establishment of Government Integrated Data Center (GIDC) has completed.

# Government Initiatives, Opportunities and Achievements continue...

---

- ❖ About 500 Telecenters are already established.
- ❖ The NGO sector is also active in using ICT for development.
- ❖ e-Networking Research and Development (ENRD), another NGO, conducts basic computer education and hardware training in the rural areas. It establishes wireless networks in rural village supported with applications like telemedicine and education. It is now working on connecting more rural areas with WiFi.
- ❖ Financial Plan to Implement e-Governance:
  - ADB Grant : \$ 25 million
  - Korean Government : \$ 30 million as Loan
  - Nepal Government: \$ 9 million

# Findings from the Research Work

## Factors identified that influence the challenges of implementation of e-Governance in Nepal:

<p><b>1. Technical Factor:</b></p>	<p>i.* Internet Infrastructure and Bandwidth            ii.* Privacy and Security Concerns            iii.* Digital Divide            iv.* E-readiness            v.* Supply of Electricity</p>
<p><b>2. Education and Citizens Concerns:</b></p>	<p>i)* Insufficient Education and Low ICT Literacy            ii)* Citizens Expectations prior to e-Governance</p>
<p><b>3. Cultural Factors</b></p>	<p>i)* Employee Resistance to Change            ii)* Corruption</p>
<p><b>4. Political Factors</b></p>	<p>i)* Regulations and Legislation            ii)* Lack of Government's will and stand due to Political Instability            iii)* Government's priority            iv)* Frequent Changing of Ministries and high level officials</p>

# Findings from the Research Work

**Factors identified that influence the challenges of implementation of e-Governance in Nepal:**

<b>5. Institutional Factors</b>	<b>i)* Limited Information Sharing and Transparency ii)* Public Sector Weaknesses iii)* Lack of training and awareness programs</b>
<b>6. Human Resource Factor</b>	<b>i)* Lack of e-Governance Awareness ii)* Inadequate skilled human resource Capacity</b>
<b>7. Financial Factor</b>	<b>i) * Funding Issues ii) * Sustainability</b>

# Strategies and Recommendations

---

- ❖ The successful introduction of e-Governance depends largely on the **first applications**, which should be **relatively cheap, easy to implement, easy to use, secured and also should involve a relatively important number of users.**
- ❖ The first version shouldn't be necessary a complete two way interactive application, but extendable later.
- ❖ For example: e-taxation in Hungary, which in five years reached an 83% level concerning the tax declarations.
- ❖ That means , the application was very much user-friendly and easy to implement. Similarly, It is secure enough to declare tax.



# Strategies and Recommendations continue...

---

- 1. Government should change their focus of attention**
- 2. Evaluate E-government Master Plan and develop new Vision/Strategies/ Leadership for e-governance**
- 3. Advancing ICT infrastructure**
- 4. Government Process Reengineering**
- 5. Create and Retain adequate skilled IT human resource**
- 6. Increasing training to improve IT literacy to government officials**

## **Strategies and Recommendations** continue...

---

- 7. Organize public awareness programs on ICT**
- 8. Develop a mechanism to quick monitor and track the progress of the project**
- 9. Ensure Reliability, Privacy and Security**
- 10. Prioritize the issues of Enterprise Architecture and Interoperability**
- 11. Implementing government web portals and Monitor the functions of Telecenter**
- 12. Assistance from donor community by raising awareness**
- 13. Develop sustainable models for e-Governance**

# Conclusion

---

- ❖ Popularity of ICT is increasing but still Implementation is Big Problem in Nepal like other Underdeveloped country.
- ❖ The basic foundations like Human Resource, ICT Infrastructure, Literacy, awareness, Commitment, Funds must be improved for the implementation of e-Governance.
- ❖ Rural connectivity and ICT use in the rural areas should be expanded through use of such technologies as WiFi, WiMAX, and Voice Over Internet Protocol (VoIP).
- ❖ First identify the Size and Scope and then implement based up on the Priority.
- ❖ Always think about the public expectations and their participation to success the e-Governance in Nepal.
- ❖ Conduct further cycle of research where more attention is paid to technical aspect of e-Governance implementation .

# References

---

- Heeks, R. Most e-Government for Development Projects Fail: How can risks be reduced? *iGovernment* working paper series, paper No. 14, 2003.
- Danish Dada, A failure of e-Government in developing countries: A Literature review, *The Electronic Journal of Information Systems in Developing Countries*, Vol. 26 , 2006
- MIS Report Nepal Telecom Authority Vol. 32, 2010.
- A Handbook for Citizen-centric e-Government Version 2.1 December 2007, October 2008
- Roadmap for E-government in the Developing World by Pacific council on International policy, October 2008
- National IT Workforce Survey 2005, Computer Association of Nepal (CAN).
- United Nation e-Government Survey 2010
- [www.egovernance.wordpress.com/2006/10/11/niit-singapore-joint](http://www.egovernance.wordpress.com/2006/10/11/niit-singapore-joint) hands for e-Goveranance, September 2008
- KIPA, Government of Nepal, e-Government Master Plan Consulting Report, 2006.
- Asian Development Bank. Aide Memoire of ICT Development Project, Fact-Finding Mission (2007)
- The e-Government handbook for developing countries-A project of InfoDev and the centre for democracy and technology, November 2008

# References

---

- OECD ( Organization For Economic CO-Operation and Development) e-Government Studies, Hungary ICA Country Report Hungary, 40<sup>th</sup> ICA Conference, Guadala
- Kiran Gopakumar, Rajaleckshmi, E-Governance Services through Telecenters: The Role of Human Intermediary and Issues if Trust, MIT Press in its journal Information Technologies and International Development, Vol. 4 , Pages 19-35, 2007
- Thomas B. Riley, Strategies for the Effective Implementation of e-Government Projects, Journal of Business and Public Policy, Vol. 1, No 1 (2007)
- PPTA, Asian Development Bank, Project Preparatory Technical Assistance Report, 2007
- Madaan P. Pariyar, e-Government Initiatives in Nepal, Challenges and opportunities, ACM International Conference Proceeding Series; Vol. 232, Proceedings of the 1st international conference on Theory and practice of electronic governance, Pages 280-282, 2007
- Dr. Subarna Shakya, Development of e-Governance in Nepal SWOT analysis, National Stakeholders workshop on Modernization of Nepal through development of ICT and e-Governance, 2007
- Neeta Berma, Sangeeta Singh, Durga Prasad Misra, Citizen Participation in the process of ICT enabled Governance: A Case Study, ICEGOV, 2007, Macao
- Akos DETREKOI, e-Government developments in Hungary, FIG workshop on eGovernance, Knowledge management and Learning, Budapest , Hungary, 2006
- Zsolt Sikolya & Peter Risztics, Hungarian Electronic Public Administration Interoperability Framework ( MEKIK) – Technical Standard Catalogue.
- Sameer Sachdeva, e-Governance strategy in India, White Paper on e-Governance strategy in India, 2002
- Electronics Commerce : A managerial Perspective, Efraim Turban, Jae Kyu Lee , Dave King , Judy McKay , Peter Marshall, Prentice Hall, 2008



Thank You!!!