

**INFORMATION AND COMMUNICATION TECHNOLOGY -  
A STRATEGIC POLICY FRAMEWORK FOR GOOD  
GOVERNANCE IN THE STATE OF PUNJAB**

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**BY**

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**August, 2009**

## **CERTIFICATE**

*Certified that the thesis entitled 'INFORMATION AND COMMUNICATION TECHNOLOGY - A STRATEGIC POLICY FRAMEWORK FOR GOOD GOVERNANCE IN THE STATE OF PUNJAB' which is being submitted by Mr Nirmaljeet Singh Kalsi, in fulfillment of the requirements for award of the Degree of Doctor of Philosophy in Management, Thapar University Patiala, is a record of candidate's own work, carried out by him under our supervision and guidance. The matter embodied in this thesis has not been submitted in part or full to any other University or Institute for the awarded of any degree.*

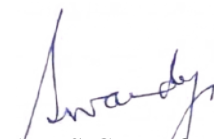


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**-J.R.D. Tata**

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## ABSTRACT

The rapid development, deployment and proliferation of the new and emerging information and communication technologies (ICTs) herald new opportunities for growth and development in countries around the world. ICT has been recognized as the engine for growth and a source of energy for the social and economic empowerment of any country, specially a third world country. Relationship between Information and Communication Technologies (ICT) is coming to be recognized increasingly world over. ICT is the biggest change agent in flattening the world. It is also the biggest leveler for inclusive governance. Governments worldwide are seeking to harness the potential offered by these new technologies to create new dimensions of economic and social progress. Today, governments are empowering masses through IT as it can prove to be effective short-cut to higher levels of equity in the emerging Global Digital Networked Information Economy. Framing Information and Communication Technology Strategies and Policies, especially in the public domain, are complex exercises which encompass a variety of issues covering areas such as infrastructure, human challenges, technology, architecture, standards, administrative, information, security, financial, legal, privacy, quality of service etc, and above all the aspirations and expectation of the citizens.

The enthusiasm for realizing the potential of ICTs is often dampened by the barriers to successful strategic policy formulation as well as its implementation. This research is an effort to study firstly, the shared vision of all stakeholders about Good Governance in the Indian context through “Participatory Stakeholder Assessment” and secondly, whether the new information and communication technologies can make a significant contribution to the achievement of the objective of good governance. This study discusses the need for transformation from traditional governance to e-governance. The study has also attempted to identify and establish linkages between the factors responsible for creating a conducive environment for effective and successful implementation of e-Governance for achieving Good Governance. There is an urgent need to carry out study in the Indian environment to take a snapshot of the possible barriers in the implementation of e governance applications and draw a meaningful framework in this direction to workout alternative solutions to tackle or address these barriers and pain points through appropriate strategic policy interventions. This study specifically addresses the e-government initiatives that have a direct impact on the citizens and in which the citizens derive benefit through direct transactions with the governmental services.

The study has used both primary and secondary sources of information besides in-person observations, interviews, questionnaires and experiences from public forums. The notified policies, reports and published research work have also been used in the study as a secondary source of information besides Internet and other sources. Case studies were used as a tool for identification of critical success factors and proposing the new framework by learning from the successes and failures of the existing e-Governance initiatives.

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## ABBREVIATIONS

Abbreviation	Full Form
ANOVA	Analysis of Variance
ATIs	Advanced Training Institutes
B2C	business-to-consumer
BIPS	Bhutan ICT Policy and Strategies
BOO	Built, Own and Operate
BOOT	Built, Own , Operate and Transfer
BPO	Business Process Outsourcing
CEDOK	Centre for Entrepreneurship Development of Karnataka
CFC	Customer Facilitation Cell
CSCs	Citizen Service Centers
DC-IT	Departmental Committee on Information Technology
DITIs	District Industrial Training Institutes
DoT	Department of Telecommunications
EG	Electronic Governance
e-Government	electronic-Government/
e-Governance	electronic -Governance
EHTP	Electronics Hardware Technology Park
ELCOT	Electronics Corporation of Tamil Nadu
FOI	Freedom of Information
FRIENDS	Fast, Reliable, Instant, Efficient Network for Disbursement of Services
G2B	Government-to-Business
G2C	Government-to-Citizen
G2C	government-to-consumer
G2G)	Government-to-Government
GG	Good Governance
GOI	Government of India
GOP	Government of Punjab
HARNET	Haryana State Wide Area Network
HRD	Human Resource Development

<b>Abbreviation</b>	<b>Full Form</b>
HSDC	High Speed Data Communication
ICT	Information and Communication Technology
IIT – C	Indian Institute of Information Technology at Calcutta
IT	Information Technology
ITDB	Information Technology Development Board
ITIs	Industrial Training Institutes
ITLP	Information Technology Literacy Plan
ITPC	Information Technology Promotion Committee
IVRS	Interactive Voice Response Systems
KCTU	Karnataka Council for Technological Upgradation
KS	Knowledge Society
MoIT	Ministry of Information Technology
NDMC	New Delhi Municipal Corporation
NeGP	National e-Governance Plan
NIC	National Informatics Center
NISG	National Centre for SMART Government
NRI(s)	Non-Resident Indian(s)
OECD	Organization for Economic Cooperation and Development.
PCPs	Public/Private Communication Providers
PHC	Primary Health Centre
PRIs	Panchayati Raj Institutions
PSA	Participatory Stakeholder Assessment
PTICs	Public Tele Info Centers
RandD	Research and Development
RASI	Rural Access to Services through Internet
RIICO	Rajasthan State Industrial Development and Investment Corporation
RTC	Record of Rights, Tenancy and Crops
SDPs	Service Delivery Points
SDPs	Service Delivery Points
SIDBI	Small Industrial Development Bank of India
SMART	Simple, Moral, Accountable, Responsive and Transparent
SUBS	SUWIDHA Back-end Services

<b>Abbreviation</b>	<b>Full Form</b>
SUWIDHA	Single User Window Disposal Helpline for Applicants
SWAN	State Wide Area Network
TNSWAN	Tamil Nadu State Wide Area Network
TVU	Thought Ventions Unlimited
UNDP	United Nations Development Programme
VAN	Statewide Value Added Network
VCF	Venture Capital Fund
VoIP	Voice Over Internet Protocol'
VRSC	Village Resources and Service Center
WAN	Wide Area Network
WB	World Bank
WEBEL	West Bengal Electronics Industry Development Corporation Ltd

# CHAPTER - I

## INTRODUCTION

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### **1.1 - Information and Communication Technologies (ICT):**

Information and Communication Technologies (ICT) have made a profound impact on every aspect of human life including work and business, and contributed tremendously to the competitiveness of a nation through social and economic development. Today, connectivity, convergence, internet and networks are the new mantras for the success of so called the new 'Global Digital Networked Economy'. We, therefore, no longer talk about Information Technology but of Information and Communication Technology. 'As a great social leveler, information technology ranks second only to death. It can raze cultural barriers, overwhelm economic inequalities, and even compensate for intellectual disparities. High technology can put unequal human beings on an equal footing, and that makes it the most potent democratizing tool ever devised' (Pitroda, 1993).

Relationship between Information and Communication Technologies (ICT) is coming to be recognized increasingly world over. ICT is the biggest change agent in flattening the world. It is also the biggest leveler for inclusive governance. Today, governments are empowering masses through ICT as it can prove to be effective short-cut to higher levels of equity in the emerging Global Digital Networked Information Economy. Framing Information and Communication Technology strategies and policies, especially in the public domain, are complex exercises which encompass a variety of issues and challenges covering areas such as infrastructure, human challenges, technology, architecture, standards, administrative, information, security, financial, legal, privacy, quality of service etc, and above all the aspirations and expectation of the citizens.

Information and Communication Technologies (ICT) is a tool useful for good governance. Governance and good governance are the terms increasingly being used in development literature. Governance describes the process of decision-making and the process by which decisions are implemented (or not implemented). Thus the good

governance is the process whereby public institutions conduct public affairs, manage public resources and guarantee the realization of rights and services. Good governance accomplishes this in a manner essentially free of abuse and corruption, and with due regard for the rule of law. Good governance may be defined as the processes those guide the political and socio-economic relationships, with commitment to democratic values, trusted services and just and honest business. It provides a framework within which political, social and economic priorities are based on a broad consensus in society, and the voices of the poorest and most vulnerable are also considered for the decision-making processes. In addition, good governance has major implications for equity, poverty and quality of life.

Global shifts towards increased deployment of IT by governments emerged in the nineties, with the advent of the World Wide Web (WWW). What this powerful means to publish multimedia, support hyperlinked information and interactive information meant was a clearer avenue for Government to Citizen (G to C) interactions and the promise of the attainment of the goals of good governance. Governments weighed down by the rising expectations and demands of a highly aware citizenry suddenly began to believe that there can be a new definition of public governance characterized by enhanced efficiency, transparency, accountability and a citizen-orientation in the adoption of IT enabled governance. Governments worldwide are seeking to harness the potential offered by these new technologies to create new dimensions of economic and social progress. Immediate challenges relate to the need for requisite efforts by Governments to aim at transcending the digital divide by narrowing the digital gap through incrementally (i) putting in place the necessary national information infrastructure; (ii) developing and nurturing the necessary human resource to operate the national information infrastructure; and (iii) providing adequate financial resources to implement both the infrastructural and human resource requirements.

E-governance originated in India during the late seventies with a focus on in-house government applications in the areas of defense, economic monitoring, planning and the deployment of ICT to manage data intensive functions related to elections, census, tax administration etc. The efforts of the National Informatics Center (NIC) during eighties and to connect all the district headquarters from 1988 was a watershed. From the early nineties, e-governance has seen the use of IT for wider sectoral applications

with policy emphasis on reaching out to rural areas and taking in greater inputs from NGOs and private sector as well. There has been an increasing involvement of international donor agencies such as DFID, G-8, UNDP, WB etc. under the framework of e-governance for development.

While the emphasis has been primarily on automation and computerisation, state endeavours to use IT include forays into connectivity, networking, setting up systems for processing information and delivering services. At a micro level, this has ranged from IT automation in individual departments, electronic file handling, access to entitlements, public grievance systems, service delivery for high volume routine transactions such as payment of bills, tax dues to meeting poverty alleviation goals through the promotion of entrepreneurial models and provision of market information. The thrust has varied across initiatives, with some focusing on enabling the citizen-state interface for various government services, and others focusing on bettering livelihoods. (Data Quest- E-GOVERNANCE-20 Hot e-Gov Projects in India, October 2003).

### **1.2 - e-Readiness:**

e-Readiness is the preparedness of states to provide governance equitably and cost effectively and the capability is reflected in the degree of integration, the deprived segments of society attain, after application of ICT as an e-governance tool. Apart from this, e-readiness is the ability of the state to provide businesses, the capacity to participate in the provincial level digital economy and further networking with the national level digital economy. e-Readiness is the degree to which a country is prepared to participate in the networked world. It would demand the adoption of ICT in offering inter-connectedness between government, businesses and citizens. (e-Readiness Assessment Report 2003)

The report is based on the critical assessment of Parameters based on a composite index consisting of six major areas:

- i. **Network Access** - information, internet affordability, hardware and software, and service and support.

- ii. **Network Learning** - institutional access to ICT (educational institutions developing ICT at work force).
- iii. **Network Society** - people and organizations on-line, locally relevant content and ICT in everyday life and workplaces.
- iv. **Network Economy** - ICT employment opportunities.
- v. **Network Policy** - telecommunications regulation and ICT trade policy.
- vi. **e-Governance** - special efforts, Government preparedness, e-Services, data systems and leadership and awareness.

### **1.3 - e-Government:**

E-Government is not just ‘electronic’ government. It is ‘enabled’ government – government that delivers different and better programs and services to community. E-Government is about people: new skill sets, mindsets and leadership approaches. It will transform how public servants work, relate to each other, do business, and engage citizens and other partners. e-Governance seeks to realize processes and structures for harnessing the potentialities of Information and Communication Technologies (ICTs) at various levels of government and the public sector and beyond, for the purpose of enhancing good governance. It has a larger scope and is more inclusive. It will take some time before one transforms to g-Government.

The inexorable move towards e-government has been driven as much by citizen expectation as by the technology itself. Citizens in the developed nations, most especially Canada, the United States and the United Kingdom, have been relatively quick to embrace internet-based technologies in their personal and commercial interactions. An estimated 60 per cent of North Americans and 50 per cent of those in the United Kingdom, now have access to the Internet. The global digital revolution and the looming age of knowledge-based society and economy will serve as a test for many national elites: are they willing and prepared to lead their societies into the era of ‘new public management and responsive democracy.

Leading governments are emphasizing the need for their e-Government programs to deliver an earlier return on their investment, through greater service effectiveness for

their customers or increased internal efficiency. Every region of the world has improved its e-government performance on nearly every indicator. However, there are continuing problems in the areas of privacy and security that need to be addressed.

Government's ability to improve service delivery to other governments, employees, citizens and businesses is directly attached to government's ability to effectively collaborate across organization, processes and IT systems. E-government is a process that requires a sustained commitment of political will, resources and engagement among the government, private and public sectors. However, if e-government practitioners ask and attempt to answer the following ten questions outlined in the roadmap, they potentially can develop a system of e-government that not only makes current government practices more efficient, but also transforms the very relationship between the public, the private sector and government.

- i) Why are we pursuing e-government?
- ii) Do we have a clear vision and priorities for e-government?
- iii) What kind of e-government are we ready for?
- iv) Is there enough political will to lead the e-government effort?
- v) Are we selecting e-government projects in the best way?
- vi) How should we plan and manage e-government projects?
- vii) How will we overcome resistance from within the government?
- viii) How will we measure and communicate progress? How will we know if we are failing?
- ix) What should our relationship be with the private sector?
- x) How can e-government improve citizen participation in public affairs?

#### **1.4 - Citizens' Expectation from e-Government:**

The Internet, in particular, creates an opening for new forms of interaction with the citizen that allow real-time participation in the governmental and democratic process. But as with e-business, once the opening is created and the tools are at hand, it is not so much a matter of choice as a matter of time. Customers and citizens expect governments to get with it; if they do not, they risk becoming irrelevant (Tapscott and Agnew, 1996).

We recognize that we do not have all the answers. We will continue to consult our stakeholders on how they would like their country's technological future to take shape. We also welcome exchanges with other governments on best practices and plans. It is anybody's guess how the next IT revolution will take shape (Peng, 2003).

Solutions to development issues often require changes to government processes, e.g. by decentralization. Objectives are generally to improve efficiency and effectiveness and to save costs. The driving force can also be public demand for online services and information that increase democratic participation, accountability, transparency, and the quality and speed of services. The implementation and use of ICT solutions can support governance reforms. E-government is no longer an experiment in administrative reform but a permanent part of the governing process. For both governments and citizens, clearly its advantages far outweigh the risks of investment. (Backus, 2001)

### **1.5 - Conceptualizing Good Governance:**

Good governance is a concept that has recently come into regular use in political science, public administration and, more particularly, development management. The 1991 Harare Commonwealth Declaration, for example, committed member governments to the democratic process and institutions which reflect national circumstances, the rule of law and the independence of the judiciary, just and honest government, fundamental human rights, including equal rights and opportunities for all citizens, regardless of race, color, creed or political belief.

Within the context of inter and intra- governmental interfaces and transactions, good governance strives to effectuate collaboration as partners in business and alliances in the sharing of knowledge across institutions for comparative advantage within a trusted environment.

Good governance can also be conceptualized as part of a development process. Whatever definitional format it may assume, there is general consensus amongst practitioners that good governance should, among other things, be participatory, transparent and accountable in characteristic. This provides a framework within which political, social and economic priorities are based on a broad consensus in society, and

that the voices of the poorest and most vulnerable are heard in the decision-making processes regarding the allocation of resources. In addition, good governance has major implications for equity, poverty and quality of life. In particular, good governance may be defined as comprising the processes and structures that guide political and socio-economic relationships, with particular reference to ‘commitment to democratic values, trusted services and just and honest business’ (Darell, 2002)

### **1.6 - ICT and Good Governance:**

The emergence of the new information and communication technologies has all the attributes of imparting added value to the processes that give identity, form and relationships that characterize good governance. The rapid development, deployment and proliferation of the new and emerging Information and Communication Technologies (ICTs) herald new opportunities for growth and development in countries around the world. Governments worldwide are seeking to harness the potential offered by these new technologies to create new dimensions of economic and social progress. Immediate challenges relate to the need for requisite efforts by Governments to aim at transcending the digital divide by narrowing the digital gap through incrementally:

- i) putting in place the necessary national information infrastructure;
- ii) developing and nurturing the necessary human resource to operate the national information infrastructure
- iii) providing adequate financial resources to implement both the infrastructural and human resource requirements.

Creative divergence resulting from the impact of the emerging digital convergence promise significant benefits such as improved health care, easier access to public services, improved and new access to training and work, new commercial, leisure and entertainment opportunities and, above all, good governance. The application of information and communication technologies can also be risky and is, therefore, not without attendant problems. These can be of diverse origins, namely, problems of strategy, problems of context and problems of operation. The opportunities and challenges posed by the new and emerging information technologies have stimulated

efforts by national governments to work toward the development of national information policies and strategies.

Several Commonwealth Governments are among the world leaders in these initiatives. In particular, some Governments have seized upon the opportunities offered by the new and emerging information and communication technologies to transform government, democracy, government-related transactions as well as the embedding society, both economically and socially. Others have yet to begin to appreciate the impact of the new information and communication technologies. They have continued to depend on the traditional ways of creating wealth and providing services. Governments and the other governance structures, particularly the private sector shares the responsibility for the evolution of the new digital society and the knowledge economy through focusing on people-centred development. Governments set and promulgate policies and are collectively the major spender on information and communications technologies and services. Moreover, they are a major producer or potential producer of content and of innovation.

‘...e-government’ focuses on the use of new information and communication technologies (ICTs) by governments as applied to the full range of government functions. In particular, the networking potential offered by the Internet and related technologies has the potential to transform the structures and operation of government.’(OECD, 2001)

‘All governments have caught on to the point-and-click phenomenon, as evidenced by the increasing amount of information available to the public at a modem’s reach. Most government Web sites offer the public vast arrays of facts regarding government structure, laws, initiatives, geography, information requests and links to related sites.’ (OECD, 2000)

### **1.7 - e-Governance:**

In its simplest sense, e-governance can be said to be about the use of emerging Information and Communication Technologies to facilitate the processes of government and public administration. In reality, though, e-governance is really about choice. It is about providing citizens with the ability to choose the manner in which

they wish to interact with their Governments. And it is about the choices Governments make about how Information and Communication Technologies will be deployed to support citizen choices.

As a composite of the application of technology to government, it falls underneath a large technological umbrella that includes:

- i) the automation of government systems and the online delivery of government services;
- ii) the widespread adoption of network-based technologies and the migration of government to the Internet environment;
- iii) the application of electronic capabilities and practices to governmental environments to reduce costs and client fraud and increase efficiency;
- iv) the use of ICTs to facilitate the conduct of business and foster economic growth;
- v) the fundamental re-engineering and streamlining of the structures of government and the nature of public administration; and
- vi) the use of ICTs to foster new levels of democracy and citizen engagement, from electronic town halls to the online voting booth and new levels of political accountability.

Unlike technology, governance is essentially a normative, relational exercise, rather than a purely functional one. Underlying the structures of modern democratic governance is the philosophical understanding that government's role is to facilitate and relate rather than dictate or create. As a result, government has adopted a triad of roles:

- facilitator (and repository) of political expression and action, both at home and abroad;
- facilitator of economic activity; and

- deliverer of public services

From these roles flow a series of core relationships or interactions, the effective management of which is the bailiwick of public administration. Those defining interactions manifest under four main heads:

- **Government-to-Citizen** - This encompasses a broad range of interactions, from the delivery of services and the provision of welfare and health benefits to regulatory and compliance oriented licensing. Foremost among these many interactions is that involving democratic legitimization and engagement.
- **Government to Business** - Government serves as an enabler and broker of economic activity, a consumer of commercial goods and services and as the regulator of both domestic and international trade and commerce.
- **Government to Employee** - As government facilitates business, democratic engagement and service delivery, so employees represent the facilitators of government. This interaction includes strategic and tactical mechanisms for encouraging the implementation of government goals and programs, as well as administrative elements such as human resource management, budgeting, and accounting.
- **Government to Government** - Governments depend on other levels of government within the state to effectively deliver services and allocate responsibilities, and engage in ongoing interactions with foreign states and international organizations to further political and economic goals.

Having the equipment or networks is not enough to derive economic benefits. Other factors, such as the regulatory environment, the availability of appropriate skills, the ability to change organizational set-ups, as well as the strength of accompanying innovations in ICT applications, affect the ability to seize the benefits of ICT. Consequently, countries with equal ICT diffusion will not always have similar impacts of ICT on economic performance.

It may be mentioned here that for the purpose of this study we will use the term e-governance (rather than e-Government) which broadly covers the issues studied in this

thesis. The e-Government is a broader term and may also include new levels of democracy and citizen engagement like online voting on issues /e-democracy which is not intended to be covered.

### **1.8 - Why e-Governance for Development?**

As is true all over the world, governments in the developing nations cost too much, delivers too little, and is not sufficiently responsive or accountable. Good governance reforms aim to address these shortcomings. Yet progress, after many years of effort in implementing such reforms, has been much more limited than expected. E-Governance offers a new way forward, helping improve government processes, connect citizens, and build interactions with and within civil society. (Heeks, 2001)

What exactly has e-governance got to offer? At root, it has the power of ICTs, which provide three basic change potentials for good governance for development:

- **Automation:** replacing current human-executed processes which involve accepting, storing, processing, outputting or transmitting information. For example, the automation of existing clerical functions.
- **Informatisation:** supporting current human-executed information processes. For example, supporting current processes of decision making, communication, and decision implementation.
- **Transformation:** creating new ICT-executed information processes or supporting new human-executed information processes. For example, creating new methods of public service delivery.

These change potentials, in turn, can bring the benefits to governance for development:

#### **i) Efficiency gains:**

- Governance that is cheaper: producing the same outputs at lower total cost.
- Governance that does more: producing more outputs at the same total cost.
- Governance that is quicker: producing the same outputs at the same total cost in less time.

ii) **Effectiveness gains:**

- Governance that works better: producing the same outputs at the same total cost in the same time, but to a higher quality standard.
- Governance that is innovative: producing new outputs.

These are the direct and objective benefits. ICTs can bring many others. For example, use of ICTs by government can bring benefits both internally and externally:

- Internally, providing benefits such as better staff motivation or greater political control or an improved public image.
- Externally, by delivering cheaper, better services to those who depend on government or indirectly by demonstrating the benefits of ICTs to the wider population; by catalysing the local IT industry; and by encouraging foreign investment.

### **1.9 - Need for the Study**

The enthusiasm for realizing the potential of ICTs is often dampened by the barriers to successful strategic policy formulation as well as its implementation. This research is an effort to study, firstly, the shared vision of all stakeholders about ‘Good Governance’ in the Indian context through ‘Participatory Stakeholder Assessment’, and secondly, whether the new information and communication technologies can make a significant contribution to the achievement of the objective of good governance. The study has also attempted to identify and establish linkages between the factors responsible for creating a conducive environment for effective and successful implementation of e-Governance for achieving good governance. There is an urgent need to carry out study in the Indian environment to take a snapshot of the possible barriers in the implementation of e-governance applications and draw a meaningful framework in this direction to workout alternative solutions to tackle or address these barriers and pain points through appropriate strategic policy interventions.

The study has used both primary and secondary sources of information besides in-person observations, interviews, and taking into account of experiences from public

forums. The notified policies, reports and published research work have also been used in the study as a secondary source of information besides information posted on Internet and from other sources. Case studies were also conducted for identification of critical success factors and proposing the new framework by learning from the successes and failures of the existing e-Governance initiatives.

### **1.10 - Significance of the Study:**

India has been one of the first entrants to the group of IT and e-Governance movement. E-Governance initiatives are being taken by Government of India and many States for the last decade and a half since the formation of National Informatics Centre in 1987-88. Though isolated islands of successes have emerged with the subjective vision and efforts of individual champions, a structured strategic policy framework for leveraging the advantage of ICT and e-Governance for the overall social and economic development of the masses is yet to be evolved in a holistic manner. This would require a deep understanding of various factors responsible for creating a conducive environment for effective and successful implementation of e-Governance in a real life multidimensional factored space.

Though most of the States have come up with their own IT policies, e-governance policies, policies for attracting investments in IT, ITES and BPO, no State has been able to come up with a comprehensive strategic policy framework for leveraging the total advantage of Information and Communication Technologies. Government of India has also not been able to propose a 'Strategic IT action Plan' for the States though some work has now been initiated on the National e-Governance Plan (NeGP) in the Department of Information Technology, Ministry of Communication and Information Technology, Government of India.

e-Governance is an unprecedented opportunity for us to change the way the country is governed. The governments are today in the process of transformation worldwide. Everywhere, every state is changing; from silos of information to integrated services, regulator to facilitator, departmental focus to customer focus and protective to collaborative mode of working.

In the absence of a comprehensive strategic policy framework covering ICT infrastructure, human resource development, IT enabled education, e-Governance, process re-engineering, e-business and industry, it is not possible to take the best advantage of ICT and provide integrated services to all the stake holders. There are innumerable policy gaps and disconnects. The understanding of each state, each stake holder and Government of India is different about ICT and e-Governance based on their own priorities and perceptions.

Even in States where ICT and e-governance initiatives have been taken in big ways, new areas of concern have emerged demanding strategic policy intervention in a comprehensive manner. Some of these are security, authentication and privacy policies, service level agreements, public-private partnership policy, right to information policy, access policy, outsourcing policy, IT resource acquisition policy, IT Services policy, IT Infrastructure Management Policy etc. All these new areas demand a deeper look into and a more comprehensive treatment of issues and problems.

## **1.11 - Organisation of the Thesis**

### **Chapter I - Introduction:**

This Chapter is introductory in nature, providing a brief overview of the background of the research work. It sets the scene for the research questions and problem statement. This chapter introduces the structure of thesis. The chapter covers the Global as well Indian scenarios of Information and Communication system development as well as the development of parameters and contributions of various national and multilateral organizations.

### **Chapter II - Review of Literature and Identification of Research Gaps:**

This chapter presents results from different empirical studies done on the governance and e-governance. The review helps to know emphasis and direction of research being done, the time periods of the studies, the scope and limitations of studies conducted, the conclusions drawn from these studies and objectives fulfilled and benefits accrued. It helps to identify the gaps in the earlier studies and

avoid duplication of results and focus emphasis on the right direction. This chapter also covers the need, scope and objectives of the study.

### **Chapter III - Research Design and Methodology:**

This chapter discusses the methodology of the study. In this chapter methodology used for both secondary data and primary data analysis has been described. It discusses the different methodologies adopted in the study, the population of the study, the variables, measuring instrument, methods of data collection and methods of data analysis.

### **Chapter IV - IT Policies and E-Governance Initiatives of Selected States:**

This chapter covers the study of existing policy framework and e-readiness - conceptual framework, global and Indian e-readiness, critical analysis of India's e-readiness across the states. This chapter also includes the 'Participatory Stakeholder Assessment (PSA)' and its weighted analysis for evolving a shared vision of stakeholders for leveraging the use of Information and Communication Technologies for delivering good governance and policy framework for it for masses and bridging digital divide: e-governance initiatives in Government, present issues, challenges and limitations of the existing policies. Along with the PSA, efforts have been made to incorporate the case studies on e-Governance. In order to understand what is working and what is not and why, these case studies have been undertaken. Such case studies will focus on the outcome of e-Governance initiatives by various State Governments. A consultative/ discussion process with stakeholders for evolving the e-Governance Road map for Good Governance including accelerated social and economic development has also been undertaken. Finally the analysis of all the data has been used for proposing a strategic policy framework.

### **Chapter V - Data Analysis and Strategic Policy Framework:**

This Chapter covers the analysis and discussions of responses to all the questions gathered from various respondents on the basis of the questionnaire administered to various stake-holders and presents the outcome of such analysis. The chapter starts with the participative stake-holders analysis which includes demographic

profile and deals with the stake-holders profile with regard to area, age group, gender, education, income, profession, access to TV and telephone, preferences of language, service types etc. The chapter also deals with the detailed ANOVA analysis in respect of computerized citizen services and factor analysis in respect of good governance, citizen perception about various government institutions and their services on the basis of the frequency of use, perception of corruption and the priority the citizen accords for ICT enablement of these services. Similar analyses have been done for factors causing pain and harassment. Analysis have also been done in respect of other questions on factors contributing to the success or effectiveness of improved services through e-Governance, the level of importance to be given to each variable for an effective good governance framework through the use of IT, the existing national and state level policies and pitfalls in the existing IT related governance policies. The chapter also analysis the direct and indirect risk / threats involved while implementing good-governance through the use of IT and e-Governance. In the end, a strategic framework for good governance has been proposed.

#### **Chapter VI - Conclusions, Limitations and Further Study:**

This chapter covers the learning, recommendations and conclusions of the study and also highlights the recommendations regarding strategic policy framework. This chapter also involves a critical assessment of the work, stating hypothesis, and demonstrating precision, thoroughness, contribution, and comparison with similar work. The chapter also lists the further research areas/ gaps.

**CHAPTER - II**  
**REVIEW OF LITERATURE AND**  
**IDENTIFICATION OF RESEARCH GAPS**

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A review of literature pertaining to the study is a pre-requisite for research as it enables the investigator to have a proper perspective of the subject and avoid the pit falls and difficulties experienced by predecessors. Thus, the planning and execution of any research study should be preceded by a thorough review of literature in related fields since it:

- i) Helps to familiarize with the work that has been done in that area.
- ii) Eliminates the possibility of unnecessary duplication of efforts.
- iii) Provides valuable information on research techniques.

A brief summary of empirical work conducted and related to area of the present study has been presented under the following heads:

- i) Good Governance
- ii) ICT for Improved Governance
- iii) Knowledge and IT for Decision Making Strategies

**2.1 - Good Governance:**

More research is definitely needed to take a closer look at the relationship between transparency and governance or information and economic growth. Information flows as proxied by the two indices, the transparency index and the access to information index. These two indices are positively correlated with the quality of governance. Better governance has been empirically demonstrated to be correlated with higher growth. The indicators used to assess better information flows are of two kinds. One index is based on the existence of freedom of information laws and second index is

called the 'transparency' index which measures the frequency with which economic data are published in countries around the world.

Heeks (2001) studied the effect of new information and communication technologies and how it can make a significant contribution to the achievement of good governance goals. The paper outlines the three main contributions of e-governance: improving government processes (e-administration); connecting citizens (e-citizens and e-services); and building external interactions (e-society). Case studies are used to show that e-governance is a current, not just future, reality for developing countries. However, most e-governance initiatives fail. Countries therefore face two challenges. First, the strategic challenge of e-readiness: preparing six identified pre-conditions for e-governance i.e. Data Systems Infrastructure, Legal Infrastructure, Institutional Infrastructure, Human Infrastructure, Technological Infrastructure, and Leadership and Strategic Thinking. Second, the tactical challenge of closing design-reality gaps: adopting best practice in e-governance projects in order to avoid failure and to achieve success. The study further elaborates new systemic approaches to information systems (IS) to the heart of reform. A central role for ICTs, as governance becomes and recognised as more information-intensive, ICTs become an essential part of more governance initiatives. ICTs are also recognised as a key lever to change. They are no longer isolated on the sidelines. An integrated role for ICTs, e-governance means using ICTs as servants to the master of good governance. ICTs are no longer seen as an end in themselves and they are seen to work only as part of a wider systemic 'package'. Overall, then, e-governance is the ICT-enabled route to achieving good governance.

Sachdeva (2002) concludes that Information and communication technologies have a valuable potential to help meet good governance goals in India. Yet that potential remains largely untapped to date due to the poor human, organisational and technological infrastructure and because of the inappropriate approaches taken by donors, vendors and governments. This study gives a strategy to proper implementation of various E-Governance initiatives in India. It emphasizes establishment of various institutions for E-Governance especially, the School of E-Governance. The paper points out various other gaps hindering implementation of E-Governance in India. It brings a six point strategy for implementing E-Governance in

India and thereby fulfilling the dream of better governance. It brings forth the objective of achieving Electronic Governance (EG) beyond mere computerisation of stand alone back office operations. It brings forth the idea of fundamental changes as to how the Government operates. It identifies the new set of responsibilities for the executive, legislature and the citizenry and brings the need for their training.

Islam (2003) explored the link between information flows and governance with the objective to examine how the availability of information may affect governance. Specifically, it looks at (a) how the availability of basic economic data affects governance and (b) how the legal framework governing access to information might affect the quality of governance. Empirical analysis showed that countries which have better information flows as measured by both indicators have better quality governance. Regions where the media have a greater reach were also the areas where voters were more informed about political choices and able to cast votes accordingly. They need timely information on decisions related to various aspects of government activity, on how these decisions will be implemented, information on the consequences of these decisions and the process through which they are reached. This paper examined how the presence of Freedom of Information (FOI) laws may affect how countries govern. The purpose of all such laws is to define a framework for the sharing of information. Economic theory tells us that information is needed to make sound economic and political choices, to monitor agents and reward or punish accordingly. Better availability of economic data and the ability of people to demand and receive the information they need are highly correlated with governance. Governments that don't produce or share information will be hampered in policymaking. Good policymaking requires up-to-date information on the economic situation; good policymaking requires the sharing of information for better coordination, analysis and monitoring.

It is well established fact that improvements and legitimacy will only be delivered if two things are in place. First, the strategic e-readiness infrastructure, the leadership and integrated vision on which e-governance depend. Second, the tactical best practices that are needed to close design-reality gaps and to steer e-governance projects from failure to success.

Through various case studies, it is found that most e-governance initiatives that are begun currently fail. Surveys of e-governance initiatives are incredibly rare; a shortcoming that needs to be addressed. Even donors, who should be committed to monitoring and evaluation, rarely seem to produce reports. From the material that is available, two main types of e-governance failure can be identified. In some cases, there is the total failure of an initiative never implemented or in which a new system is implemented but immediately abandoned. Alternatively, there is the partial failure of an initiative in which major goals are unattained or in which there are significant undesirable outcomes. One type of partial failure that particularly seems to affect e-governance initiatives is the sustainability failure of an initiative that succeeds initially but then fails after a year or so.

The Bhutan ICT Policy and Strategies (BIPS) from July 2004 states that 'ICT for good governance' is one of the Royal Government's three key ICT policy objectives and it has been reorganized so that good governance can be strengthened considerably through the use of ICT especially regarding access to information, hence strengthening the service delivery from the government to women and men in Bhutan's rural areas. BIPS is developed in line with the five key elements of UNDP's 'Digital Opportunity Report' namely policy, infrastructure, human capacity, content/ application and enterprise.

The study by Corradini, *et al.* (2007) highlights that Digital identities, profiles and their management enable online interactions and transactions among people, enterprises, service providers and government institutions. In this paper, after having examined the European identity management policies, they explain the differences between digital identity and digital citizenship and introduce digital credentials and also discuss how an identity management framework, composed by shared and standardised services supporting authentication procedures, can change within the e-Government domain. The paper concludes by outlining future trends and the potentiality of the extended digital identity in both public and private sectors. Within an e-Government's domain it is possible to enforce the identity Management framework in a more specific way. The paper also discussed current and foreseeable trends for identity management along with an analysis of important issues and

requirements. The study introduced a model of an identity management framework and discussed some of our past and current research activities in this area.

## **2.2 - ICT for Improved Governance:**

The enthusiasm for realizing the potential of ICTs is often dampened by the barriers to successful implementation. The first task in using ICTs as a tool to improve governance is to ignore ICTs altogether and focus on selecting and prioritizing improvement goals that are urgent or important. Once the most important goals are established, senior level policymakers must establish milestones that will indicate that the project is on track. The next step is to review alternative solutions to the problem given constraints on financing, infrastructure, literacy and skills. Each solution must be associated with costs of infrastructure, training, etc. and benefits. Once a solution is accepted based on the planners' estimation of its merits and costs, a detailed work plan must be developed, with provisions for adequate training and capacity building. The final step in the process is to lay the groundwork for monitoring and evaluation.

Lal (1999) reviewed the issues facing African countries in adopting information and communication technologies (ICTs) to enhance governance in four areas, reducing poverty, providing basic human needs, improving public administration, and enhancing democratization through his paper 'Information and Communication Technologies for Improved Governance'. It summarized the use of ICTs in these areas, both successes and failures, around the world and in Africa. The paper focused on many of the caveats that should accompany ICT deployment and ends with an action framework for practitioners anxious to get started. The paper discussed how Information and communication technologies (ICTs) can help to sustain e-governance process in three ways: (i) they can support tasks that involve complex decision making, communication and decision implementation, (ii) they can automate tedious tasks done by humans, and (iii) they can support new tasks and processes that did not exist before. When ICTs are properly aligned with governance goals, they can help to create gains in both efficiency and effectiveness.

A cross-national multilingual online survey focused on issues related to the European knowledge society and its impacts on living conditions, industrial relations and working conditions by the year 2015. A Delphi report 'European Knowledge Society

Foresight' was submitted to by Rafael Popper (2003) to European Foundation for the improvement of living and working conditions. The report concluded that one of the major contributors in reinforcing Knowledge Society (KS) trend would be widespread use of ICT in e-governance. This enhances transparency in the procedures concerning the relationship between the citizen and the state in my country. This was further seen as a KS trend that will increase two industrial relations factors (economic growth / wealth creation, and entrepreneurship and innovativeness). Furthermore, the widespread use of ICT in e-governance will increase social cohesion and sustainability / environmental quality. A considerable number of participants believed that the use of ICT in e-governance will increase the employee autonomy and responsibility at work but there was still a substantial amount of opinions that the statement will have no effect over the factor. Uncertainties about the impacts of ICT in e-governance were reported in the way it will affect social exclusion or divides, work-life balance and job creation.

The study by Dada (2006) provides a review of academic literature on the failure of e-governance in developing countries. Drawing from extensive research on the topic conducted by Richard Heeks, the paper suggests that there exist wide gaps between the current reality in developing countries and the future of e-governance systems. These gaps could be classified into three types: a hard-soft gap, implying a gap between the technology and the social context in which it is applied; a private-public gap, suggesting that what works in the private sector may not work in the public sector; and a country context gap, that arises from the application of the same e-governance systems for both the developing and developed countries. The paper recommends that administrators in developing countries must assess the situation at hand before implementing e-governance.

The study by Cooper *et al.* (2008) tests theories about political trust and citizen competence using the case of zoning. Many scholars argue that citizens with higher levels of political trust are more likely to grant bureaucratic discretion to public administrators than citizens with lower levels of trust. Trust, therefore, can relieve the tension between managerial flexibility and political accountability in the modern administrative state. Unfortunately, there is little empirical evidence showing that trust is actually associated with citizens' willingness to cede policy-making power to

government. The results depict that trust in local government is found to be an important predictor of support for zoning, but trust in state government and trust in national government have no effect. These findings suggest that trust affects policy choice and helps determine how much power citizens grant to local administrators.

The study by Coursey and Norris (2008) presents empirical evidence from three surveys of local e-government in the United States to test whether the normative models are accurate or useful for understanding the actual development of e-government. Research into e-government is relatively new. Nevertheless much contemporary thinking and writing about e-government is driven by normative models that appeared less than a decade ago. The authors find that local e-government is mainly informational, with a few transactions but virtually no indication of the high-level functions predicted in the models. Thus, the models do not accurately describe or predict the development of e-government, at least among American local governments. These models, though intellectually interesting, are purely speculative, having been developed without linkage to the literature about information technology and government.

According to Chen and Kurt (2008) governments must grapple with how to finance the development of e-transactions, as e-government evolves into the transactions stage. The authors argue that the externalities effects of electronic transactions suggest they are appropriately financed by some combination of public investment and user charges. The authors propose a self-financing model adhering to two basic requirements. A flexible pricing framework is the core of the self-financing model, as it embodies both the firm's and the government's perspectives. The authors assess basic assumptions of the pricing framework using contingent valuation methodology and a statewide survey of more than 400 firms. The empirical estimates developed by authors of the willingness to pay for e-transactions with state government and the theoretical discussion about the self-financing model form the basis for prescribing policy recommendations.

### **2.3 - Knowledge and IT for Decision Making Strategies:**

The development approach to IT initiatives, however, offers no direction as to how IT can directly improve the use of implicit knowledge on individual and inter-subjective

levels, and how that kind interaction can improve the decision-making process in the organization.

IT initiatives are designed to stimulate usage of only one aspect of knowledge — inter-subjective explicit knowledge during decision making activities. Similarly, the fact that IT obstacles are viewed mainly as explicit knowledge constraints implies that IT initiatives reinforce IT usage practices centered around IT applications that collect and process factual and descriptive information, such as data and transactional processing applications. In other words, the belief that maximizing computing power and communication capabilities while minimizing organizational constraints leads to IT usage for decision making in developing countries.

Kulchitsky (2001) argues that the problem with development thinking is that it views IT initiatives as allocation constraints. This creates the expectation that IT strategies can optimize new technologies, human resources processes, and structures within organizations. Consequently, knowledge is treated as an afterthought in IT strategies without consideration for its special characteristics. This article suggests that the challenges facing IT and public managers in developing countries are not allocation constraints but knowledge problems.

Although IT and public managers in developing countries argue that there is no ideal model for IT and decision-making activities, their vision of what needs to be done is based on positivist assumptions that they, along with stakeholders, possess all the relevant information needed to design and implement the most appropriate strategy to improve organizational decision making in public institutions.

The author suggested that IT initiatives in non-industrial organizations are essentially allocation solutions that revolve around what development thinking views to be the most appropriate means to improve efficiency and effectiveness in organizational activities. These requirements could be, a technical infrastructure that provides access to information content, Information content that consists of electronic resources relevant to organizational decision making; and a skill base that includes specialized skills to design, manage and utilize ICTs for decision-making practices.

Although such assumptions are necessary conditions for accessing factual and descriptive information, this article argues that they do not directly address how IT, human resources, and socio-organizational factors trigger the use of implicit knowledge on individual and inter-subjective levels. More specifically, IT initiatives do not make allowances for what is known about the decision-making process — once the stream of explicit knowledge that flows through IT and information networks is made available to the organization, it is received by an individual who engages in a kind of discourse with the information. Furthermore, this reflective process is fundamentally a dialogical structure that guides decision-making activities.

It may be observed from above mentioned review of literature that some pioneer work has been done by various researchers in islands of components of good governance in developing countries including India. However, there is a need to present a comprehensive, integrated and holistic approach for good governance with Indian perspective and the proposed study intends to fill this gap.

Gupta and Jana, (2003) have suggested a flexible framework to choose an appropriate strategy to measure the tangible and intangible benefits of e-government. Authors feel that all of the e-government projects in India are still in a nascent stage; hence, proper information flow for calculating ‘return on e-government’ considering tangible and intangible benefits cannot be fully ascertained. Evaluation of e-government projects may yield meaningful results. To perform a reasonable cost benefit analysis, all the financial data has to be made available. As a guideline, it makes sense to recommend the discarding of projects with a long break-even period. Moreover, newer technologies would become a part of a system, and the organization might have to migrate to that new technology platform. Hence, existing project costs would all become sunk costs and hit hard on the organization’s exchequer, especially in organizations with financial constraints. As there are no concrete available resources for evaluating these types of projects, the framework explained in this paper provides a direction about for consideration of the evaluation of e-government projects in the future. The case study of NDMC provides an illustrative reference for future evaluation. This model would be beneficial for evaluating any other municipality in the country and also comparing its performance with municipalities of other countries. But the selection of various soft and hard measures will depend on the system profile,

the type of services being offered, and the profile of the citizen being served. The qualitative analysis of benefits is highly subjective and will differ from person to person, but an overall evaluation could be ascertained in the broader framework discussed in this paper.

Saxena (2005) is of the opinion that E-governance initiatives in most countries promise a more citizen-centric government and reduce operational cost. Unfortunately most of these initiatives have not been able to achieve the benefits claimed. Often the reason for this failure is a techno-centric focus rather than a governance-centric focus. The paper explores the necessary attributes of a governance-centric initiative under the banner 'excellent e-governance' (e2-governance), and describe a methodology for ensuring such excellence in e-governance implementations. Excellence (or governance-centricism) in e-governance requires the initiative to be effectiveness-driven and not merely efficiency-driven. This will require the initiative to be led by a 'good governance' driven goal/purpose: additionally, the initiative must be outcome-focused.

Akther *et al.* (2007) in their study on an e-government project in Bangladesh highlight that most e-government projects within developing countries employ high-technology intervention whereas citizens are not ready for this. There are successful projects which took low end route. This paper examines one such project to find out the reasons behind its success. The research concludes that stakeholders' participation is the driving factor for success. The major issue is not IT, but an understanding between the citizen population and their complimentary governmental entity, which acts as the critical factor for triumph in e-government. Due to the active participation of stakeholders, both the birth registration and immunization rate have increased where concurrently other unforeseen benefits were realized; such as image enhancing of public and elected officials, use of data for school enrolment and decision making for vaccine management for society as a whole.

Verma *et al* (2008) undertook a Participatory Rural Appraisal exercise to assess peoples' needs and aspirations, which was followed by a Business Process Reengineering exercise to make government departmental working more efficient, transparent and adaptable to computerisation. It was concluded that the information

‘should be for all and within reach of all’ was the guiding principle of the project. IT has proved to be an effective tool for delivering information and providing government services to the citizens, especially the less privileged. It was felt that the needs and aspirations of the common citizens of the state of Uttaranchal, specially the under-privileged, should be assessed through ‘Participatory Rural Appraisal’ techniques. This, it was thought, will make the project citizen-centric in the true sense and make the project ‘need driven’ rather than ‘supply driven’. The impact assessment carried out at the end of the project has vindicated this premise. Using IT as a tool for delivery of government information and services to the masses requires major rethinking of the working of the government and its processes. An n-tier architecture citizen-centric ‘Uttara’ portal with information and data on 115 departments/ organizations of the state, was developed.

#### **2.4 - Theoretical Framework:**

Governance comprises the traditions, institutions and processes that determine how power is exercised, how citizens are given a voice, and how decisions are made issues of public concern. Social governance provides a moral foundation, economic governance provides a material foundation, and political governance guaranties the order and the cohesion of a society (Nzongola-Ntalaja, 2002). However, the differences in the importance given to each of these three lead to some distinction in the definition of governance. Governance is the process whereby a society makes important decisions, determines whom they involve, and how they render account (Graham et al 2003). Governance is not just about how a government and social organizations interact, and how they relate to citizens (Graham, et al 2003), but it concerns the State’s ability to serve citizens and other actors, as well as the manner in which public functions are carried out, public resources are managed and public regulatory powers are exercised (European Commission, 2003). Governance in general comprises of complex mechanisms, processes, relationships, and institutions through which citizens and groups articulate their interests, exercise their rights and obligations, and mediate their differences (Cheema, 2005).

Governance is “good” when it allocates and manages resources to respond to collective problems and when a State efficiently provides quality public goods to its

citizens. This renders that states should be assessed in terms of quality as well as quantity of public goods provided to citizens (Rotberg, 2004-05). The UN views good governance as participatory, transparent and accountable. Supply of public goods are influenced by human rights, democratization and democracy, transparency, participation and decentralized power sharing, sound public administration, accountability, rule of law, effectiveness, equity, and strategic vision. “Good” governance promotes gender equality, sustains the environment, enables citizens to exercise personal freedom, and it also provides tools to reduce poverty, deprivation, fear, and violence. These principles strengthen democratic institutions by free, fair and frequent elections, a representative legislature, judiciary and media independence from the State. (Cheema, 2005). The Human Development Report, 2002 insists on “good” governance as a democratic exigency, in order to “(rid) societies of corruption, (give) people the rights, the means, and the capacity to participate in the decisions that affect their lives and to hold their governments accountable for what they do”.

Three dimensions of governance are isolated as essential: Efficiency, Transparency, and Participation (Mimicopoulos, 2006). Efficiency should be understood as a government’s ability to establish predictability in the institutional and policy environment (Mimicopoulos, 2006). This is brought about by an economically efficient system of production and distribution as well as a fair and consistent legal system. Efficiency is also a question of correctly prioritizing government services to correspond with citizen needs (Afonso et al, 2006). This includes the provision of services such as security, healthcare, and education.

Transparency is the availability and clarity of information provided to the general public about government activity. Governments must not only provide information, but also ensure that as many citizens as possible have access to this information with the goal of increasing citizen participation. A lack of transparency creates opportunities for government corruption and reduces public sector efficiency. Islam, 2003 explored the link between information flows and governance through his study “Do More Transparent Governments Govern Better?” with the objective to examine how the availability of information may affect governance. Specifically, it looks at (a) how the availability of basic economic data affects governance and (b) how the legal framework governing access to information might affect the quality of governance.

Empirical analysis showed that countries which have better information flows as measured by both indicators have better quality governance. Linked with transparency is the issue of Accountability. The notion of accountability has been defined slightly differently by various authors (Oakerson, 1989; Guttman and Thompson, 1996; Manasan et al., 1999; Manin et al., 1999; Schedler, 1999; Keohane, 2002; Ribot, 2002). However, according to most definitions accountability is a relational term which includes the obligation of actors that are accountable to provide information and reasons for their actions. ‘Who is accountable to whom and for what’ are at the heart of all concepts of accountability (Scott, 2000). Accountability improves a government’s legitimacy. Accountability rests upon Transparency and participation. Participation requires enhanced capacity and skills of stakeholders along with suitable policies.

Emergence of a knowledge society has played an important role in transforming the nature of governance. Access to opportunity has developed into a requisite element of “good” governance. Specifically, the Information Age and the resulting Information and Communication Technology (ICT) tools have dramatically altered the relationship between the public sector and other actors in society. ICT has proven to be a powerful means of disseminating information in times of political uncertainty (Kyj, 2006). More importantly, ICT can be used in a sustainable manner to facilitate government operations as well as engage civil society.

The Information Age has exacerbated the divide in access opportunities between enfranchised and poor/ disenfranchised. As a result, “good” governance is no longer limited to adopting efficient methods offered by ICT, but now also includes ensuring that all citizens have access to this technology. Access to opportunity is recognized as an important vehicle for development (Khan, 2005). ICTs can involve more people achieve a deeper penetration (Ababa, 1999). The use of ICTs to improve the ability of government to address the needs of society is defined as e-governance. These services include improved dissemination of information to citizens, better coordination of the strategic planning process, and facilitating the attainment of development goals. ICTs can promote governance goals in many ways - ranging from enabling distance education, telemedicine, and environmental management, to strengthening of participatory approaches and the creation of new livelihoods.

E-governance involves the use of information and communication technologies (ICTs) to transact the business of government (Heeks, 2001). A consensus on definition is absent. E-government has been defined as specific actions; using government kiosks to retrieve information, or effecting transaction through stand alone or integrated portals or automating delivery of government services. OECD has defined e-government as “the use of information and communication technologies, and particularly internet, as a tool to achieve better government” (OECD, 2003a, 2003b). It moves beyond old 'IT in government' models thanks to the new digital connections that ICTs permit. These new connections strengthen existing relationships and build new partnerships within civil society. E-governance promises a full service available 24 hours a day and seven days a week, greater accessibility, the capability to obtain government services without visiting government offices, and reduced service cost. It also contributes to the functioning of democracy by online provision of government information which would otherwise be difficult to obtain or unavailable, and through online debates and plebiscites (Teicher et al., 2002).

E-governance is a way for governments to use the new technologies to provide people with more convenient access to government information and services, to improve the quality of the services and to provide greater opportunities to participate in democratic institutions and process (EzGov, 2000). “Electronic governance involves new styles of leadership, new ways of debating and deciding policy and investment, new ways of accessing education, new ways of listening to the citizens and new ways of organizing and delivering information and services” (Ferguson, 2000). Research on E governance initiatives have clearly highlighted the importance of such initiatives are amenable to shaping the local area (Kanungo 2003, Harris et al 2002). “E-government is the transformation of public-sector internal and external relationships through Internet-enabled operations and information and communication technologies to optimise government services delivery, constituency participation and internal government processes” (Di Maio *et al*, 2002). Although there is lack of agreements regarding definition of e-Government, researchers agree that e-government has come to stay. Moreover transition from the classical governance paradigm to the e-governance is an ongoing phenomenon. E-governance cannot be introduced in a short time.

An important aspect of good governance in any Country is provision of 'Anytime - Anywhere - Access' to government information and services through optimum utilization of ICT. These services are often provided through a number of different departments working in different sectors of development. This implies that citizens have to visit a large number of websites for different services. Governance comprises the traditions, institutions and processes that determine how power is exercised, how citizens are given a voice, and how decisions are made regarding issues of public concern. Another issue for all over the world, government in the developing countries costs too much, delivers too little, and is not sufficiently responsive or accountable. Good governance reforms aim to address these shortcomings. Yet progress after many years of effort in implementing such reforms – has been much more limited than expected. e-Governance offers a new way forward, helping improve government processes, connect citizens, and build interactions with and within civil society. The three main contributions of e-governance: improving government processes (e-administration); connecting citizens (e-citizens and e-services); and building external interactions (e-society). E-governance is the ICT-enabled route to achieving good governance. (Heeks, 2001)

As already pointed out, the enthusiasm for realizing the potential of ICTs is often dampened by the barriers to successful implementation. There is a need to study the possible barriers in the implementation of e governance applications and draw a meaningful framework in this direction to workout alternative solutions to eliminate these barriers. Heeks, 2001 suggests that there exists wide gap between the current reality in developing countries and the future of e-governance systems. These gaps could be classified into three types: a hard-soft gap, implying a gap between the technology and the social context in which it is applied; a private-public gap, suggesting that what works in the private sector may not work in the public sector; and a country context gap, that arises from the application of the same e-governance systems for both the developing and developed countries.

### **2.5 – Identifying Gaps in Research:**

Although a lot of work has been done on governance and good governance, still there are areas which have not been covered. Firstly, there are a number of stakeholders in

the entire system of Governance viz., citizen, bureaucrat, politician, businessmen, professional, academician, students etc. Each one of these has a different expectation from Government based on his perception of good governance. Earlier studies have not attempted to evolve a shared vision of all the stakeholders, especially in the Indian context, which would be necessary to evolve the required policy framework.

Another research gap is about collating the Indian citizen's experience about various Government services on the basis of frequency of use, perception of the level of corruption, inefficiency, harassment or difficulty encountered and their understanding about the priority for improving the service through IT / e-Governance. This would also bring out the gap between perception and real experience to some extent. Identifying the factors causing pain and harassment for different stakeholders, including the bureaucrats and politicians, and remedying these through the appropriate policy interventions, though may have been attempted in bits and pieces in the past; also require a comprehensive study.

Similarly the findings on the basis of structured primary data in understanding the belief of stakeholders in ICT, success factors for effective e-governance, timelines, service model, payment mode etc in the Indian context also requires to be looked into comprehensively.

## **2.6 – Concluding Remarks:**

It may be observed from above mentioned review of literature that some pioneer work has been done by various researchers on ICT and good governance in developing countries including India. However, there is a need for comprehensive, integrated and holistic approach for achieving good governance using ICT as a tool with Indian perspective. There are too many stakeholders and each has a different vision of Good Governance. It is very important to first evolve this shared vision and then the framework which can realize this vision of Good Governance. The proposed study intends to fill this gap. The present study is also unique in trying to use an extensive survey technique to find the factors of good governance.

## **CHAPTER - III**

### **RESEARCH DESIGN AND METHODOLOGY**

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In the preceding Chapter of the present Study, having conducted the review of literature, it was planned to develop a questionnaire to study a shared vision of stakeholders, e.g., Citizens, Government (Politicians and Bureaucrats) and Academia, Businessmen and Professionals of factors that lead to Good Governance. Although number of techniques are available to capture the data, a self-administered questionnaire was considered to be the primary survey instrument for data collection in this investigation as it addresses the issue of reliability of information by reducing and eliminating differences in the way that the questions are asked, and how they are presented. Moreover the questionnaires facilitate the collection of data within a short period of time from the majority of respondents and this was a critical issue for this research.

#### **3.1 - Research Design:**

The State is divided into three natural regions, Doaba, Majha and Malwa. It is researcher's endeavor to give due representation to each region while conducting the study.

**3.1.1 - Objectives of the Study:** The basic Objective of the present Study is:

- i. To evolve a shared vision of stakeholders for leveraging the Information and Communication Technologies for realizing Good Governance.
- ii. To study the experience / perception / opinion of the citizen about the level of corruption, inefficiency, harassment or difficulty encountered in various government institutions and their services and the priority of citizen regarding e-Governance.
- iii. To identify the gaps / pitfalls in the existing ICT led e-Governance projects/ policy framework.

- iv. To evolve a broad strategic e-governance policy framework in terms of citizens' prioritization, demographic factors, barriers, pain points, frequency, preferences, methodologies, measuring success, for achieving good governance as per the expectations of stakeholders.
- v. To identify and establish linkages between the critical success factors responsible for creating a conducive policy environment for effective and successful adoption of e-governance in a multidimensional space.

Further research may be carried out for implementing the strategic policy framework arrived at as the outcome of the study and carrying out testing and validation of the hypothesis on a pilot basis. This cannot be taken as part of the study since the implementation and testing of such policy framework would require a time frame of 3 to 5 years for significant penetration and there after testing and measurement of results.

### **3.1.2 - Investigation Approach:**

- Design questionnaire, interview and carry out participatory stakeholders analysis
- Evolve a shared vision of stakeholders for achieving good governance and e-governance
- Study the existing policy framework of other states
- Evaluate the published/available the case studies of selected e-governance projects and list out the learning and best practices
- Carry out the gap analysis of stakeholder expectations with respect to the existing policy framework
- Analyze and interpret the data using the appropriate statistical techniques.
- Evolve a broad strategic policy framework for good governance through e-governance

### **3.2 - Research Methodology:**

- Understand the level of e-governance adoption and maturity in Government measured by availability, access and usage of ICT infrastructure and services.

- Study and analyze the existing e-governance policies of leading states.
- Measure peoples' experiences and expectations from 'Good Governance' and e-Governance through participatory stake holders analysis
- Carry out the gap analysis between actual expectations of stakeholders, as measured, and the Government's understanding of the same.
- Evaluate the published/ available case studies of the selected e-governance initiatives. The learning from the successes and failures were used for evolving the proposed broad strategic e-governance policy framework.
- The research would also indicate further areas of investigations, research and policy interventions requiring attention.

### **3.2.1 - Sampling - Demographic Details:**

Justification and rationale for selecting the State:

- Researcher is staying / working in the State
- Good number of e-Governance initiatives are already afoot in the State.
- Punjab represents low rural–urban disparity/ divide.
- Punjab characterizes a rich state with highest telecom density and technology adoption – but at the same time having a low to moderate Information Technology penetration.
- For sampling size district has been taken as unit-being representative of the population of the area.
- Effort has been made to collect at least 25 per cent sample from amongst women in the common categories.

<b>Table 3.1 - Demographic Profile :</b>	
<b>State</b>	<b>Punjab</b>
Population (2001 census)	24,289,296
Urban	8,245,566
Rural	16,043,730
Natural regions of Punjab	Majha, Malwa and Doaba
Districts	17
Sub Divisions	72
Towns / Cities	134
Blocks	140
Villages	12429

### **3.3 - Details of the Questionnaire:**

The review of selected literature provided an initial development of a draft. The final questionnaire consisted of a total of 27 common questions that included close-ended, multiple and Likert scale type questions. Random stratified sampling technique has been used for collecting the data. Information has been collected from the stakeholders which include citizens, government (politicians and bureaucrats) and academia, businessmen and professionals. Table 3.2 gives details about the purpose of each question. First 14 questions (question 1 to 14) collect the full profile of the respondent while the other questions were for studying a variety of responses of stakeholders. The questionnaire is based on five-point Likert scale for most of the responses.

The next 13 common questions (question 15 to 27) seek responses of the stakeholder on various aspects like the level of computerized government services, desired timings, language, factors for providing a good quality administration and governance, experience or perception or opinion about various government institutions and their services on the basis of frequency of use of the services by the citizen, level of

corruption, inefficiency, harassment or difficulty encountered in getting the service by the citizen and the priority for improving this service through computerisation / use of IT/ e-governance, factors which may be causing pain and harassment and difficulties to the citizens in getting the citizen services, timeframe the respondent wants the computerized citizen services/ e-governance services, extra charges the respondent is willing to pay, preferred mode of payment, barriers/ challenges / risks/ hindrances for effective computerized citizen services, factors for contributing to the success or effectiveness for improved services, creating awareness and training of citizens while implementing good governance. The questions were framed on the aspects given in Annexure 2.

**Table 3.2: Objective/ Purpose of Various Questions  
Common Questions for all Citizens (Q 1 to 27) and other Questions for Bureaucrat  
and Politicians; Professionals**

Sr. No.	Gist of Questions	Response method	Basic Objective/ Purpose
1.	Serial No.		Data identification
2.	Name of the Respondent		Data identification
3.	Address/ Contact Details		Data identification
4.	District/ Place of Residence		Demographic Data
5.	Age (Years) as on 1st January 2007		Demographic Data
6.	Sex		Demographic Data
7.	Address		Demographic Data
8.	Marital Status		Demographic Data
9.	Educational / Professional Qualifications of Respondent.	Please tick (✓) one option.	Demographic Data
10.	Profession / Occupation.	Please tick (✓) the option. You can select more than one option.	Demographic Data
11.	Profession of the Spouse.	Please tick (✓) one option.	Demographic Data
12.	Your Income Level.	Please tick (✓) one option.	Demographic Data
13.	Do you have access to these communication / entertainment devices?	Please tick (✓) the option you use. You can select more than one option.	Data on basic access devices
14.	Do you have access to a computer and Internet? If yes, then how do you use Computer and Internet?	Please tick (✓) the option you use. You can select more than one option.	Data on online access
15.	What level of Computerized	Please tick (✓) the option	e-Service delivery preferences - delivery

Sr. No.	Gist of Questions	Response method	Basic Objective/ Purpose
	Government Services/ ICT led e-governance services you think citizens want through the Public Kiosk / Common Service Centers/ Suwidha centers/ Personal Computer/ Internet etc.?	you want.	levels
16.	Desired timings of Government Service required by you.	Please tick (✓) the option you use. You can select more than one option.	e-Service delivery preferences – delivery timing
17.	In what Language you want the Computerised Government Services/ ICT led e-Governance services.	Please tick (✓) the option you want. You can select more than one option.	e-Service delivery preferences - delivery language
18.	How important/ relevant, in your opinion, are the following factors for providing a good quality administration and Governance:	Please rank each factor on a 5 point scale of ( -2, -1, 0, 1, 2 ) by ticking (✓) one of the five boxes for each factor. ( -2 means most irrelevant, -1 means irrelevant, 0 means neutral, 1 means relevant, 2 means most relevant)	Shared vision on Good Governance/ Expectations from Government
19.	What is your experience or perception or opinion about various Government institutions and their services on the basis of : 1. Frequency of Use of the Services by the citizen 2. Level of corruption, inefficiency, harassment or difficulty encountered in getting the service by the citizen 3. What should be the priority for improving this service through Computerisation / use of IT/ e-Governance	Please rank each department/ service enlisted below, on a scale of 1 to 5 by ticking (✓) one of the five boxes for each factor. (1 being lowest and 5 being highest)	Present service delivery experience or perception or opinion – frequency of use; corruption, inefficiency, harassment or difficulty encountered; and priority for improving the service through ICT
20.	Please indicate the relevance of the following factors which may be causing pain and harassment and difficulties to the Citizens in getting the Citizen services from various Government departments	Please rank each factor on a 5 point scale of ( -2, -1, 0, 1, 2 ) by ticking (✓) one of the five boxes for each factor. ( -2 means most irrelevant, -1 means irrelevant, 0 means neutral, 1 means relevant, 2 means most relevant)	Service delivery factors – causing pain and harassment to the citizen-Citizen's perspective
21.	How would you prefer to get the computerized Citizen Services/ e-Governance services, mentioned above, from the Government?	Please tick (✓) the option you want. You can select more than one option.	e-Service delivery preference – delivery options
22.	In what timeframe you want the computerized Citizen Services/ e-Governance services to be available to you depending upon the financing method for providing these services.	Please tick (✓) the option you want.	e-Service delivery preference – Implementation Timeframe vs Cost
23.	How much extra than the normal	Please tick (✓) the option	e-Service delivery

Sr. No.	Gist of Questions	Response method	Basic Objective/ Purpose
	charges are you willing to pay for service delivery closer to your doorstep for those services for which presently you have to travel to District/ state Head Quarter.	you want.	preference – Access Cost
24.	What would be your preferred Mode of payment for utility Bills and other computerized Citizen Services/ e-Governance services.	Please rank each mode on a 1 to 5 by ticking (✓) one of the five boxes for each mode. (1 being lest preferred and 5 being most preferred choice)	e-Service delivery preference – Payment Mode
25.	What would be the importance / significance of each of the following identified barriers/ challenges / risks/ hindrances for effective computerized Citizen Services/ e-Governance services.	Please rank each factor on a 5 point scale of ( -2, -1, 0, 1, 2 ) by ticking (✓) one of the five boxes for each factor. ( -2 means not at all important, -1 not important, 0 means neutral, 1 means important, 2 means most important)	e-Service delivery - identified barriers/ challenges / risks/ hindrances in implementation of effective e-Governance
26.	What is, in your perception, opinion or understanding, the relevance of following factors for contributing to the success or Effectiveness for Improved Services through Computerized Government Services / e-Governance.	Please rank each factor on a 5 point scale of ( -2, -1, 0, 1, 2 ) by ticking (✓) one of the five boxes for each factor. ( -2 means most irrelevant, -1 means irrelevant, 0 means neutral, 1 means relevant, 2 means most relevant)	e-Service delivery - critical success factors in implementation of effective e-Governance
27.	The way for creating awareness and training of citizens for using computerized services/ e- governance services in the most effective manner.	Please tick (✓) the option you feel is the best. You can select more than one option.	e-Service delivery - creating awareness and training of citizens for using e-services
28.	What in your opinion or experience are the factors responsible for pain and harassment and causing difficulties to the Citizens in getting the Citizen services from various Government departments and also resulting in ineffectiveness or Corruption.	Please rank each factor on a 5 point scale of ( -2, -1, 0, 1, 2 ) by ticking (✓) one of the five boxes for each factor. ( -2 means most irrelevant, -1 means irrelevant, 0 means neutral, 1 means relevant, 2 means most relevant)	Service delivery factors – causing pain and harassment to the citizen-Government Employee's perspective
29.	Please mention the level of importance to be given to each variable for an effective Good Governance framework through the use of IT.	Please rank each factor on a 5 point scale of ( -2, -1, 0, 1, 2 ) by ticking (✓) one of the five boxes for each factor. ( -2 means not at all important, -1 not important, 0 means neutral, 1 means important, 2 means most important)	Good Governance framework - Factors to be taken into account for an effective Good Governance framework through ICT
30.	Please rank the severity of following key issues, with respect to the existing national and state level e- governance policies.	RANK each issue ON A SCALE OF 1 to 5 (1 being least severe and 5 being the most severe issue)  (This question is only for the Bureaucrats (32) /	e- Service policies - Existing national and state level e- governance policy issues.

Sr. No.	Gist of Questions	Response method	Basic Objective/ Purpose
		Professional/ Academia/ IT Industry)	
31.	Your level of belief in the use of Technology and e-Governance is relevant in the Indian Scenario and, if properly implemented, would solve the problems of Indian Government Systems.	Please tick (✓) one option. (This question is only for the Bureaucrats (33) / Professional/ Academia/ IT Industry)	Belief of bureaucrat, politician and professional - in the use of technology in the Indian Scenario to remove the problems of Indian Government System
32.	Factors which you consider are responsible for the pitfalls in the existing ICT led governance policies / projects.	Please rank the factors on a scale of 1 to 5 , (1 being lowest and 5 being highest relevance)	e- Service policies - For the bureaucrat, politician and professional - Pitfalls in the existing ICT led governance policies / projects
33.	What, in your opinion, is the importance of the following factors for measuring the Effectiveness/ impact/ success of an e-Governance project / service?	Please rank each factor on a 5 point scale of ( -2, -1, 0, 1, 2 ) by ticking (✓) one of the five boxes for each factor. ( -2 means not at all important, -1 not important, 0 means neutral, 1 means important, 2 means most important). Bureaucrat (34)	e- Service implementation – measuring the effectiveness/ impact/ success
34.	What, in your opinion, is the importance of the following Direct / Indirect Risks or Threats Involved while implementing Good Governance through the use of IT/ e-Governance.	Please rank the following factors on a scale of 1 to 5 , (1 being lowest risk/ threat and 5 being highest risk/ threat ) (This question is only for the Bureaucrats(35) / Professional/ Academia/ IT Industry)	e- Service implementation – direct / indirect risks or threats involved
35.	How the implementation of e-governance would affect your own career.	Please rank each factor on a 5 point scale of ( -2, -1, 0, 1, 2 ) by ticking (✓) one of the five boxes for each factor. ( -2 means most adversely, -1 means adversely, 0 means neutral, 1 means positively, 2 means most positively)	e- Service implementation – Personal impact
36.	Please rate the effectiveness of the following methods in creating awareness and training the Government staff in the use of Information and Communication Technology for providing e- governance services	RANK EACH FACTOR ON A SCALE OF 1 to 5 (1 being the least effective and 5 being most effective)	e- Service implementation – Capacity building options for the staff

The respondents were asked to rate the options according to their choices. The sample includes the urban, semi-urban and rural areas. Data has been collected from the politicians and bureaucrats and academia, businessmen and professionals. The three sets of questionnaires were administered to 2900 persons. In response to these

questionnaires 849 responses have been received as per details in Table 3.3 which have been discussed in the thesis.

<b>Table 3.3 - Questionnaires administered and the responses received :</b>			
<b>Stakeholders</b>	<b>Questionnaires Administered</b>	<b>Responses Received</b>	<b>% Responses Received</b>
Citizens	2250	729	32.4%
Bureaucrats and Politicians	200	34	17%
IT/Academics	450	86	19.1%
Total	2900	849	29.27%

Information thus collected has been compiled through data entry software specially developed for this purpose in the Excel format for further analysis. In person interviews, tele-interviews, interaction during national conferences, meetings and forums were also held to collect data about the policies framework of various states and success factors of their flagship e-Governance projects as indicated in the review.

### **.3.4 - Tools and Techniques:**

Data was analyzed with the help of SPSS (Statistical Package for Social Sciences) package. Statistical tools like chi-square ( $\chi^2$ ) test, factor analysis and ANOVA were applied to the data to test the hypotheses.

#### **3.4.1 - Analysis of Variance:**

Analysis of Variance (ANOVA) is used to test for the significance of the differences among more than two sample means. Using ANOVA, inferences can be made about whether the different samples have been drawn from the populations having the same mean. ANOVA involves determining one estimate of the population variance from the variance among the sample means and second estimate of the population variance from the variance within the sample. Further, both the estimates are compared. If both the estimates are approximately equal in value, then the null hypothesis, i.e., sample

means do not vary significantly, is accepted. These two estimates of the population variance are compared by computing their ratio, called F statistic.

$F = \text{between-column variance} / \text{with-in column variance}$

Degrees of freedom for numerator = (Number of samples-1)

Degrees of freedom for denominator = (Total sample size – Number of samples)

When samples are not drawn from the populations having the same mean, between-column variance tends to be large than with-in column variance and the value of F-statistics tends to be large. This leads to the rejection of null hypothesis.

### **3.4.2 - Chi-square Test:**

Chi-square test can be used to determine whether the two attributes are independent of each other. Value of chi-square is calculated using the following expression:

$$\chi^2 = \sum (O - E)^2 / E$$

O = Observed frequency

E = Expected frequency

$$E = (RT \times CT) / n$$

RT = Row total for the row containing that cell

CT = Column total for the column containing that cell

n = Total number of observations

Degrees of freedom = (r-1) (c-1)

r = Number of rows

c = Number of columns

Higher value of chi-square indicates more difference between the observed and expected frequencies. If calculated value of chi-square is greater than table value, null

hypothesis is rejected. Rejection of null hypothesis indicates that there is dependence among attributes.

### **3.4.3 - Factor Analysis:**

Factor analysis attempts to identify a set of dimensions that is not directly observable in a large set of variables. This analysis is used to summarize a majority of the information in a data set in terms of relatively lesser new categories, called factors. Major use of factor analysis is to group redundant variables so that smaller number of variables can be selected for further analysis.

Factor Analysis begins with the construction of a new set of variables based on the relationships in the correlation matrix. Principal component analysis can be used to transform a set of variables into a new set of composite variables or principal components that are not correlated with each other. These linear combinations of variables, called factors, account for the variance in the data as a whole. The best combination makes up the first component and is the first factor. The second principal component is defined as the best linear set of variables for explaining the variance not accounted for by the first factor. There may be many factors, each being the best linear combination of variables not accounted for by the previous factors (Cooper and Schindler, 2006).

### **3.5 - Hypothesis Testing:**

While in all research work hypothesis is a conjectural statement about the relationship of different variables being studied, in this study, as compared to many others, there is greater need to emphasize the conjectural aspect of the hypothesis. There are two reasons for this. One, the review of literature reveals that many of the earlier research is done in abroad with different aspects. Two, many of the research objectives, outlined above, have not been addressed by earlier research, especially in India. The specific hypotheses examined in this study are as follows:

- i. Information and Communication Technology may be a potent tool for realizing good governance.
- ii. Different categories of stakeholders have different perceptions of factors for good governance.
- iii. The expectations from good governance for all citizens mainly relate to providing more concessions and freebies by the Government.
- iv. The citizen believes that e-Governance may result in speedy information dissemination and improved service delivery.

### **3.6 – Reliability and Validity:**

The questionnaire developed has been pre-tested and validated through face validity as it was sent to a carefully selected sample of experts and it also has a sufficiently good reliability score. The Question wise reliability index, which is given in Table 3.4, reveals that the internal consistency based on the inter item correlation is quite good in all the above questions:

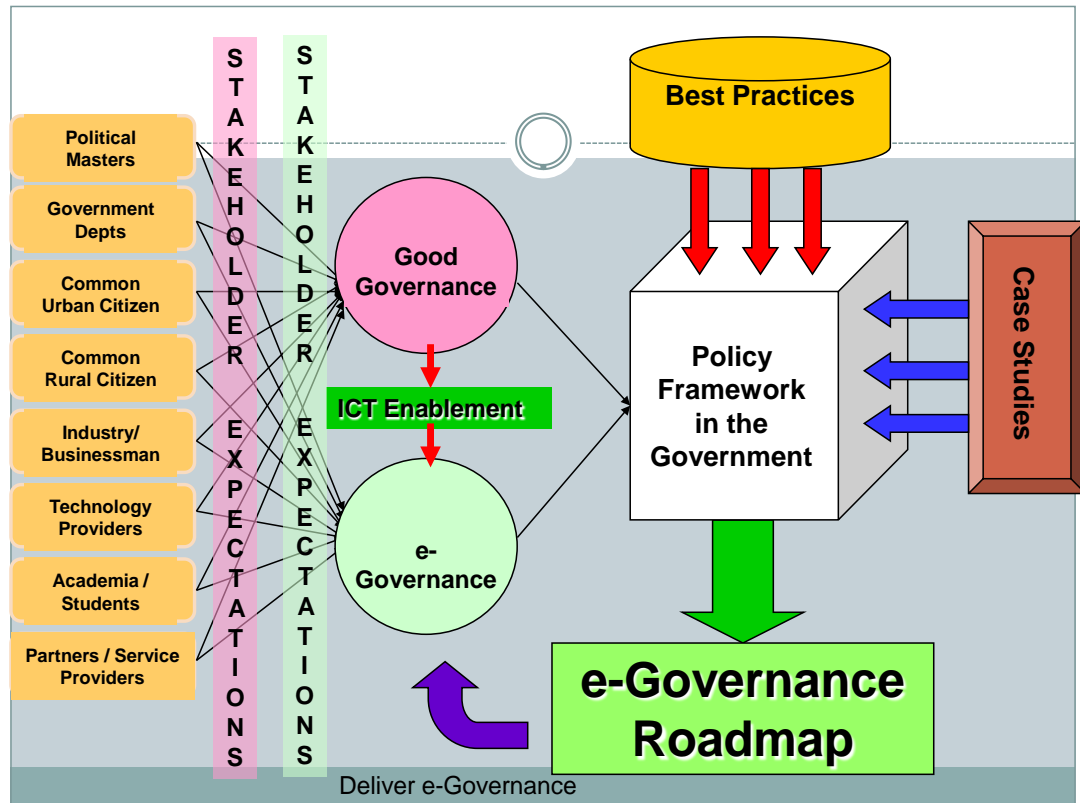
<b>Table 3.4 - Reliability Statistics :</b>		
<b>Items</b>	<b>Cronbach Alpha</b>	<b>No of Items</b>
Factors for providing a good quality administration and Governance	.897	14
Experience or perception or opinion about various Govt Institutions and their services on the basis of Frequency of Use of the Services by the citizen	.952	26
Experience or perception or opinion about various Government institutions and their services on the basis of Level of corruption, inefficiency, harassment or difficulty encountered in getting the service by the citizen	.957	26
Priority for improving this service through Computerisation / use of IT/ e-Governance	.970	26
Relevance of the following factors which may be causing pain and harassment and difficulties to the Citizens in getting the Citizen services from various Government departments	.954	17
Preferred Mode of payment for utility Bills and other computerized Citizen Services/ e-Governance services	.843	8
The importance / significance of each of the following identified barriers/ challenges / risks/ hindrances for effective computerized Citizen Services/ e-Governance services	.875	7
Perception, opinion or understanding, the relevance of following factors for contributing to the success or Effectiveness for Improved Services through Computerized Government Services / e-Governance	.926	17
The way for creating awareness and training of citizens for using computerized services/ e- governance services in the most effective manner	.931	6
Opinion or experience are the factors responsible for pain and harassment and causing difficulties to the Citizens in getting the Citizen services from various Government departments and also resulting in ineffectiveness or Corruption.	.925	18
Level of importance to be given to each variable for an effective Good Governance framework through the use of IT.	.946	21
Pitfalls in the existing ICT led governance policies / projects.	.923	16
Importance of the following factors for measuring the Effectiveness/ impact/ success of an e-Governance project / service	.956	25
importance of the following Direct / Indirect Risks or Threats Involved while implementing Good Governance through the use of IT/ e-Governance	.943	13
Total	.944	231

The study also looked at IT policies in the various states and examined them from how governments have conceptualized the use of IT to meet the service delivery goals. This was done to highlight the policy gaps to some extent. The study took into account the policy framework of various states with regards to the factors such as vision, mission, goals and objectives; clear e-governance roadmap; definitive action plan with milestones and time lines; human resource policy, capacity building roadmap; infrastructure policy; funding policy and sustainability models; institutional framework, special purpose vehicles; comprehensive administrative reforms; policy regarding process reengineering and AR; IT resource acquisition and disposal policy; public private partnership policy; local language promotion policy; security and privacy; outsourcing policy; IT education policy (schools, college and professional); special schemes / provision for the weaker sections; policy on ICT entrepreneurship for local youth; interdepartmental coordination policy; dispute resolution mechanism. The states executives were to rank the importance/ relevance of these policy factors on a scale of 1 to 5, (1 being lowest and 5 being highest relevance) which they considered the most or least important in their existing ICT policies / projects.

The study also evaluated the factors for contributing to the success or effectiveness of various e-governance projects implemented across the country for improved services through computerized government services / e-governance, political commitment and will; bureaucratic leadership, continuity, attitude ; administrative ownership by the department concerned; departmental coordination and administrative issues; human challenges; capacity building; change management; training of government staff; choice of technology; security standards; architecture and standards; process reengineering and admin reforms; infrastructural issues like site, electric power; availability of financial resources; self sustainability model; legal and privacy issues; IT literacy, public awareness about the service; completeness, depth and spread of service; friendliness of service delivery and cost; quality of services; total transaction volumes and total transaction value. Though no detailed data collection/ analysis was undertaken for this part of the study, it was done on the basis of in-person observations, interviews, questionnaires and experiences from public forums during my interaction with various State Governments officials.

The overall methodology has been depicted in Figure 3.1.

**Figure 3.1 - Scope and methodology of the study:**



During the period of this study, the ‘ICT and e-Governance Policy Framework’ of 10 States, which were particularly doing well in ICT and e-Governance, were studied from their published policy documents in the print, or on their official websites, understood through the personal interviews and discussions with the concerned Secretary of the State/ their officials at different national/ international forums.

### **3.7 – Concluding Remarks:**

Choosing the right research design and methodology is one of the most important aspects of the research process for targeted outcomes. Today very potent and scientific tools are available which make the process even speedier, pain free, reliable and accurate. Questionnaire based primary data, secondary data, information published by the state entities on the internet and in-person interviews and observations have been chosen for the present study.

**CHAPTER – IV**  
**IT POLICIES AND E-GOVERNANCE INITIATIVES OF**  
**SELECTED STATES**

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In India, most of the state governments have taken some initiatives in e-Governance which have met with varying degrees of success. Over 20 States/ Union Territories in India already have an IT policy in place. An attempt has been made in the present Chapter to understand the status and progress made by the States Government in the deployment of e-Governance for the social and economic development. The chapter has been divided into four Sections. Section 4.1 covers the IT policies and the E-Governance Initiatives of ten major states focusing on the examination of the existing policy framework. Section 4.2 covers the critical analysis of the IT policies of these states by rating them on a five point scale. Section 4.3 relates to the case studies of e-governance in these selected states and section 4.4 covers the critical analysis of these e-governance initiatives to highlight the success or failure of such measures. The states chosen for analysis are: Haryana, Punjab, Andhra Pradesh, Rajasthan, Madhya Pradesh, Maharashtra, Tamil Nadu, Karnataka, Kerala and West Bengal. These States have been chosen based on a number of considerations like these represent all regions of the country namely north, east south, west and central, availability of a mature published State IT policy document in place, experience of practically implementing at least one successful e-governance project in the State. These States were particularly doing well in ICT and e-Governance.

**4.1 - Salient Features of IT Policy and E-Governance Initiatives:**

**4.1.1 - Punjab:**

- i. Promoting Investments in the Knowledge Sector in general and ICT based Industry and Services in particular for accelerating the economic growth of Punjab. Facilitate NRI Investments towards development of the ICT sector within the state.

- ii. Create direct and indirect gainful employment for the educated and other youth in all professions. Also promote self-employment for the youth by designing appropriate initiatives. Promote vocation ICT initiatives in schools and other institutions.
- iii. Enabling Physical and Social Infrastructure Development with a special focus on the three pillars of National e-Governance Plan (NeGP) viz., Providing Integrated Services through Citizen Service Centers (CSC) under one roof, Wide Area Network (WAN) and Data Centers.
- iv. Promote overall quality human resource development for leapfrogging in the Knowledge economy
- v. To establish new multi-faceted ICT institutions and societies as centers of excellence to ensure Punjab's competitiveness in the space – To move up the value chain, promote RandD culture and promote the knowledge society
- vi. Create an ICT enabled friendly business environment through suitable Policy, Legal, Regulatory and Institutional Framework. Create suitable policy framework, institutional framework, infrastructure, work environment, information culture, for facilitating Good Governance – represented by the following attributes: i) Rule of Law, ii) Transparency, iii) Accountability, iv) Responsiveness, v ) Consensus and Orientation, vi ) Equity and Inclusiveness, vii) Effectiveness and Efficiency, viii) Right to Information and ix) Optimize touch points between citizen - Government Interface. Minimize Data Duplication from citizen by creating Integrated Databases and State Datacenter
- vii. Develop a consistent technology architecture and standards baseline across all departments and promote the development and delivery of a wide breadth of online services Government-to-Citizen (G2C), Government-to-Business (G2B), and Government-to-Government (G2G) services) via a state-wide integrated e-Portal.
- viii. Promote entrepreneurial initiatives that are beneficial to the society such as publicizing and market development for handicrafts and other products of rural artisans, content distribution etc.
- ix. Facilitate Digital Unite by promoting increased awareness and information exchange among the community

- x. Provide safeguards for system security, disaster recovery, and privacy protection in all the Government and Business transactions.
- xi. Assess gaps in capacities within Government and pursue Capacity Building exercises in Government, RandD, Scientific and Industrial Research and define policies for recruitment
- xii. Facilitate the government departments in drafting Annual Technology Plans and corresponding budgets so as to improve state-level strategic project planning, budgeting, and tracking
- xiii. To empower children, women, the disabled, the SC/ST and other backward classes by providing special programs for playing a role in the knowledge economy.
- xiv. Foster growth and development in Local Language Interfaces and content through selective policy initiatives.
- xv. Telecom Infrastructure and Usage Policy - Connectivity, Free Right-of-the-way policy. Work toward Convergence of Technologies.
- xvi. Promote sustainable business model in e-Governance and other ICT initiatives through Public-Private Partnership and other revenue models.
- xvii. To promote adoption of ICT and other new technologies in growth of industry and business to increase competitive advantage, reduce costs and boost overall economy.
- xviii. Catalyze rural re-construction in particular, development of rural infrastructure through use of appropriate technologies.
- xix. Facilitate the next agricultural revolution in all facets including pre-production, production, post harvesting and marketing of agricultural produce, horticulture and animal husbandry products.

#### **4.1.2 – Haryana:**

**IT Vision:** To transform Haryana into an IT driven economy

## **Objectives**

The IT Vision is sought to be realised by achieving the following objectives:

- i. Upgrading the standard and quality of administration, particularly in social and public services sector through a process of modernisation and rationalization of the administrative set up.
- ii. Providing public centered, efficient and cost-effective Government,
- iii. Extensive percolation of IT literacy and education in the State,
- iv. Promoting investments in IT industry,
- v. Encouraging private sector initiative in IT related infrastructure and services,
- vi. Increasing the share of IT in State Gross Domestic Product,
- vii. Generating IT related employment opportunities, and
- viii. Enhancing earning capacity of the residents thereby ensuring a better quality of life.

### **Re-engineering of administrative processes:**

- i. The State shall undertake intensive re-engineering and administrative reforms, redefining its role, and recasting the structure and functioning of its administrative Departments to facilitate adaptation to IT.
- ii. IT Initiative Fund for e-Governance: An IT initiative fund for e-Governance shall be established with contributions from profit making State PSUs, co-operative institutions and other public sector organisations.
- iii. State-wide Area Network: The State shall establish backbone network i.e. Haryana State Wide Area Network (HARNET) for voice, data and video transmission and dissemination. The network shall be utilised for inter department connectivity, multi-user and multi-service facilities, video conferencing, file transfer facility, e-mail, on-line application processing, query and response.

- iv. The State Government Departments shall establish departmental intranets and local area networks which will lay the foundation of Centralised Data Repository of public domain information for "Anytime- Anywhere" usage.
- v. Flagship/Proof-of-concept Applications: Flagship applications will be developed as proof-of-concept applications for building confidence in other Departments, Boards and Corporations.
- vi. SMART Cards: SMART Card based citizens ID with multi-functions that enable citizens to interact with services, make payments, act as a Voter ID, obtain ration card, passport, driving licence and vehicle registration etc. shall be introduced in association with the private sector by the year 2003.
- vii. Use of Hindi: The State Government shall promote use of Hindi in Information Technology to increase the outreach to the common man. For this purpose specific initiative will be taken for use of Devnagari in Computers and developing Web Applications.
- viii. Government Tendering/Procurement Process: Electronic procurement and settlement system with supporting databases and transparent decision making shall replace the existing system by the year 2002.
- ix. MIS for Different Levels: An efficient and effective department specific IT based Decision Support System/ Management Information System shall be evolved concurrently with the process of reengineering in the State Government.
- x. Standardisation of IT Infrastructure, data and applications. It shall be mandatory for all Departments, Boards and Corporations to procure hardware, software, networking equipment etc. according to specifications and standardisation laid down by Hartron which shall be the sole agency of the State Government to procure software and equipment.
- xi. Use of GIS Technology: GIS shall be extensively used in integrating, analysing and visualising different types of data for spatial planning, environmental protection, utility management, traffic regulation etc.
- xii. Development of Portal Website: A Portal website of the State would be set up by Hartron by interconnecting website of every department and organisation who in turn shall develop their own websites. All Government tenders,

employment news, public domain information and notices issued by Government for general public shall be published on this website.

- xiii. IT Literacy in Government: The Government shall implement an IT Literacy Plan (ITLP) for its employees to achieve 100 per cent IT literacy in the Government by 2002. IT literacy will have a minimum level of defined proficiency which will include word processing, e-mail, data entry and access etc. Suitable incentive/disincentives shall be designed to achieve desired level of proficiency.
- xiv. e-Citizen Interface- Digitisation of Public Domain Information: All public domain information like official gazette notifications, acts, rules, regulations, circulars, policies and programme documents would be digitised and made available for electronic access on Web. This process shall be completed by the year 2002.
- xv. Delivery of Public Domain IT Services: The State Government proposes to establish electronic delivery of services in the public domain in its Departments, Boards and Corporations using state-of-art technology. Such delivery of services shall be permitted on transaction fee basis to be charged from the users.
- xvi. Electronic Commerce: The development of electronic market places is transforming the structure of global economy. B2B and B2C applications, e-Banking require a number of legal issues to be addressed. The State Government will give due emphasis on e-Commerce and will endeavour to develop International Electronic Commerce Hub in Gurgaon. This hub will be set up in joint venture with VSNL/private sector.
- xvii. Promotion of IT-enabled Services or Remote Services: The State Government shall promote establishment of units for providing IT-enabled Services or Remote Services as these have vast employment generation potential.
- xviii. Promotion of IT Industry: The State Government recognised the need to give fillip to investments by the private sector in IT Industry. The role of the State Government shall be to facilitate such investment by creating investor friendly environment, escort services, speedy clearances and reliable infrastructure. A special package of incentives, which provide opportunity for competitive

growth under this IT Policy has been specifically worked out for the IT Industry.

- xix. **Communication Backbone:** The State Govt. shall encourage establishment of backbone networks by the private sector with potential of covering the last mile. Such networks using optical fiber and other reliable media including satellite communication and wireless communication technologies will create adequate bandwidth for meeting mass connectivity needs and will facilitate IT-enabled services.
- xx. **Service Delivery Points (SDPs):** The SDPs shall be encouraged in the private sector for citizens to access services. This will include Information Kiosks, Public Tele Info Centres (PTICs), Interactive Voice Response Systems (IVRS) for interaction with databases.
- xxi. **Internet Community Centres:** The State Government will promote setting up of Internet Community Centres by private sector to provide Internet facilities through out the State and up to last mile linkage.
- xxii. **IT Based Human Resource Development:** Human resource development shall occupy highest priority with the State Government. The HRD upgradation will be with the twin objectives of providing necessary manpower to the IT sector for its growth and to improve the employability of the residents in IT.
- xxiii. **Institutional Frame Work:** The IT developments in the State shall be governed on the philosophy of maximum facilitation and minimum interference by creation of investor friendly environment.

#### **4.1.3 - Andhra Pradesh:**

##### **Vision:**

Andhra Pradesh will leverage Information Technology to attain a position of leadership and excellence in the information age and to transform itself into a knowledge society.

##### **Objectives of IT policy:**

The policy objectives for the IT sector flow from the vision of the Government of Andhra Pradesh described in the foregoing section. The policy shall act as the beacon

light for Guiding the actions of all those interested in reaching the goal of the overall development of the State using IT as the major vehicle. The set of such interested parties includes the State consisting of the legislative, executive and judicial arms, IT entrepreneurs, citizens, businesses, academicians, students, intelligentsia, association of professionals etc. The policy contains guidance for each of these stakeholders.

- i. **Economic Development:** The first and foremost objective is to use IT as an instrument to foster the economic development of the State. This translates to specific action in the following areas: i) Growth of IT industry in the state, ii) Growth of software exports iii) Creation of employment potential, iv) Attracting investments from outside the state, v) Providing high quality services in all spheres and vi) Promoting knowledge as the key resource for economic progress of individuals and institutions.
- ii. The Government intends to make conscious efforts to see that IT percolates to the middle class and people below the poverty line. This translates to goals such as : i) Taking Internet to the villages, ii) Promoting IT-enabled education, iii) Promoting Local Language interface and iv) Taking up socially relevant extension and outreach programs.
- iii. **Human Resource Development:** Together with economic development, an improved quality of life to the citizens has to be assured. These include: i) Quality , standards and universalization of education, ii) Access to quality health care for all, iii) Availability of nutritious food for all and iv) Development of centers of excellence in knowledge.
- iv. The state has, as part of a unique IT Incentives Policy, incentivised software employment by subsidizing land to the extent that one can even get it completely free! Further the state has reviewed all the major Acts and rules that regulate the IT industry and in most cases has either done away with the red tape completely or else has resorted to a self-certification process.
- v. **Good Governance:** Good governance is a sine qua non for the orderly functioning of the society. IT can significantly impact on the quality of governance. The following facets of governance can be significantly improved with the use of IT:
  - Government- Citizen Interface
  - Government-Business interface

- Intra-Governmental processes
- vi. **Electronic governance** will bring in the following benefits : i) Any-where, any-time services to citizens ii) One-stop shop for all transactions in the G-C interface iii) Better accountability, responsiveness and transparency of all systems iv) Highly efficient government machinery and systems and v) Reduced discretion and arbitrariness.
  - vii. AP FIRST: This is the apex body with the responsibility for the design of suitable IT policies, strategies and plans and reviewing their implementation. It is chaired by the Chief Minister and consists of Ministers for Finance and Revenue besides experts of the Indian IT industry. This IT Board meets on a fixed day of every alternate month.
  - viii. ITPC: (Information Technology Promotion Committee) This Committee, headed by the Chief Secretary and consisting of Senior Secretaries of the Government, is responsible for evaluation of major IT projects besides implementing the IT policy and reviewing its progress.
  - ix. DC-IT: (Departmental Committee on Information Technology) These Department-level Committees headed by the respective ministers are responsible for drawing up suitable IT plan for the department and its implementation and review.
  - x. Ready availability of Hi-tech space with the required amenities like built-in electrical and communication ducts, data ports, central air-conditioning etc will be a great incentive for IT companies to set up shop on a fast track. It is the endeavor of the Government to facilitate creation of large extents of hi-tech space not only in and around Hyderabad but in the important cities and towns in the state.
  - xi. One other strategy critical to drive massive investments into the IT sector that it rightly needs at this point, is to leverage the financial, managerial and technological strengths of the private sector. For such a strategy to take root and work, it is necessary for the Government to spell out the areas in which such investments are invited and to spell out the ground rules for private initiatives. Some of these areas are: i) Creation of IT infrastructure, ii) Implementation of e-Governance Projects on BOO and BOOT basis, iii) Development of software for e-governance projects, iv) Facilities Management,

- v) Distance education and healthcare, vi) Community Internet Infrastructure and vii) E-commerce.
- xii. Strategic alliances and partnerships with global leaders in specific thrust areas of IT, especially in IT infrastructure and IT education, is ideally suited to achieve this end.
- xiii. The Government cherishes the vision of establishing a Simple, Moral, Accountable, Responsive and Transparent Government – SMART government. e-Governance is one of the vehicles that can be gainfully used in reaching the goal of SMART governance. The Government is aware of the fact that transition to e-Governance is a difficult exercise, which can be costly, time-consuming and fraught with several organizational and behavioral impediments. In the face of these constraints, the Government desires to adopt a pragmatic and graded approach to the issue.
- xiv. Based on a suggestion made by the Government of Andhra Pradesh, the National IT Task Force had recommended the establishment of a National Centre for SMART Government (NISG). Here SMART is an acronym for Simple, Moral, Accountable, Responsive and Transparent.
- xv. To enable the citizens to have access to Government information and development activities and to bring transparency in the administration it is proposed to commission 10 electronic kiosks in the State on a pilot basis.
- xvi. The State Government shall examine all the state level legislations and statutes so as to ensure the necessary harmonization, with the above objective in mind. The overall objective is to provide a transparent, simple and enforceable set of laws, which shall facilitate e-business and all other IT-enabled activities.
- xvii. The Government of Andhra Pradesh has played a lead role in the establishment of Indian Institute of Information Technology (IIIT) at Hyderabad. The Institute is established with the active participation, support and contribution of the finest global and Indian IT companies. The aim is to pool the strengths and resources of the best companies with facilitation and support of the Government to create an institution designed to play the role that Stanford University has played for Silicon Valley.
- xviii. Tremendous potential exists in Andhra Pradesh for generating such skilled software professionals. Among the states of India, Andhra Pradesh contributes

the highest percentage of IT professionals. The IT industry in Andhra Pradesh has been consistently registering a growth of more than 100 per cent per year for the last several years, necessitating rapid increase in the number of highly skilled IT professionals to sustain such growth.

#### **4.1.4 – Rajasthan:**

##### **Mission Statement:**

IT will be the driving force behind human development and growth in the new Millennium. Government of Rajasthan would create an IT friendly environment for integrated participation by all in the development process. This shall be for the improvement in the quality of every aspect of human life, emergence of a competitive society and a vibrant economy through transparent governing systems, sound IT infrastructure and skilled Human Resources.

##### **Objectives:**

The IT policy has five broad missions:

- Positioning the State as an attractive location for development and growth of information technology industry and related services for rapid economic growth and improvement in the overall economy of the State.
- Creation and continuous upgradation of IT infrastructure in the state through Government-Private sector joint efforts.
- Continuous effort toward the development of human resource for IT through increasing its reach both in terms of quality and spatial coverage to improve the employability of educated youth of the State.
- Encouraging IT driven electronic commerce.
- Encouraging electronic governance for:
  - Bringing transparency in Government operations and Government-public interface.
  - Improving the efficiency and effectiveness of Government's service delivery systems.

- Improving efficiency of administration.
  - Better dissemination of information.
  - Improving financial management.
- i. Ministry of Information Technology (MoIT), Government of India, has setup center of Software Technology Parks of India (STPI) at Jaipur. STPI is an autonomous society and has the mandate to promote software exports from the country. STPI has also setup a satellite Earth Station under the State led initiatives in association with RIICO. This earth station functions as International gateway and provides worldwide reliable High Speed Data Communication (HSDC) Services at internationally competitive rates. The software units to be located in this Park will be governed by the STPI scheme of MoIT, Government of India.
  - ii. Software units have already been permitted to be set up in urban areas. To further liberalize this aspect, Software units will be permitted to be set up in residential plots without change in land use.
  - iii. All software industries including Services and Training Institutions in IT will be entitled to "Industry" status. Such units shall be eligible for all concessions and incentives applicable to Industries. For the purpose of this clause, accredited Training Institutions will also be eligible to claim industry status, subject to certain norms which will enable them to obtain Term Loans and Bank Finance at industry rates.
  - iv. The State Government would encourage flow of investments including FDI and would provide full support wherever required. The State Government will offer customized package of incentives for prestigious investment proposals, e.g., projects where total investments are more than Rs. 10 Crores or a Fortune 500 company is implementing the project.
  - v. Software industries will be treated as industrial (and not commercial) consumers and electricity tariff applicable to the industrial consumers will be levied on such industries.
  - vi. A Venture Capital Fund (VCF) shall be created to encourage innovative IT projects / Software projects. A VCF is under active consideration of RIICO

with a corpus of Rs. 16 Crores. The State Government and SIDBI are financing this Fund jointly.

- vii. The State Government shall take initiatives to invite private sector participation in setting up of a Statewide Value Added Network (VAN). This network shall provide data, voice and video communication to the Government bodies, PSUs and private sector. This network shall be built on Build, Own, Operate (BOO) basis. The VAN project would be conceived, designed and executed in a phased manner to act as the backbone of the IT policy implementation. Subsequently, the reach of the network would be extended to Panchayat Samiti HQs.
- viii. As envisaged in the 'National IT Action Plan', Government shall encourage private sector to become Internet Service Providers (ISPs) in the districts. If need be, The Government shall persuade DoT and VSNL to extend optical fiber links to the districts on priority basis.
- ix. The State Government would encourage Internet Access through Cable TV network in line with the approved policy of Government of India. RSEB shall consider for grant of permission to ISPs for putting the cables over RSEB's transmission line structures on mutually agreed and negotiated terms and conditions.
- x. An Electronics Complex encompassing Electronics Hardware Technology Park (EHTP) is being developed by RIICO at Kukas, Jaipur having various exclusive facilities like quality power, reliable facilities for data, voice and video communication, customs clearance facilities for export and import and also social infrastructure including housing, school, recreational facilities, shopping complex, banks, post-offices, hospitals etc.
- xi. It is the explicit intention of the State Government that rural population and other weaker sections of the society should be provided with facilities and opportunities, which are within reach and are affordable, to gain IT literacy. By 2000-2002, the State Government shall run IT Centers in all ITIs/Polytechnics located at Panchayat Samiti HQs.
- xii. The second phase of the IT plan for the State should now focus on use of IT in enhancing the quality of government services, creating a responsive and

transparent administration thus facilitating empowerment of people and satisfying their right to information.

- xiii. Government shall introduce IT at all points of contact between the Government and the citizen by the year 2003. All forms requiring submission of information, while applying for any service or clearance from the Government, may be made available for electronic access and submission. Each public dealing department shall list out the contact points and the level of information interchange between it and citizens. The information kiosks would enable the citizens to carry out this kind of information interchange with the Government.
- xiv. To attain the overall objectives of electronic governance, high-end computing facilities comprising state-of-the-art computer network and other related communication peripherals would be installed at the State Secretariat. Linkages between the Secretariat network and the Statewide VAN would provide e-mail, voice, data and video communication facility to the Chief Minister, Cabinet members, Chief Secretary and high-level dignitaries.
- xv. Government personnel shall be sent on regular high-end computer training courses so as to be always in touch with the emerging and cutting edge technology.
- xvi. Considering the value of the Internet as a communication medium, public dealing Government Departments shall create their web sites under the umbrella of the Government of Rajasthan's web site. All Government circulars, notifications, tenders, etc. shall be published on the web site on regular basis. All examinations and recruitment notifications, selection results shall be published on the web site.

#### **4.1.5 - Madhya Pradesh:**

##### **Vision:**

The broad vision of the State in the Information Technology sector is summarised as follows:

“Madhya Pradesh will use Information Technology to achieve the following:

- Improve the life of the common man leveraging the strengths of e-Governance.

- Attracting investment in the sector so that the educated youth is able to contribute to the development of the State.
- Create a pool of highly skilled professionals who are at par with the best in the country.
- Transforming Resource Based Economy to Knowledge Based Economy.

**The following are the salient features of the policy:**

- i. The State would aim for employment opportunities for Four Hundred Thousand to One Million people in IT/ITES related activities.
- ii. Providing information access to all citizens at an affordable cost and for achieving IT literacy in all the High Schools and Colleges by the year 2003 and aims to do so in all the schools by the year 2008.
- iii. Computerisation in Government departments and agencies must be the engine of growth of IT/ITES in Madhya Pradesh, in the initial period.
- iv. A targeted share of 10 per cent of the national IT output by the time frame indicated earlier, i.e., the year 2008 would be in the region of approx. Rs.42000/- crore and would require a direct private sector investment of the order of Rs. 4500/- crore approx.
- v. The State goal of achieving a 10 per cent share in the national output would translate to roughly one-third of the State Domestic Product (SDP) being contributed by IT.
- vi. **E-Governance:** With increasing literacy, citizens demand better services from the government, in the shortest time, at the place of their choice and in a transparent and nondiscriminatory manner. The different steps in achieving this objective are as follows:
  - Web Sites and Contents: - Barring a few all major web sites of the State are in English. Few of those that are in Hindi are in fonts that make them difficult to view without passing through the hassles of font installation. The contents of the site do not serve the interest and information requirement of the citizen. Hence “all the web sites of the state will be in

both English as well as Hindi, in Unicode Fonts, common look and feel and with content relevant to the user group the site is intended for”. The following shall be the actionable points:

- Department of Information Technology will develop a common template for websites within one month of the promulgation of the policy.
  - All Departments, using the templates and suggestion of Department of IT should reconstruct their sites in English and Hindi with content relevant for the user groups. Departments shall be responsible for updation of their site and will appoint a Webmaster for this purpose.
  - A committee under the chairmanship of the Chief Secretary shall review the progress in six months.
- vii. E-Governance Projects: - The Central Government is funding 10 mission mode projects of the state that pertains to the following departments; Land Records, Transport, Police, Treasuries, Property Registration, Employment Exchange, Agriculture, Municipalities, Gram Panchayat, Commercial Taxes. The Departments that are not in this list shall be computerised by State’s own resources.
- viii. Attracting IT Industry: - The industry grew in tier I cities such as Bangalore, Hyderabad, Chennai and Delhi. Due to congestion and infrastructural problems it has started looking at tier II cities such as Pune, Chandigarh, Bhubaneswar and Nagpur for expanding operation and reducing cost. The State can capitalise on this development and promote investment in Indore, Gwalior, Bhopal and Jabalpur.
- ix. **IT Education:** Madhya Pradesh has been able to produce large number of graduate engineers in IT and Computer Sciences. Presently the state is having more than 60 engineering colleges. These graduates are not able to fulfil the needs of the industry. There is a need to upgrade their skills and make the manpower compatible with the industry requirement. The present government schooling system is not producing manpower, which can fulfil the requirement of Business Process Outsourcing (BPO) and Information Technology Enabled Services (ITES).

- x. **Common Infrastructure:** Common infrastructure such as State Wide Area Network (SWAN), Natural Resource Management (GIS based), Data Centre, Disaster Recovery Sites and Inter Operability Standards are required so that all the departments are able to utilize these services without bothering about the maintenance of these complex facilities.
- xi. **Administrative Measures:** - A cabinet committee will be created for ensuring successful implementation of the policy. The Cabinet Committee will form its own rules and procedures for carrying out its business.

#### **4. 1.6 – Maharashtra:**

##### **Mission Statement:**

In continuation of the state's New Industry, Trade and Commerce Policy, 1995, whose Mission Statement was Empowerment of People at all levels, the Mission Statement of this Information Technology Policy is Empowerment through Connectivity. We believe that access to computers, connectivity to the Internet and availability of computer based knowledge have the potential of transforming the already strong industrial base and vibrant agriculture of the state into a modern and knowledge-based economic powerhouse. Information Technology also has the potential of building a modern, computerized society. Our Mission is to empower the people of the state to realise this potential.

##### **Objective:** Anytime Anyhow Anywhere (AAA) :

To achieve the Mission, it is necessary to ensure AAA connectivity, thereby leveraging the State's core competency in HRD to attain a leading position in Information Technology through strategic policy initiatives in different areas.

##### **Strategy:**

The objective is to be achieved through the following strategy planks:

- To provide to the people of the state a world-class Information Technology Infrastructure.
- To put in place an appropriate institutional mechanism for initiatives in Information Technology sector.

- To make the people of the state highly computer-literate and to produce top-class Information Technology professionals through strong HRD initiatives.
  - To consolidate and greatly strengthen the Information Technology industry in the State including the software and hardware industry as well as Information Technology enabled Services through fiscal and non-fiscal incentives.
  - To computerise the Citizen-Government interface in order to make Government more transparent and to bring it closer to the people.
- i. **Initiatives for Human Resources Development:** It is proposed that in the next five years, computer labs costing Rs.15 lakh each will be set up in 637 government/semi-government secondary and higher secondary schools and, wherever possible, will be provided Internet connections.
  - ii. Aided secondary and higher secondary schools will be encouraged to set up computer labs through private participation.
  - iii. 'Train the Teachers' programme will be implemented.
  - iv. Degree and diploma engineering colleges will be encouraged to increase their intake for IT courses.
  - v. Government will actively pursue with government of India about setting up of Indian Institute of Information Technology, Pune.
  - vi. Nationally or internationally reputed institutions will be welcomed, to set up a software university.
  - vii. In order to create a digital library, a dedicated centre will be set up as part of the University of Pune. A fund of knowledge will be made available to the people of the state in English and Marathi, or in electronic form - CD-ROM's, the Internet, etc.
  - viii. The objective of use of I.T. in Government will be to improve the quality and productivity of services rendered by Government, make Government more transparent and bring IT to the common man. Computerisation of Government

- departments with very high public contact (e.g. sales tax, revenue, health, education, irrigation, PWD, etc.). Computerized interface between citizen and Government by way of Bulletin Boards and Public Tele Info Centres will ensure that people get instant information about Government programmes, policies and procedures.
- ix. As and when private Internet service providers are permitted by the government of India, right of way will be made available by government departments and institutions such as PWD, Irrigation department, MSEB, municipal corporations, zilla parishads, etc. While MSEB has started the procedure for calling tenders for this purpose, other institutions and departments will charge 50 per cent of the normal charges for the purpose.
  - x. Public tele-info centres will be given government land on a lease of at least ten years on the terms and conditions applicable to educational institutions. They will be eligible for benefits under the Package Scheme of Incentives.
  - xi. Government of India has selected Pune for locating one of the five high-tech habitats. MIDC will provide infrastructural support for this scheme.
  - xii. The software industry will be permitted in residential areas and will be included in the list of users permitted in the No-Development Zone.
  - xiii. IT parks developed by public institutions such as MIDC and CIDCO will be given 100 per cent extra FSI on payment of 25 per cent premium.

#### **4. 1.7 - Tamil Nadu:**

- i. The Government of Tamil Nadu through Electronics Corporation of Tamil Nadu (ELCOT), a wholly owned undertaking of the Government of Tamil Nadu, formed in 1977, participates in a number of National and International IT related events in order to promote the State as an investment destination. The premier IT event in this regard is 'CONNECT'. This is a one stop forum that unites the diverse stakeholders in the ICT sector - the Government, Industry, Service Providers, Academia and most importantly the End Users. The past five editions of CONNECT have attracted the attention of the cream of the IT Industry in India as

- well as from a large number of foreign countries and has emerged as one of the most popular forums in the National and International Calendar of ICT events.
- ii. A provision of Rs.3 Crores has been made in this years Budget for reimbursement of Stamp Duty paid by the developers in the private IT parks. The Government has also provided a sum of Rs. 1 Crore for encouraging the participation of Small and Medium enterprises in National and International events.
  - iii. Tamil Nadu State Wide Area Network (TNSWAN) is a project jointly implemented by the Government of Tamil Nadu and the Government of India aimed at providing backbone connectivity utilizing the 2 Mbps free bandwidth provided by the Public/Private Communication Providers (PCPs) linking State Headquarters at Chennai with all the 30 District Headquarters as well as linking Districts Headquarters to the Divisional Headquarters, Taluk Headquarters and Block Headquarters.
  - iv. A scheme called the National e-Governance Action Plan (NeGAP) has been announced by the Government of India to introduce e-Governance in selected Government Departments. As a part of this Plan, assistance is provided to the State Governments to enhance the capacity for the implementation of the e-governance projects implemented in the States. The project will be implemented with assistance from the Government of India. The Government has provided a sum of Rs. 13.95 Crores for this purpose.
  - v. Tamil Nadu Government is committed to harness e-Governance as an enabler for ushering in a new era of digital governance where services will be delivered to the citizens through convenient and easily accessible delivery channels for creation of a model “e-Governed State” in the country. For this purpose an Officer in IAS cadre has been posted as an Officer on Special Duty for creation of the Directorate of e-governance. A sum of Rs.26 lakhs has been provided for this purpose.
  - vi. The Directorate of e-governance will be instrumental in helping the departments in providing better accountability, enforceability, transparency, increased efficiency in service delivery to the citizens. In order to do so as a first step 12 Mission Mode Departments have been selected. They are: i) Land Records,, ii) Commercial

- Taxes, iii) Registration, iv) Agriculture, v) Food and Civil Supplies, vi) Health, vii) Panchayats, viii) Education, ix) Treasuries, x) Municipalities, xi) Transport and xii) Employment.
- vii. In order to empower the people in the rural areas to bridge the digital divide, a framework for rural service delivery through Village Resources and Service Center (VRSC) is being under taken. VRSC Project has been launched to bring together all the departments under one single umbrella and give citizens of the State a “multi-service” - “single-window” experience in rural areas through the Village Panchayats. The key objectives of this project are: “Provide hassle free one-stop solution to the citizen”. This will minimize multiple interaction points for the citizen and hence reduce the wastage of valuable time. This will ensure better turn around time in receipt, processing and issue of services. It will increase access to Government services by providing Government at the doorstep of the common man.
- viii. ELCOT functions as an arm of the Government to leverage Information Technology activities and functions as a channel of connectivity for the investors of IT and ITES sector. ELCOT has been designated as the optional procurement agency for IT products to Government Department and Public Sector Undertakings.
- ix. The Teaching/Learning methodology adopted for the Academic Programme is E-learning through Internet based lessons with multimedia support. To further strengthen and augment TVU’s web based virtual Education Programme, a state of the art e-learning methodology through Virtual Class Room, video conferencing equipments along with a streaming server and high speed internet connectivity are being established in TVU.
- x. E-Governance is being aggressively pursued by the Government of Tamil Nadu. This requires wide spread familiarity and extensive usage of computers. Senior Officers like the Secretaries to Government, Heads of Departments and Collectors play a lead role as champions of this process. Moreover they are required to handle sensitive and confidential information often beyond office hours and this requires

use of laptop. Hence, a sum of Rs.50 lakhs has been provided for the year 2006-2007 for the supply of laptop.

- xi. An Officer on Special Duty was posted to set up the Directorate of e-Governance exclusively to work on the Policy and Planning of Information and Communication Technology initiatives of the Government and also to augment the e-Governance initiatives and projects of the Government. It has been proposed to form an autonomous Society called Tamil Nadu e-Governance Agency with Central assistance for developing e-Governance applications and driving e-Governance.
- xii. There are plenty of Palm Leaf manuscripts written by eminent people available in different libraries throughout India. They contain valuable information on Culture, Heritage and Medicine apart from historical events. It is proposed to catalogue and digitize these Palm Leaf Manuscripts and make them available in e-form for the benefit of the public.
- xiii. The Government of Tamil Nadu is firmly committed to promote the State as a premier destination for investors and thereby ushering in an unprecedented growth in the economy, it is equally committed to harnessing the powers of Information and Communication Technology as an engine of economic growth and rural transformation.

#### **4.1.8 - Karnataka:**

Karnataka is in the forefront of Information Technology and is called the Silicon State of India. Karnataka was the first state to announce IT Policy in the year 1997. This Policy has acted as a catalyst for the growth of IT Industry in the State. The State Government came out with this policy to re-focus on the IT Policy and define it in a way that is most suited for the present situation. In addition, the state capital Bangalore has shown tremendous growth in the IT Sector and is the IT Capital of India.

#### **Objectives of the Policy:**

- Utilize the power of Information Technology in the overall goal of the Government of Karnataka in eradicating poverty and empowering women

- Effectively reduce unemployment by absorbing the major share of educated youth into the IT Industry
- Promote the usage of Kannada in Information Technology
- Use e-governance as a tool and deliver a government that is more pro-active and responsive to its citizens
- Encourage business with non-English speaking countries
- Maintain the pre-eminent position of both Bangalore and Karnataka in the field of Information Technology.
  - i. One of the primary goals of the Government of Karnataka is to eradicate poverty and empower women. The eradication of poverty was attempted via several poverty alleviation schemes. These schemes generally targeted the poorest beneficiaries and provided credit for them. The latest technology in eradicating poverty is via self-help groups for women. These women groups are encouraged to save money. The Government steps in with revolving fund as well as bank credit, This method is found to be the most effective in delivering rural credit as well as eradicating poverty.
  - ii. The IT Department would be involved enthusiastically in several rural development projects. These include providing drinking water via follow-on project of the World Bank, computerizing Village Panchayats, building MIS system for the Zilla Panchayats, etc. Karnataka has a very effective decentralized democratic system of Government.
  - iii. It is proposed to document every self-help group in Karnataka. This documentation will include the name of the beneficiary, the family particulars, her contribution to the corpus of the group fund or borrowings from the group fund, revolving fund received from the Government of Karnataka, credit received from the concerned bank, the interest due and paid etc. These particulars will be computerized and stored in the respective bank branches where groups would be investing their savings.

- iv. The IT Sector provides vast employment opportunities. Presently, 280,000 IT Professionals are employed all over India. In Karnataka alone the estimated number of professionals is about 75,000. It is estimated that in the year 2010, the potential for employment in Karnataka in the IT Sector alone will reach 10 lakhs. The employment is likely to be generated in sectors of Information Technology that include the hardware development, software services, network services as well as several sectors in the IT Enabled Services.
- v. This policy offers several incentives for companies that create employment in Information Technology. These incentives could be in the areas of cost of land, registration charges, FAR, zonal regulations, etc. The new companies that provide employment of more than 250 in Bangalore and 100 in other areas will be eligible for these concessions.
- vi. Software Technology Parks of India, Nodal Agency of Government of India for software industry functions from the Electronic City in Bangalore, and similar STPIs are at the final stage of completion at Hubli and Bangalore. The ITPL at Whitefield and other similar Software Technology Parks are existing wherein ready work place of world standard is available for IT industries.
- vii. The State has over 100 reputed national / state level research and development institutions. These R and D institutions are engaged in developing new technologies and offering the same for entrepreneurs at easy norms. The State government has promoted Karnataka Council for Technological Upgradation (KCTU) to help entrepreneurs to resource required technologies available, the world over. KCTU has brought out CD ROM detailing a number of technologies available for resourcing.
- viii. The major advantage of the State is its human resource. The State has a reservoir of semi skilled and highly skilled manpower suitable for any kind of assignment. The Centre for Entrepreneurship Development of Karnataka (CEDOK), a government of Karnataka undertaking is involved in

development of entrepreneurship among educated youth throughout Karnataka.

- ix. Training Centers: This policy seeks to establish 225 training centers all over the state, primarily for the purpose of training the unemployed educated youth in various IT skills. The Government will encourage private sector initiatives in setting up such centers. These centers would receive appropriate concessions from the Government. College Students The Government would like to develop the IT Skills amongst college students.
- x. The Government plans to take Information Technology to school children in all parts of the state. This involves setting up of training centers and encouraging private companies to set up training centers in schools. The centers will impart computer education as well as regular education in multimedia format for the students during the school hours. These centers will also provide resources for the students for their class projects. The private companies will also be allowed to use the same centers for commercial use before and after the school hours.
- xi. Liberalize Higher Education Even though Karnataka's population is only 5 per cent of Indian population, its share in higher education is close to 15 per cent. New institutions that concentrate primarily on IT will be encouraged. Old institutions desiring to convert their seats from other streams into IT will be allowed to do so. Technical standards and quality will be kept up. Indian Institute of Information Technology. The Government of Karnataka has established this autonomous Institution which has world class infrastructure and state of the art facilities.

#### **4. 1.9 – Kerala:**

- i. The objective of the Government is to put in place a package of policy measures and incentives, which will make Kerala one of the most attractive investment destinations in I.T in next five years.

- ii. To provide a nurturing and enabling environment conducive to the vigorous growth of the local IT industry in the State.
- iii. To significantly enhance direct and indirect employment creation in the IT sector.
- iv. To attain a minimum growth level of 100 per cent every year in IT.
- v. To significantly accelerate the levels of investment inflows including foreign capital into the hardware, software and ITES sectors.
- vi. To aggressively promote the State as the destination of choice for emerging IT business opportunities including IT Enabled Services (ITES), new media products and E-services. To establish ITES as the definitive core competence of the State.
- vii. To develop Kochi as an international media and ICT hub.
- viii. To consolidate and expand the Technopark, Trivandrum as a leading software and HR Centre in the region.
- ix. To provide the physical and institutional environment for the growth of SOHO and decentralized IT businesses.
- x. Govt. has formulated a comprehensive and unique package of incentives for the IT products, software and ITES industry in the State, which seeks to reward value creation, employment generation and enterprise excellence.
- xi. The city of Kochi will be promoted as an ICT hub where facilities offered will match the best available worldwide. A Hi-tech park will be developed here, comprising an area of 200 acres. An IT Corridor connecting the new international airport at Nedumbassery with the city will also be established as part of the larger proposed Special Economic Zone continuum. These facilities shall be developed through Joint Venture partnerships with the private sector and shall endeavour to provide an international business infrastructure and environment at Kochi. Kochi has the unique connectivity advantage of being the landing point of two major international submarine cables linking to US,

Europe and the Far East. All IT Parks partially or fully promoted by the State Govt. shall be connected by optical fibre cable to the Kochi gateway.

- xii. The Government has identified target beneficiaries of IT led development as (i). Citizens/Individuals, (ii). Industry, (iii). Academic Institutions, and (iv). the different bodies of Government. For the benefits of IT to be exploited in full measure, but at minimal cost, the Government recognizes the need for a communication infrastructure backbone- the State Information Infrastructure- that spreads across the State and reaches out to all targeted beneficiaries. Further, there is the critical need to ensure that a minimum grade/quality of service is available from the SII so that the target beneficiaries can in turn plan software applications and hardware deployment based on the availability and quality of the SII.
- xiii. Service providers within the State shall be urged to maintain and transparently share quality of service data with their consumers. This minimum grade of service shall apply irrespective of the location within the State. This step is expected to ensure uniform quality of internet access and community level intra-networking across the State. Further, this shall prepare the State for an era when 'voice over Internet protocol' (VoIP) communication shall be permitted in India. Appropriate mechanism shall be established to measure, report, analyse, and provide feedback to service providers to maintain/improve network performance.
- xiv. The Govt. shall endeavour to promote Kerala as a favoured ITES destination in this part of the world and to aggressively market ITES as the State's core competence. The focus domains in this sector shall be Business Process Outsourcing (BPO), Customer Interaction Centers, Multimedia Content Creation and E-services. Kerala already has the basic enablers in place to make this vision a reality – best in class communication infrastructure to support bandwidth intensive ITES operations, a large pool of English speaking personnel, low cost of operations and low employee attrition. Govt is also putting in place a regulatory framework, which would address the specialized employment requirements of the industry.

- xv. In view of Kerala's peaceful, salubrious and cost competitive setting, the State is a natural location of in-house training facilities for IT companies. The State Govt. shall focus on this comparative advantage by promoting the Technopark as an attractive global HR center. As part of this endeavour, Govt shall encourage leading IT Corporates to set up their HRD centres in Kerala.
- xvi. The Kerala IT Department shall set up a Customer Facilitation Cell for KIT (IT-CFC) to facilitate the initial entry phase of business into the state. The services of the Cell shall include facilitation of single window clearance, including STPI registration and other statutory registrations; expedited import clearance, advising on company formation/setting up procedures; and other facilitation as may be necessary.
- xvii. Kerala's distinctive qualitative edge lies in the quality and adaptability of its human resource base. The high quality of manpower available in Kerala can be a lever not merely for attracting high value IT investments into the State, but also for widening and disseminating the IT base into small towns and outlying areas spanning the entire State. The State's endeavour shall be to convert Kerala as a leading off shore center for provision of IT services worldwide.

#### **4. 1.10 - West Bengal:**

- i. IT in Communication Government-wide Electronic Information Infrastructure will be appropriately created to simplify service delivery, reduce duplication and improve the level and speed of service to the public. Telecommunication linkages through optical fibre cable and VSAT systems will be installed to form a communication backbone.
- ii. E-Governance: The State Government recognizes the importance and scope of e- Governance and will promote use of necessary technologies for efficiency and transparency in its functions. The Government is identifying areas which require introduction of IT in the overall functional framework of the Government. Towards this end IT literacy and training will be encouraged within the Government along with the suitable infrastructure. Attention will be paid to models, network design and overall systems management. As a

beginning, for a better citizen interface the following will be emphasized for computerisation, viz., vehicle registration, land records, birth and death registrations, employment exchanges, payment of excise duty, sales tax and local tax, electronic bill payment of water and electricity, computerisation of health records, relevant education through internet, work of Police and Police Stations, Criminal Justice etc. Government Departments and organizations will have E-mail communication. All important Government Policies, Acts, Rules, Regulations, Notifications which have a direct bearing on the members of the public would be made available through internet or other suitable networks.

- iii. A Department of Information Technology will be set up by the State Government to co-ordinate and assist in adoption of various Information Technology techniques in the Government according to a structured plan. The IT Department will provide appropriate technological inputs to be gleaned from the open market and from interaction with other States and IT bodies. The IT Department will obtain assistance from Webel and other organizations dealing in different areas of IT, to ensure adoption of common standards in hardware and software applications.
- iv. Accord priority to the development, adoption and use of IT in PRIs / field offices having a direct interface with the public. Develop computerized information bases in a phased manner, to include programmes and projects at all levels under implementation with budgetary support of the Government, taking advantage of commonality in applications.
- v. The right of citizens to have access to information through electronic media will be progressively ensured. Access will be given to the various acts, rules, application forms, services, existing Government processes and procedures, etc. by the concerned government departments and public bodies. Web-sites will be progressively set up for Government Departments, PRIs, Public sector organizations etc, with a mother Web-site for the entire State Government.
- vi. Service delivery points (SDPs) will be set up progressively at convenient locations for citizens to access services. Information kiosks having intelligent public interface with touch screen monitors, or cord operated phones in public

places such as shopping centres, post offices, railway stations and libraries, private centres etc. SDPs services will be available in the local language in due course.

- vii. Projects will be taken up for computerized billing and electronic payment of the following utilities : i) Electricity bills, ii) Telephone Bills, iii) Gas Bills, iv) Water Bills, v) Property tax payment / records, vi) Road Tax, vii) Fines, viii) Sales Tax and ix) Other taxes and charges.
- viii. Smart Cards, stored value cards, Credit / Debit Cards will be integrated into the Electronic System for payment of bills to utilities. A business model will be evolved for joint partnership of government and the private sector to electronically deliver services on a sustained basis so as to ensure that government does not incur much expenditure while the private sector invests initially and recovers money on a transaction fee basis.
- ix. Government will address the question of quality of IT education and also accreditation with a well defined target of increase of output of accredited IT professionals every year. Existing Engineering Degree Colleges, Polytechnics and other specialized institutions will be encouraged to expand their intake in Information Technology courses.
- x. Government will promote the setting up of an Indian Institute of Information Technology at Calcutta (IIIT-C) as an Apex Institute with the active participation of industry, within the year 2000. A unique model is being developed independently which will be a center of excellence in IT. District branches will be set up in North and South Bengal.
- xi. A high level Information Technology Development Board (ITDB) will be set up to focus on Research and Development efforts of the State. Awards will be given to Institutes for achieving excellence in RandD in IT related subjects. The board will encourage meaningful linkage between academic, RandD Organizations and IT Industries. Research positions in selected Institutions will be provided together with award of Fellowships.

- xii. Students and teachers in institutions would have ready access through electronic connectivity to a wide source of data, information and research material. Specialised teaching methods would also be designed and adapted through this system to the level of skills of teachers.
- xiii. An Industry Consortium will be formed with active collaboration of the State Government, NRIs, leading industrial houses, software companies and venture capital companies to address the huge opportunity offered by IT enabled services and back office services. Government will promote the creation of venture capital funds towards funding start-ups and entrepreneurial efforts for also catering to the IT Enabled Service Market.
- xiv. Government will promote the setting up of at least two world class software technology parks.
- xv. Role of Webel (West Bengal Electronics Industry Development Corporation Ltd.) – the Government IT Company Webel will be a facilitator for development of information technology in the State with in-house or contracted expertise from the open market. WEBEL will assist in e-governance.
- xvi. E-Commerce is another rapidly emerging area which will facilitate international as well as domestic and regional trade and commerce and will require IT – enabled activity at varied levels. A major focus area for the government will therefore be to spearhead the structure and networking that will enable the e-commerce users in all categories. Legislation will have to be enacted primarily by the Government of India to provide legal sanctions for presentations and transactions through electronic data interchange and other electronic systems. Amendments to existing laws like the IPC and the Indian Evidence Act are required to be carried out.
- xvii. The State Government recognizes the importance of venture capital financing for promotion of the IT industry, IT in education, IT enabled services market and in providing last mile connectivity in the districts and urban agglomerations. The State Government would promote the setting up of specialized financing bodies in the joint sector along with Financial Institutions

and other interested parties like the Chambers of Commerce, IT industry majors etc.

- xviii. For monitoring and implementing the policies outlined, at the apex level, a high Level Committee on Information Technology will be set up to be chaired by the Chief Minister.

#### **4.2 - Critical Evaluation of Existing ICT and e-Governance Policy Framework:**

A few studies have been conducted with respect to Indian Perspective. Koneru, (2007) in her study is of the view that E-Governance as a technology-enabled Public Information Services system aids not only in reengineering the structures but also in reorganising the procedures and processes for speedy delivery of services. The demand for e-Governance is growing in consequence of government's ineptness to meet the citizens' needs and rendering services in a timely, cost-effective and corruption-free manner. Moreover, Political, Economic, Social and Technological (PEST) changes and developments ushered e-Governance as a salvation to the shrinking role of Governments in delivering goods and services rapidly. Connectivity, community participation, and content are the prerequisites for designing effectual G2C or C2G systems, in addition to capital, committed leadership and components evaluation.

Among the different stages of e-Governance, 'Networked/Seamless Governance' fosters e-inclusion, i.e., citizen participation through ICT-enabled open dialogs. Indian e-Governance systems can be transformed into e-inclusive systems, if due attention is paid to:

- network connectivity (information infrastructure) and e-readiness;
- user-friendly interface with apposite navigation tools and content in native language;
- management optimization;

- introduction of CIOs to analyze, design, develop, implement and evaluate the e-Governance systems;
- promotion of e-Governance with effectual monitoring and evaluation procedures, along with sensitizing the public about the merits of such initiatives.

This study primarily delves into the prerequisites for designing and developing effective e-Governance systems; and the stages to pass through to evolve into e-inclusion systems. It also depicts the indicators that gauge the existing e-Governance systems aimed at effective and efficient delivery of public information services.

Based on the information and discussion a matrix of various policy factors has been prepared which is given in Table 4.1. All policy factors have been rated on a 1 to 5 scale.

Highly Relevant Policy factors are: i) Policy on Corporate Agreements with IT Companies (IT Resource Acquisitions), ii) Human Resource Policy, Roadmap, iii) IT Education Policy (schools, college and professional),iv) Vision, , Goals and Objectives and v) Comprehensive Administrative Reforms.

Least important factors are: i) Public Private Partnership Policy, ii) Special Schemes / provision for the weaker sections, iii) Policy on ICT Entrepreneurship for local youth, iv) Inter-departmental Coordination Policy and v) Dispute Resolution Mechanism.

The analysis depicts that Punjab, Andhra Pradesh, West Bengal and Maharashtra have more relevant policies than other states, with Punjab topping the list.

<b>Table 4.1- State Policies : Importance/ Relevance of the Policy factors - Study of Policies of 10 States :</b>											
<b>Policy Parameter</b>	<b>Punjab</b>	<b>Haryana</b>	<b>AP</b>	<b>Rajasthan</b>	<b>MP</b>	<b>Maharashtra</b>	<b>Tamil Nadu</b>	<b>Karnataka</b>	<b>Kerala</b>	<b>WB</b>	<b>Total Score</b>
Policy on Corporate Agreements with IT Companies(IT Resource Acquisitions)	5	4	2	-	4	4	5	2	5	3	<b>34</b>
Human Resource Policy, Roadmap	5	3	3	3	4	4	4	2	2	2	<b>32</b>
IT Education Policy (schools, college and professional)	5	3	3	5	5	2	-	2	3	4	<b>32</b>
Vision, , Goals and Objectives	4	1	4	3	3	4	2	3	3	4	<b>31</b>
Comprehensive Administrative Reforms	4	2	3	4	3	5	3	2	-	3	<b>29</b>
Clear e-Governance Roadmap	4	2	4	3	3	2	-	2	3	3	<b>28</b>
Infrastructure Policy	4	2	4	3	3	5	4	3	-	-	<b>28</b>
Local Language promotion policy	4	2	4	1	-	-	5	3	4	4	<b>27</b>
Policy Regarding Process Reengineering	4	1	4	2	4	4	2	2	-	3	<b>26</b>
Mission Mode project Execution Policy	5	3	4	3	2	3	-	3	-	3	<b>26</b>
Definitive Action Plan with milestones and Time lines	4	1	4	2	2	3	-	2	2	4	<b>24</b>
Security and Privacy	5	2	4	1	-	3	-	2	4	3	<b>24</b>
IT Resource Acquisition and Disposal Policy	4	4	3	3	-	4	-	2	-	3	<b>23</b>
Outsourcing Policy	4	3	3	1	-	4	3	2	-	2	<b>22</b>
Institutional Framework, Special Purpose Vehicles	4	1	3	3	4	-	-	3	-	3	<b>21</b>
Funding Policy and sustainability Models	4	2	3	2	2	-	-	3	-	3	<b>19</b>
Public Private Partnership Policy	5	3	3	3	-	-	-	3	-	2	<b>19</b>
Special Schemes / provision for the weaker sections	5	-	-	-	-	1	4	-	4	2	<b>16</b>
Policy on ICT Entrepreneurship for local youth	3	-	-	-	-	2	3	-	1	1	<b>10</b>
Interdepartmental Coordination Policy	3	-	-	-	-	-	-	-	3	2	<b>8</b>
Dispute Resolution Mechanism	3	-	-	-	-	-	-	-	-		<b>3</b>

#### 4.3. Critical evaluation of Case Studies of e-Governance projects in 10 States:

The government in India has been continuously endeavoring to provide citizen services in a better manner. There have been several successful initiatives and many noteworthy projects have been undertaken in various states of India. The aim of all these projects is to lay the foundation for e-governance, create visible impact of the intention of the Government in this direction, and facilitate the interaction of the citizens with the Government to make it more transparent, pleasant and satisfying.

<b>Table 4.2 - State wise E-governance Initiatives:</b>	
<b>State</b>	<b>e-Governance Initiative</b>
Punjab	Suwidha
Haryana	Nai Disha
Andhra Pradesh	e-Seva
Rajasthan	Lokmitra
Himachal Pradesh	Lok Mitra
Maharashtra	SETU
Tamil Nadu	Rasi
Karnataka	Bhoomi
Kerala	Fast, Reliable, Instant, Efficient Network for the Disbursement of Services (FRIENDS)
Gujarat	Mahiti Shakti

The Indian States are using IT to facilitate governance. The present case study explores whether the effective use of IT services in government administration has enhanced efficiencies and services. Can it give citizens easy access to tangible benefits, through simple applications such as online form filling, bill sourcing and

payments? IT has a vital role to play in all transactions that the government undertakes to reach citizens directly. The focus has to be on the promotion of governance using ICTs as a tool, rather than the ICTs being an end in itself.

The present work tries to study the various e-government projects across Indian States with a view to explore the natures of implementations of these projects, benefits imparted from them to citizens. Some of the successful initiatives are discussed below:

**i. Suwidha – Punjab:**

SUWIDHA (Single user window disposal helpline for Applicants) has been conceived to facilitate citizen by capturing the input at a single point, defining a specified delivery date depending upon the type of service and accepting cash at the counter itself. The project was initiated in August 2002. The project was funded by Government of India, Department of Communication and Information Technology. The project was successfully completed by District Administration with technical support of National Informatics Centre, Punjab State Centre. Based on the success of the pilot, the Government of Punjab decided to implement this project in all districts of Punjab along with SUWIDHA Back-end Services (SUBS) of the Deputy Commissioner Branches in December 2004. The project replication started in all districts with technical support of NIC-District Centres. As of now, the project is being executed in all Deputy Commissioners' offices. All the objectives given above have been achieved successfully. Now the project has been extended to establish State Level Data Centre for SUWIDHA Project

The objectives of SUWIDHA Project are:

- a. To provide service level convenience to the citizens
- b. Re-engineering of Government Processes to provide quality and timely services to citizens
- c. To integrate SUWIDHA Back-end Services (SUBS) with front-end to reduce the time of delivery.
- d. Linkage with Web based Citizens IT Interface (WebCITI) or Dialup based Citizens IT Interface (DialCITI) to know the latest information about their service./p>
- e. To standardize the processes throughout the state.

The project has reduced the overall operational cost of services to the citizens and Government. People do not visit different branches of the DC office for services whereas SUWIDHA Counters are one-point of contact for acceptance of application and delivery of service.

**ii. Nai Disha- Haryana:**

The project e-DISHA (e-Disha) was initiated in March 2006; it was renamed as Nai-Disha by the new government in Haryana. The innovative Nai-disha is Information Technology (IT) - driven electronic interface between the government and the citizens that facilitates the general public to receive effective and timely (speedy) services. Before initiation of the project the common people had to run around different departments and agencies for availing the basic citizen services. Many times they became victims of departmental apathy, indifference or corruption. This practice has brought together some 39 basic citizen services under a single roof of the NAI-DISHA centres. The web-enabled centers are located in district level headquarters. Officers of the centres are not only trained in information technology, but also well trained in public dealings. This ensures both cordial and time bound services to people. The Nai-Disha project came into force with the objective of introducing transparency in day to day to governance, thereby maximizing citizen interaction with the government. Nai-Disha aims to improve relationship with citizens by enabling online transactions, and feedback to administration and legislation. However, the practice is a combined exercise of the use of information technology, people's participations, public private partnerships and above all the concerted efforts of various departments of the state government. This project has enhanced the quality of public services immensely and has also ensured greater efficiency, transparency and accountability.

**iii. e-Sewa - Andhra Pradesh:**

E- Sewa is the first major initiative in the country to employ information technology as a tool to improve services for citizens. The Andhra Pradesh government launched the e-sewa programme to provide integrated services to citizens of the state. The e-sewa center is a one-stop-shop for more than 30 government-to-consumer (G2C) and business-to-consumer (B2C) services. From payment of electricity, water and telephone bills to the issue of birth and death certificates, permits and licenses,

reservation of bus tickets and receipt of passport applications, the e-sewa centers offer a wide range of services under one roof. Internet services like Internet-enabled electronic payments, downloading of forms and government orders and filing of applications on the Web are also offered. The e-sewa centers function seven days a week. E-sewa is an extension and renamed version of “Twin Cities Network Services Project” (TWINS), which was launched in November 1999 to focus on the twin cities of Hyderabad and Secunderabad.

#### **iv. Lok Mitra-Rajasthan:**

The Rajasthan State Government launched Lokmitra – a G2C Urban project in the year 2002 to provide an integrated e-platform through which urban population can get desired information and avail services related to various government departments at kiosks near their doorsteps. The pilot LokMitra centers were established at Jaipur that catered to the needs of urban populace. The project provided an integrated e-platform through which the urban population of Rajasthan can get desired information and avail services related to various government departments under single roof. The LokMitra operational model is a participative project having various stakeholders like District Administration, Departments, Government of India organizations like BSNL and financial institutions, private entrepreneurs and the citizens of the state. The project runs on PPP model and its location is Jaipur Urban (Rajasthan). Currently it has been merged with Janmitra project and has been renamed as e-Mitra. So far 17 out of 32 districts have made the E -Mitra model operational.

Services Offered include: Payment of electricity and water bills; Online bus ticketing of RSRTC; Issue of Birth and Death certificates; Payment of various dues/fee of various departments like Jaipur Municipal Corporation, Jaipur Development Authority, Land and Building Tax Dept., Rajasthan Housing Board, Land line and CellOne bills (BSNL).

#### **v. Lok Mitra - Himachal Pradesh:**

The Project has been formally launched and dedicated to the people in the pilot district Hamirpur, by Shri Prem Kumar Dhumal, then Chief Minister of Himachal Pradesh,

from one of the Citizen Information Centre (Lokmitra Soochna Kendra) at Tauni Devi on 8th May 2001. The following objectives are envisaged, to start with, in the project:

- Easy access to Government Information at the remotest corners of the State;
- Redressal of complaints without physically visiting the Government offices;
- Transparency in the working of the Government;
- Responsive and responsible Administration etc

The project has been conceived to provide social as well as economic benefits to the rural masses including: Better dissemination of government information, resulting in better awareness among rural masses about various Govt. Schemes and bringing in transparency; Saving in time and cost of people visiting District headquarters time and again for getting information, lodging complaints and inquiring their status etc; Reduction in response time by the concerned departments and increase in their accountability to people; and Virtual Extension Counters for the Government, by way of using these Centres for getting the departmental Data entered and transmitted from time to time.

This project has been initiated by the Department of Information Technology, Government of Himachal Pradesh. The Gyandoot Project implemented in the district Dhar of Madhya Pradesh has been the role model for this project. The funds for the project have been provided by NABARD making LokMitra, the first IT based project funded by NABARD in the country. The software has been developed by National Informatics Centres (NIC), Himachal Pradesh State Unit, Shimla.

**vi. Setu – Maharashtra:**

SETU – (meaning “Bridge” in local language) or the Citizen Facilitation Centre has been set up by government of Maharashtra in the city of Aurangabad (population 1 million approx) as a one-stop service centre for citizens who have to visit government offices for certificates, permits, authentication, affidavits and other services. The Centre attempts, through the use of ICT, to reduce the visit of citizens from one office to another and prevent the functioning of touts while providing greater transparency,

accessibility and efficiency to the procedures in decision-making. Key stakeholders are the general public, especially farmers, laborers, small entrepreneurs and students who require certificates and permits. Other stakeholders are the NGO, and government officials. SETU can be adjudged a partial success at present. The Centre has been successful in introducing transparency into official procedures, and in increasing the efficiency of the delivery mechanism for completed applications. However, the constraint is in preparing a complete application, since it requires the support of many documents that are issued by other offices at lower (sub-district or block or village) level and these offices still have the old procedures. It is not possible to comment on the efficacy of SETU since only the top end of the process chain has been impacted.

**vii. Rasi - Tamil Nadu:**

RASI is rural access to services through Internet. Rasi: RASI (Rural Access to Services through Internet) Centres, as the facilities under the initiative are known, are awaiting a miracle for revival and continue to be of help to people living in villages, particularly the poor and semi-literate. It was in 2001 that the State Government's Information Technology Department established a Sustainable Access in Rural India Centre in Melur, Madurai district. Initiated as a pilot project, its objectives were to bridge the digital divide, establish rural connectivity and help spread information about social development to people. In July 2002, it was extended to other districts, including Kancheepuram and renamed RASI. Except centres at Kovilambakkam (located in Nanmangalam village) and Peerkankaranai, all have closed down. When the facilities were started in 2003-2004, some were run by trained women self-help groups and others by individuals. Applicants seeking various certificates had to visit the centre and sign relevant application forms.

RASI MAIYAMS was started with the objectives to provide a communication channel to the collect orate, including for grievances; provide information by linking Panchayat offices and also by building a database of best practices (for e.g. in agriculture); and have an educational component. RASI Maiyams are information centers set up for e-Governance and as nodal points for best practices dissemination. Various services such as villages database, networking with district/block level departments, online petitions submission, SHGs database, progress of work at block level, buy/sell database, PDS

allocation, market prices, land records, etc are being offered, using a sustainable model of engaging the district administration, an NGO and entrepreneurs/self help groups from the district to operate and maintain the RASI network. CDs on agricultural best practices, which will help local farmers, are also provided in these centers.

**viii. Bhoomi – Karnataka:**

Bhoomi: The Department of Revenue in Karnataka State has computerized 20 million records of land ownership of 6.7 million farmers in the State. Previously, farmers had to seek out the Village Accountant to get a copy of Record of Rights, Tenancy and Crops (RTC) – a document needed for many tasks such as obtaining bank loans. There were delays and harassment. Bribes had to be paid. Today, for a fee of Rs. 15, a printed copy of the RTC can be obtained online at computerized land record kiosks (Bhoomi centers) in 177 taluk offices. This system works with the software called “BHOOMI” designed fully in-house by National Informatics Center, Bangalore. The Department of Information Technology, Govt. of India has embarked upon a major programme to rollout Land Records Computerisation in several States of the country. The End Users/Beneficiaries are Rural People.

**ix. Friends – Kerala:**

In the state of Kerala in South India, FRIENDS (Fast, Reliable, Instant, Efficient Network for Disbursement of Services) centers provide a one-stop, front-end, IT-enabled payment counter facility for the government payments to be made by citizens. FRIENDS is a front-end solution now i.e., it is a counter automation as opposed to a process improvement project, since the back-end computerisation is yet to be completed. The counters are equipped to handle approximately 1,000 types of payments due to public sector departments/agencies viz., utility payments for electricity and water, revenue taxes, license fees, motor vehicle taxes, university fees, etc.

The project can be considered successful, considering the direct and indirect benefits and win-win situation provided to both government and citizens. The front-end first

approach has been proven as a method of providing the services to citizens without waiting for the complete chain to be complete. However, this will not be real e-governance if the internal systems are structured to make the system smooth. Seen in this light, FRIENDS is not a complete success as e-governance project since it is not yet addressing the governance issues.

**x. Mahashakti – Gujarat:**

Launched in 2001, in Gujarat operates like a single window through which the citizens can access information related to all aspects of the government's functioning, various benefit schemes and services ranging from obtaining ration cards to getting sanction for old age pension. Anyone who wishes to avail the benefit has to go to his/her nearest designated STD/ISD kiosk, submit the necessary documents to the Info Kiosk owner and fill in the required form online. For online submission of application, the Info Kiosk owner charges Rs. 10 for the application form and Rs 20 for submission. The taluks of Halol, Kalol, Santrampur, Jambughoda, Ghogamba, Kahmpur, Lunawada, Morwa and Shahera have such infokiosks.

**4.4 - Importance/ Relevance of project Success Factors – Case Studies of 10 projects:**

An exercise has been done for evaluating the 10 case studies, which are considered successful to a good extent. Many of the case studies are from the same states for which ICT and e-Governance Policy Framework has been evaluated. The matrix of case studies is given in Table 4.3.

**Table 4.3: Case studies: Importance/ Relevance of project Success Factors – Case Studies of 10 projects:**

Name of the project	Suwidha Punjab	Nai-Disha Haryana	e-Sewa Andhra Pradesh	Lok Mitra Rajasthan	Lok Mitra Himachal Pradesh	Setu Maharashtra	Rasi Tamil Nadu	Bhooni Karnataka	FRIENDS Kerela	Mahiti Shakti Gujarat	Total Score All India
Political Commitment and will	3	3	5	3	3	3	3	5	3	4	35
Bureaucratic leadership, continuity, attitude	3	3	5	4	3	3	3	5	3	3	35
The Overall Success of the Project	4	3	5	3	2	4	3	5	3	3	35
Change Management	4	3	4	3	2	3	3	5	3	3	33
Administrative Ownership by the Department Concerned	2	3	5	3	2	3	3	5	2	4	32
Choice of Technology	4	3	4	2	3	3	3	4	3	3	32
Training of Government Staff	3	3	4	3	2	2	3	5	3	3	31
Self Sustainability Model	4	3	4	3	2	3	2	4	3	3	31
Infrastructural Issues like site, electric power	3	3	4	2	2	3	2	3	3	3	30
Friendliness of service delivery and cost	3	3	3	3	2	2	3	4	3	3	29
Quality of Services	3	3	4	2	2	3	2	4	3	3	29
Departmental Coordination and Administrative Issues	3	3	4	2	2	2	3	4	2	3	28
Process Reengineering and Admin Reforms	3	2	4	2	2	2	3	5	2	3	28
Architecture and Standards	3	2	4	2	2	2	2	4	2	3	26
Policy Parameter	3	2	3	2	2	3	2	4	2	2	25
Availability of Financial Resources	3	2	4	2	3	3	3	4	2	2	25
IT Literacy, Public Awareness about the service	2	2	3	2	3	2	2	3	3	2	24
Completeness, depth and spread of service	3	2	3	3	2	3	2	3	3	2	24
Human Challenges – Capacity Building	3	2	4	2	2	2	2	5	3	3	23
Security Standards	2	2	3	2	2	2	2	4	2	2	23
Legal and Privacy Issues	2	2	3	2	2	2	2	4	2	2	23

These projects have earned widespread appreciation, primarily for their ability to change the lives of citizens in the context of reduction in procedural delays, red-tapism and corruption amidst increased participation, communication, and single window clearance. e-Governance can transform citizen services, provide access to information to empower citizens, enable their participation in government and enable access to economic and social opportunities. ICT tools (Information and Communication Technology) are effectively adding new dimensions to old institutional set-ups. There is a reinforced thrust for an informed and participatory citizenry for efficient e-Governance. It goes without saying that impact of ICT on institutional changes is spreading across the boundaries of social and political arrangements of societies. e-Governance in India is fast becoming a rage. From a Rs 3,014 crore industry in 2005, it is expected to escalate 30 per cent to Rs 4,000 crore, according to a study conducted by independent ICT (Information and Communications Technology, Skoch Consultancy Services).

#### **4.5 - Gaps in the Policy framework and Projects Execution framework:**

Based on the above analysis still large gaps in State Policy framework as also in the Projects Execution framework appear to be existing which need to be handled through appropriate policy intervention and a by creating a conducive environment for e-Governance project execution before the full benefit of ICT for Good Governance can reach the masses. Wherever the total score for a factor is less than 60 per cent, it has been considered as notable gap. These have been indicated in a descending order of importance in the Table 4.4 and Table 4.5 respectively:

<b>Table 4.4- State Policies gaps: Study of Policies of 10 States</b>	
<b>Policy Parameter</b>	<b>Total Score</b>
Dispute Resolution Mechanism	<b>3</b>
Interdepartmental Coordination Policy	<b>8</b>
Policy on ICT Entrepreneurship for local youth	<b>10</b>
Special Schemes / provision for the weaker sections	<b>16</b>
Funding Policy and sustainability Models	<b>19</b>
Public Private Partnership Policy	<b>19</b>
Institutional Framework, Special Purpose Vehicles	<b>21</b>
Outsourcing Policy	<b>22</b>
IT Resource Acquisition and Disposal Policy	<b>23</b>
Definitive Action Plan with milestones and Time lines	<b>24</b>
Security and Privacy	<b>24</b>
Policy Regarding Process Reengineering	<b>26</b>
Mission Mode project Execution Policy	<b>26</b>
Local Language promotion policy	<b>27</b>
Clear e-Governance Roadmap	<b>28</b>
Infrastructure Policy	<b>28</b>
Comprehensive Administrative Reforms	<b>29</b>

<b>Table 4.5- Case studies: Gaps in Projects Execution factors – Case Studies of 10 projects</b>	
<b>Name of the project</b>	<b>Total Score All India</b>
Human Challenges – Capacity Building	<b>23</b>
Security Standards	<b>23</b>
Legal and Privacy Issues	<b>23</b>
IT Literacy, Public Awareness about the service	<b>24</b>
Completeness, depth and spread of service	<b>24</b>
Policy Parameter	<b>25</b>
Availability of Financial Resources	<b>25</b>
Architecture and Standards	<b>26</b>
Departmental Coordination and Administrative Issues	<b>28</b>
Process Reengineering and Admin Reforms	<b>28</b>
Friendliness of service delivery and cost	<b>29</b>
Quality of Services	<b>29</b>
Infrastructural Issues like site, electric power	<b>30</b>

It may be seen that there is a larger gap in the soft factors like capacity building, common standards, specifications, security guidelines, process re-engineering and reforms, quality, completeness, depth and spread of service, coordination, mindset etc. and lesser gap in the other areas like infrastructure, quality of services, friendliness of service delivery and cost etc.

#### **4.6 – Concluding Remarks:**

The gaps exist in the policy framework as also the implementation policy framework in most of the Indian States. As little work has been done in this area, especially in the Indian context, there is tremendous scope for taking up future research. A more detailed study into these gap areas could provide useful information / policy inputs for future interventions.

## **CHAPTER – V**

### **DATA ANALYSIS AND STRATEGIC POLICY FRAMEWORK**

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This chapter deals with analysis and discussion of the responses gathered from the respondents by conducting the perception survey of the selected stake-holders about their expectation from e-Governance and evolving and developing a shared vision about expectations from e-Governance and pre-requisites for such a vision to be realized. For the success of any - governance, it is important to first understand the needs, priorities and aspirations of all the stakeholders. Lack of such an understanding can result in the project becoming supply-driven rather than demand-driven. The real test of the success of such projects is when the citizens drive these initiatives rather than being driven by government, vendors, technology or individual champions.

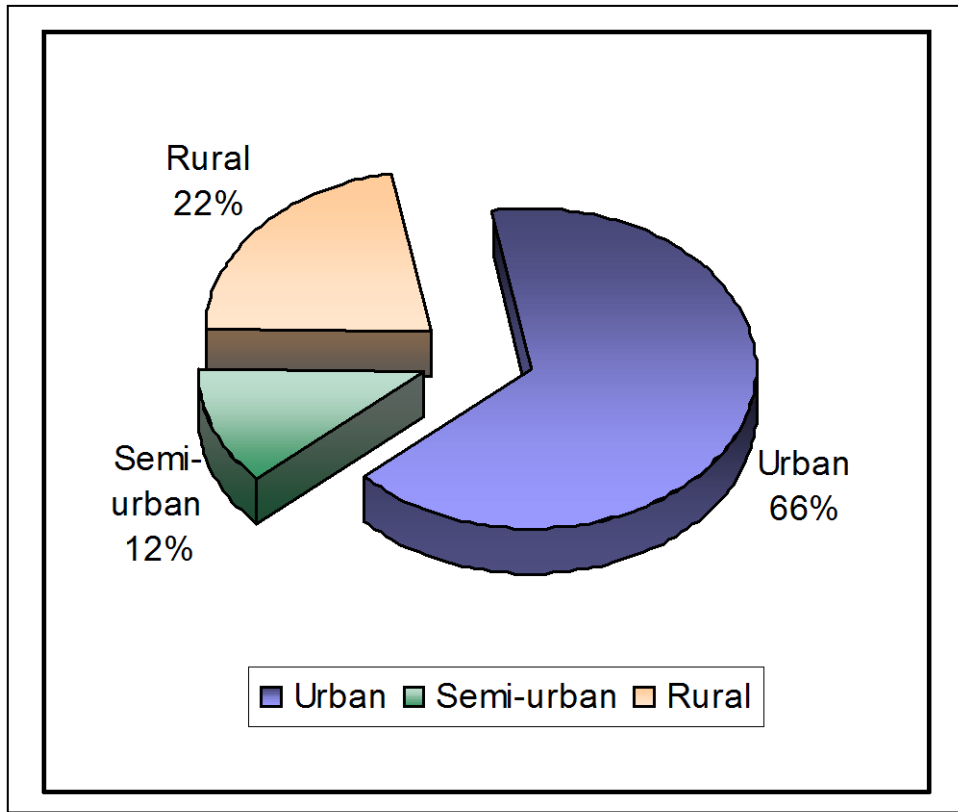
The present study takes the participative stakeholder analysis to get the views and perceptions of citizens and also two sets of questionnaires were administered to academicians and IT professionals; and to politicians and bureaucrats to understand their perception of e- governance. These sets of questionnaires also had the common questions posed to the citizen. The study, after carrying out the gap analysis in policy framework for achieving the shared vision through questionnaire administered to the States and IT experts, proposes a strategic policy framework and interventions required on the basis of the gap identified above. Sampling statistics viz. chi-square analysis, ANOVA, factor analysis etc were used to analyze the data. For data collection, major cities were taken from all the three natural regions of Punjab. The three sets of questionnaires were administered to 2900 persons. In response to these questionnaires 849 responses have been received. The findings of data collected through questionnaires are described in following sections. Section 5.1 deals with the Participative Stakeholders' Analysis (PSA). Section 5.2 presents the strategic framework for good governance.

## 5.1 - Participative Stakeholder Analysis:

### 5.1.1 - Demographic Profile :

Demographic profile of the respondents given in Table 5.1 depicts that one third of the respondents are females, 22 per cent belong to rural areas and 45 per cent are married. Among the younger respondents, majority of the female students are unmarried. Females, those participated in the survey, are generally more educated than their counterparts. Mean age of the respondents of different categories was estimated to be 30 years for Citizens, 40 years in case of Bureaucrats and politicians, nearly 47 years for the groups of Academicians / IT respectively.

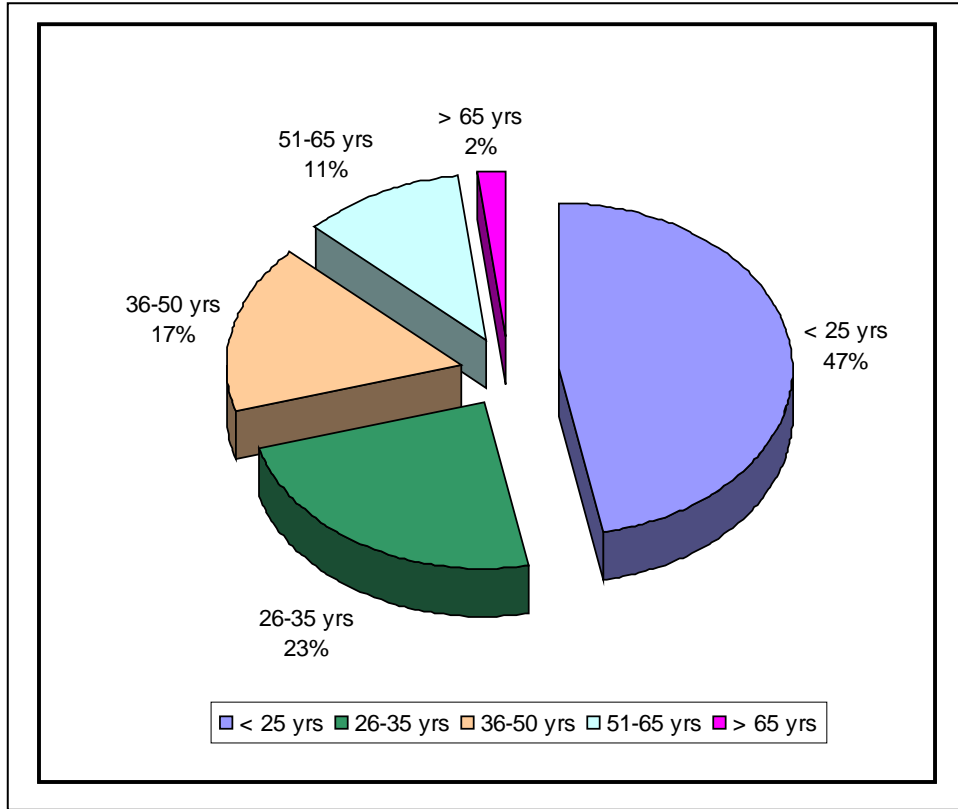
<b>Table 5.1 - Demographic Profile:</b>		
<b>Group</b>	<b>Number</b>	<b>Percentage</b>
<b>Gender</b>		
Male	553	65.14
Female	296	34.86
<b>Marital Status</b>		
Single	450	53.00
Married	388	45.70
Widowed/ Divorced	11	1.29
<b>Education</b>		
Illiterate	21	02.43
Under Grad.	200	23.55
Graduation	318	37.45
Post Grad.	73	08.59
<b>Income</b>		
BPL	27	03.18
Non Tax Payer (not BPL Card Holder)	515	60.65
Tax payer	307	36.16
<b>Total</b>	<b>849</b>	<b>100.00</b>



**Figure 5.1: Area (Urban, Rural, Semi-Urban)**

The sample is dominated by urban populace which consisted of 66 per cent of respondents. 12 per cent respondents were from semi-urban areas. The rural segment constituted 22 per cent. Stake holder wise break-up is given in Table 5.2. The academicians and IT professionals as well as bureaucrats belong to the urban segment, while the citizens belong to all three segments with 25 per cent from rural areas.

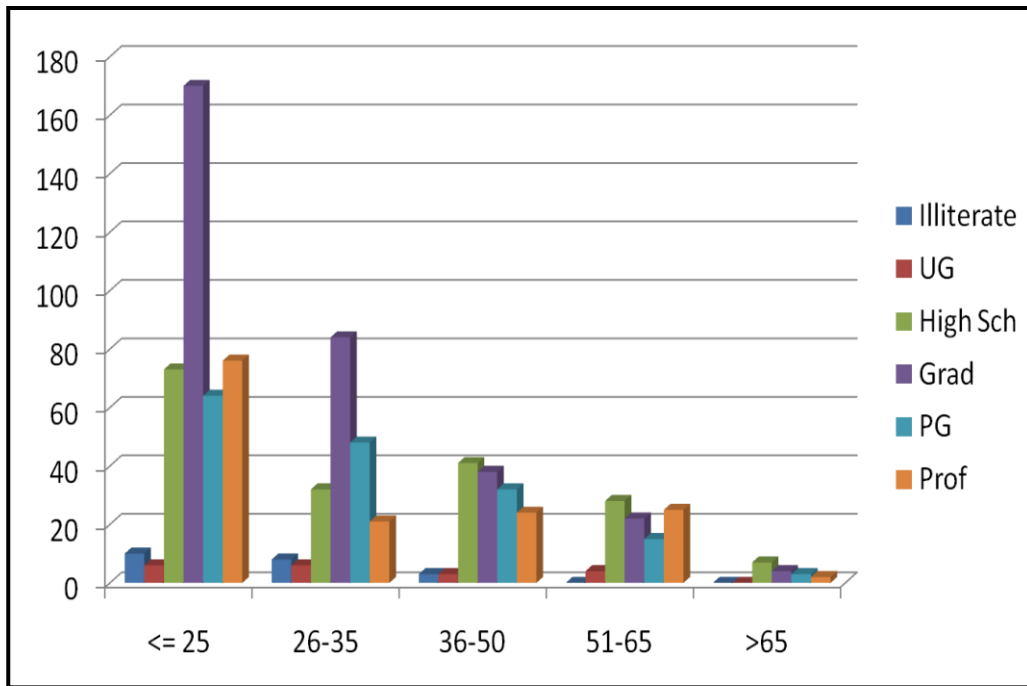
Area	Citizen	Academician and IT	Bureaucrats	Total
Urban	446	82	34	562
Semi-Urban	101	3	0	104
Rural	182	1	0	183
<b>Total</b>	729	86	34	849



**Figure 5.2 : Age Groups**

<b>Table 5.3 - Age Vs Stakeholders:</b>				
<b>Age group</b>	<b>Citizen</b>	<b>Academician and IT</b>	<b>Bureaucrats</b>	<b>Total</b>
<b>&lt;= 25</b>	<b>388</b>	<b>11</b>	<b>0</b>	<b>399</b>
<b>26-35</b>	<b>165</b>	<b>28</b>	<b>6</b>	<b>199</b>
<b>36-50</b>	<b>98</b>	<b>28</b>	<b>15</b>	<b>141</b>
<b>51-64</b>	<b>68</b>	<b>14</b>	<b>12</b>	<b>94</b>
<b>&gt;65</b>	<b>10</b>	<b>5</b>	<b>1</b>	<b>16</b>
	<b>729</b>	<b>86</b>	<b>34</b>	<b>849</b>

As seen from Figure 5.3 the largest segment, i.e., 47 per cent of respondents are less than 25 years and if age till 35 is considered, this segment comprises of 70 per cent of the respondents. 28/86 of academicians and IT professionals and 6/34 of Bureaucrats were from 26-35 age group and 28/86 of academicians and IT professionals and 25/34 were from 36-50 age group. The senior citizens' in the sample were very less. The response rate was maximum from the younger age group.



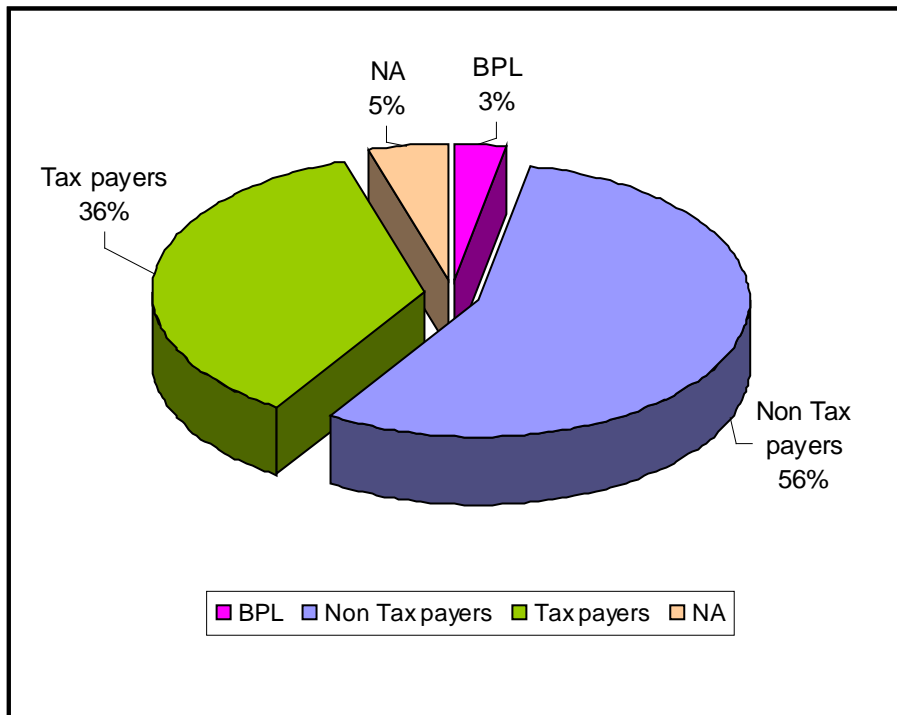
**Figure 5.3: Age Vs Education**

Education profile represents wide spectrum. 74 per cent of the respondents have done at least graduation. 23 per cent are high school and below. About 3 per cent are illiterates.

Education	Citizen	Academician and IT	Bureaucrats	Total
<b>Illiterate</b>	17	4	0	21
<b>Under Matriculation</b>	16	2	1	19
<b>High School</b>	173	7	1	181
<b>Graduates</b>	283	31	4	318
<b>Post Graduates</b>	133	18	11	162
<b>Professional</b>	107	24	17	148
<b>Total</b>	729	86	34	849

Table 5.5 - Gender vs. Stakeholders:				
Gender	Citizen	Academician and IT	Bureaucrats	Total
Male	450	77	26	553 (65.14)
Female	279	9	8	296 (34.86%)
<b>Total</b>	729	86	34	849

The sample consisted of 35 per cent females and 65 per cent males. 77/86 academicians and IT professionals were males and 26/34 Bureaucrats were males. 38.27 per cent of citizens were females.



**Figure 5.4: Income Levels**

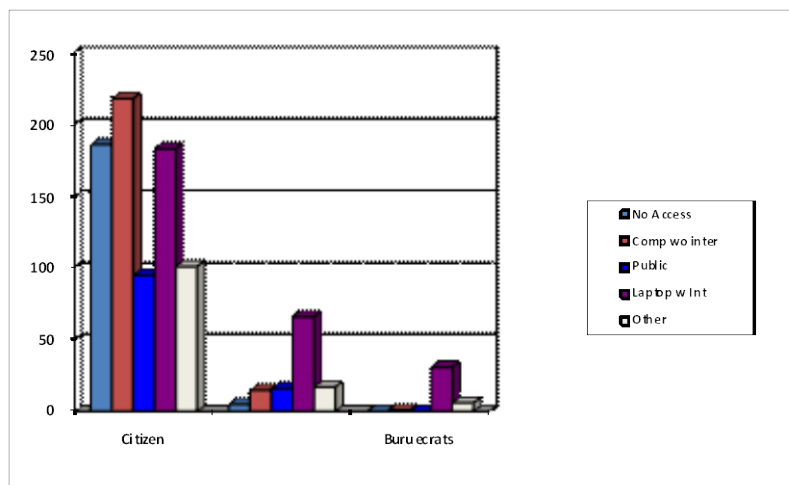
The results depict that majority of citizens (465/729) were non-tax payers. 75/86 academicians and IT professionals and 32/34 bureaucrats were tax payers. 36 per cent of respondents were tax payers and 56 per cent were non tax payers. Only 3 per cent were below poverty line.

<b>Table 5.6 - Income vs. Stakeholders:</b>				
<b>Income</b>	<b>Citizen</b>	<b>Academician and IT</b>	<b>Bureaucrats</b>	<b>Total</b>
<b>Not Av</b>	38	1	1	40
<b>BPL</b>	26	1	0	27
<b>Non Tax payers</b>	465	9	1	475
<b>Tax payers</b>	200	75	32	307
<b>Total</b>	729	86	34	849

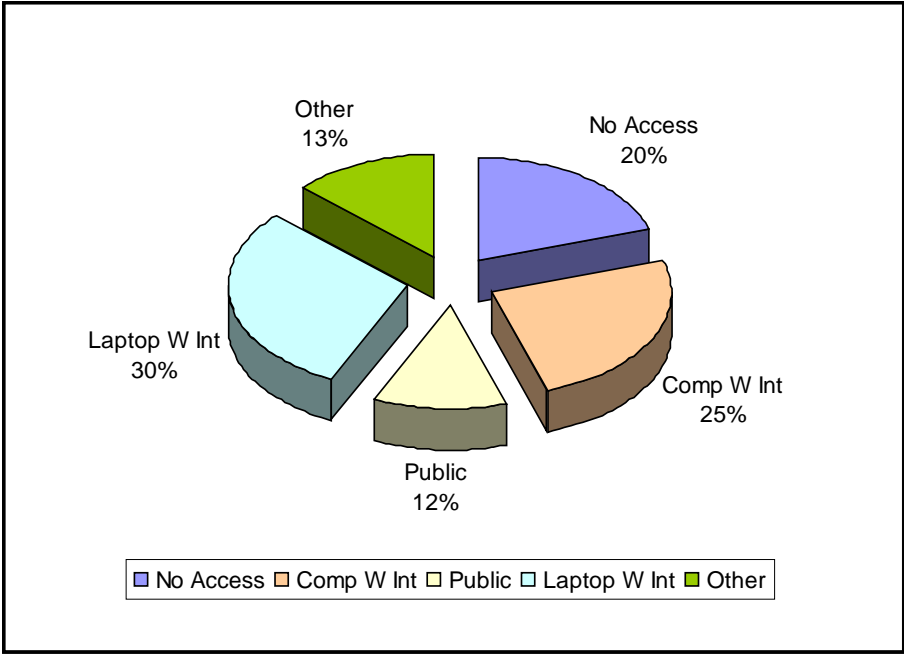
### **Young Population below 35 Years – Few Facts**

More than 70 per cent of the respondents having TV/Cable are up-to 35 years of age, 68 per cent of the total respondents having mobile phones are up-to 35 years of age, more than 66 per cent of the total respondents using Laptops and internet connectivity are up-to 35 years of age. Education profile represents wide spectrum. 74 per cent of the respondents have done at least graduation, 23 per cent are High School.

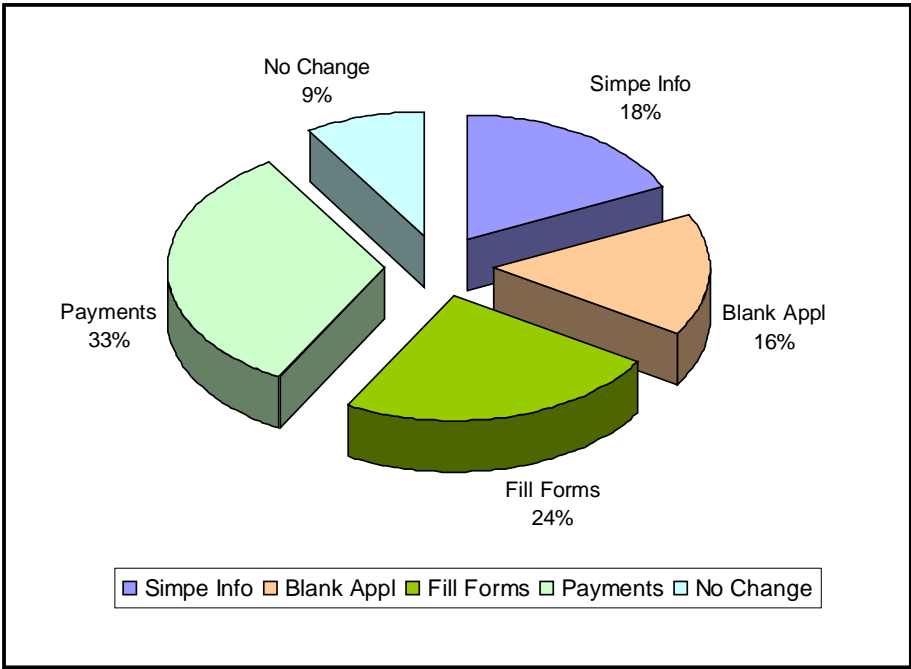
**Access to the TV / Phones/ Cell Phone:** Proportion of Non tax payers owning TVs is more than the tax payers owning TVs but the same is true of cable and mobile. In fixed line it is the other way’



**Figure 5.5: PC, Internet Access Vs Stakeholders and Age Group**

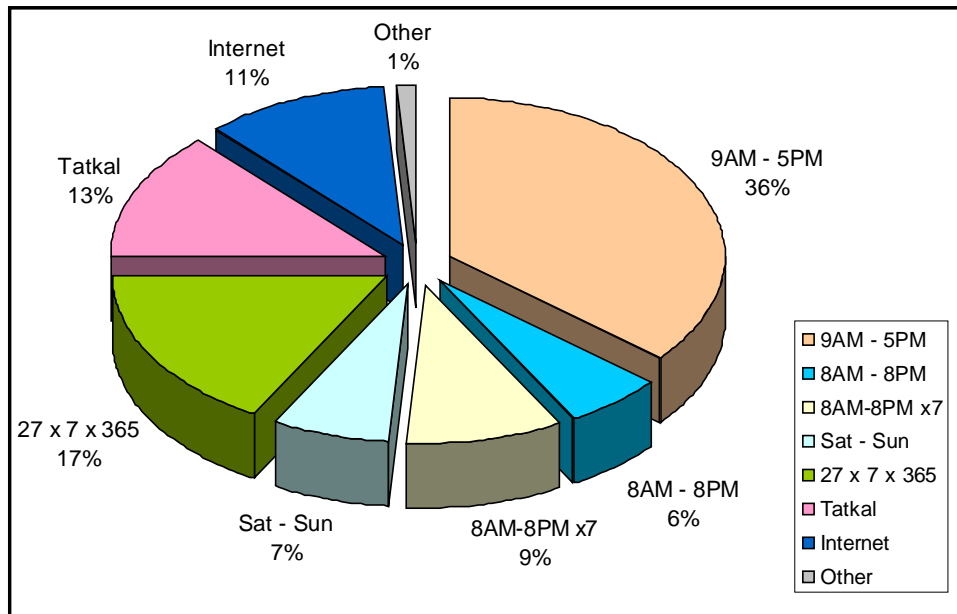


**Figure 5.6: Access to a computer and Internet**



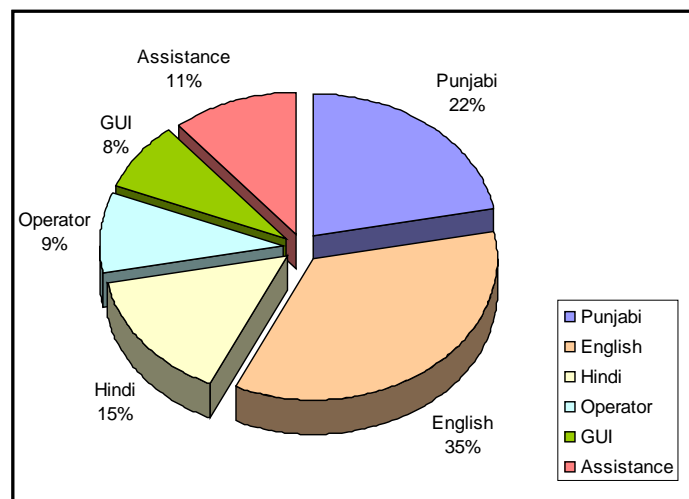
**Figure 5.7: Level of ICT led e-governance services citizen wants**

As depicted in Figure 5.7, the analysis of the level of ICT led e-governance services reveals that 33 per cent citizens are ready to receive the services on payment. 24 per cent want to get forms filled and 18 per cent of citizens' preferred simple information.



**Figure 5.8: Desired timings of Citizen Services**

Majority of the respondents in all categories preferred to have service from 9AM to 5PM. Seventeen per cent prefer to have 24x7x365 and thirteen per cent prefer Tatkal, i.e., immediate service.



**Figure 5.9: Preference of Language for ICT led e-Governance services**

Regarding Language in which the Citizen wants ICT led e-Governance services, the citizen's preferred English, however there were 225 who preferred Punjabi i.e., regional language (Figure 5.9).

<b>Table 5.7 - Relation between Gender and Area:</b>					
<b>Area_cls</b>					
<b>Gender</b>		<b>Urban</b>	<b>rural +semi urban</b>	<b>Total</b>	
	Male Count	364	189	553	Chi square- 0.098 Df:1 P=.754
	% of Total	42.87	22.26	65.13	
	Female Count	198	98	296	
	% of Total	23.32	11.54	34.86	
	Total Count	562	287	849	
	% of Total	66.19	33.80	100	

Majority of the respondents 66.19 per cent belong to urban areas. The results of Chi-square don't depict any relation between the Gender and Area.

As seen in Table 5.8 the majority of females in the sample are non-workers. The Intellectuals constitute 6.37 per cent of the total sample with 3.43 per cent of males

<b>Table 5.8 - Relationship between Gender and Profession / Occupation:</b>									
<b>Profession / Occupation</b>									
<b>Gender</b>		<b>non workers</b>	<b>workers+ labour</b>	<b>Govt. job</b>	<b>business and prof.</b>	<b>Pvt service</b>	<b>Intellectuals</b>	<b>Total</b>	
	Male Count	154	29	147	103	71	28	532	Chi-Square: 173.36*** Df:5 P=.000
	% of Total	18.87	3.55	18.01	12.62	8.70	3.43	65.20	
	Female Count	198	3	15	5	39	24	284	
	% of Total	24.26	0.37	1.84	0.61	4.78	2.94	34.80	
	Total Count	352	32	162	108	110	52	816	
	% of Total	43.14	3.92	19.85	13.24	13.48	6.37	100	

and 2.94 \*\*\* Significant at .1 per cent level

per cent of females.18.87 per cent of males are non-workers, followed by 18.01 per cent in Govt. jobs. Chi Square depicts a relation between Profession and gender.

<b>Table 5.9 - Relation between Gender and Income level:</b>					
<b>Gender</b>		<b>Non Tax Payers</b>	<b>Tax Payers</b>	<b>Total</b>	
	Male Count	280	249	529	Chi-square: 54.01*** Df: 1 P=.000
	% of Total	34.61	30.78	65.39	
	Female Count	222	58	280	
	% of Total	27.44	7.17	34.61	
	Total Count	502	307	809	
	% of Total	62.05	37.95	100	

\*\*\* Significant at .1 percent level

The results of sample depict that 62.05 per cent of respondents are non tax-payers. The percentage of females paying tax is just 7.17 per cent. Chi-square depicts a relation between gender and Taxation.

<b>Table 5.10 - Relation between Gender and Marital Status:</b>					
<b>Marital Status</b>					
<b>Gender</b>		<b>single</b>	<b>Married</b>	<b>Total</b>	
	Male Count	241	312	553	Chi-square: 73.43*** Df:1 P=.000
	% of Total	28.39	36.75	65.14	
	Female Count	220	76	296	
	% of Total	25.91	8.95	34.86	
	Total Count	461	388	849	
	% of Total	54.30	45.70	100	

\*\*\* Significant at .1 percent level

The percentage of married males is higher than the females. For the sample as a whole the percentage of single is slightly higher than that of married. The value of Chi – square is 73.43 for 1 Degree of freedom. This highlights that there is a relation between Gender and marital status.

<b>Table 5.11 - Relation between Gender and Age:</b>					
<b>Age</b>					
<b>Gender</b>		Upto 30	Above 30	Total	Chi square: 69.96*** Df:1 P=.000
	Male Count	300	253	553	
	% of Total	35.34	29.80	65.14	
	Female Count	246	50	296	
	% of Total	28.98	5.89	34.86	
	Total Count	546	303	849	
	% of Total	64.31	35.69	100	

\*\*\* Significant at .1 percent level

As seen from Table 5.11 the percentage of females upto thirty (28.98) is much higher than those above thirty (5.89). The sample is dominated by the younger age group as the response rate of the younger group was much higher than that of higher age group people. The results of Chi- square depict an association between gender and age group.

<b>Table 5.12 - Relation between Gender and Educational Qualifications:</b>									
<b>Educational Qualifications</b>									
<b>Gender</b>		0	2	3	4	5	6	Total	Chi- square: 62.74*** Df:5 p-.001
	Count	18	16	150	193	74	102	553	
	% within Gender	3.25	2.89	27.12	34.90	13.38	18.44	100.00	
	% within F9_1	85.71	84.21	82.87	60.69	45.68	68.92	65.14	
	% of Total	2.12	1.88	17.67	22.73	8.72	12.01	65.14	
	Count	3	3	31	125	88	46	296	
	% within Gender	1.014	1.014	10.473	42.230	29.730	15.541	100.000	
	% within F9_1	14.286	15.789	17.127	39.308	54.321	31.081	34.865	
	% of Total	0.353	0.353	3.651	14.723	10.365	5.418	34.865	
	Count	21	19	181	318	162	148	849	
	% within Gender	2.47	2.24	21.32	37.46	19.08	17.43	100.00	
	% within F9_1	100	100	100	100	100	100	100	
	% of Total	2.47	2.24	21.32	37.46	19.08	17.43	100	

\*\*\* Significant at .1 percent level

<b>Table 5.13 - Relation between Area and Profession / Occupation:</b>									
		<b>Profession/Occupation</b>							
		<b>Non workers</b>	<b>workers+ labour</b>	<b>Govt. job</b>	<b>business and Prof.</b>	<b>Pvt. service</b>	<b>Intell-ectuals</b>	<b>Total</b>	Chi-square: 40.12*
<b>Area</b>	Urban Count	218	13	96	93	84	36	540	Df:5 P=.041
	% of Total	26.72	1.59	11.76	11.40	10.29	4.41	66.18	
	rural +semi urban Count	134	19	66	15	26	16	276	
	% of Total	16.42	2.33	8.09	1.84	3.19	1.96	33.82	
	Total Count	352	32	162	108	110	52	816	
	% of Total	43.14	3.92	19.85	13.24	13.48	6.37	100	

\*Significant at 5 percent

The results highlight that the percentage of Workers and Labour is higher in rural and semi-urban area, while for all other classes the percentage is higher in urban areas. The results of Chi- square highlight a relation between area and class.

<b>Table 5.14 - Relation between Area and Income level:</b>					
		<b>Income Level</b>			
Area		<b>Non tax payers</b>	<b>Tax payers</b>	<b>Total</b>	Chi-square: 35.54**
	Urban Count	295	243	538	Df:1 P=.01
	% of Total	36.46	30.03	66.50	
	rural +semi urban Count	207	64	271	
	% of Total	25.58	7.91	33.49	
	Total Count	502	307	809	
	% of Total	62.05	37.94	100	

\*\*Significant at 1 percent

Non tax payers in Urban areas are slightly higher than tax payers. Non-tax payers in Rural and Semi-urban areas are three times more than the tax payers. Chi square depicts a relation between Income level and area.

<b>Table 5.15 - Relation between Area and Marital Status:</b>					
Marital Status					
Area		single	married	Total	Chi-square: 1.412 Df: 1 P=.23
	Urban Count	297	265	562	
	% of Total	34.98	31.21	66.19	
	rural +semi urban Count	164	123	287	
	% of Total	19.31	14.48	33.80	
	Total Count	461	388	849	
	% of Total	54.29	45.70	100	

The results of Chi-square reveal that there is no relation between Marital Status and Area. The percentage of singles living in urban area is slightly higher than that of married respondents.

<b>Table 5.16 - Relation between Area and Age:</b>					
Age					
Area		upto 30	above 30	Total	Pearson Chi-Square - 0.67 Df: 1 p- 0.41
	Urban count	356	206	562	
	% of Total	41.93	24.26	66.19	
	rural +semi urban Count	190	97	287	
	% of Total	22.37	11.42	33.80	
	Total Count	546	303	849	
	% of Total	64.31	35.68	100	

The results of Chi-square reveal that there is no association between Area and Age. The percentage of respondents' upto thirty years living in urban area is higher than the percentage of rural and semi-urban respondents.

<b>Table 5.17 - Relation between Income and Marital Status:</b>					
<b>Marital Status</b>					
		Single	married	Total	Pearson
<b>Income</b>	non tax payers Count	367	135	502	Chi-Square- 174.78*** Df:1 p-.0006
	% of Total	45.36	16.68	62.05	
	tax payers Count	73	234	307	
	% of Total	9.02	28.92	37.94	
	Total Count	440	369	809	
	% of Total	54.38	45.61	100	

\*\*\* Significant at .1 percent level

As seen from results of Chi-Square there is a strong association between income and Marital Status. The percentage of Single non- tax payers is higher that the married ones, while it is the other way round for tax payers, where the married percentage is higher.

<b>Table 5.18 - Relation between Income and Profession:</b>									
<b>Profession</b>									
<b>Income level</b>		<b>Non workers</b>	<b>workers+ labour</b>	<b>Govt. Job</b>	<b>business and Prof.</b>	<b>Pvt. service</b>	<b>Intellectuals</b>	<b>Total</b>	Pearson
	non tax payers Count	8	12	119	214	76	73	502	Chi-Square 32.43** Df:5 p= .004
	% of Total	0.98	1.48	14.70	26.45	9.39	9.02	62.05	
	tax payers Count	10	7	54	89	76	71	307	
	% of Total	1.23	0.86	6.67	11.00	9.39	8.77	37.94	
	Total Count	18	19	173	303	152	144	809	
	% of Total	2.22	2.34	21.38	37.45	18.78	17.79	100	

\*\* Significant at 5 percent level

The results highlight that the percentage of non tax payers is higher in Business and Professional services. This is followed by respondents in Govt. jobs. Non-Workers constitute a very small segment. In case of tax payers Business and Professional services is followed by Private services and Intellectuals. The results of Chi-square highlight a relation between Profession and Income level.

Table 5.19 - Relation between Age and Educational Qualification:									
Educational Qualification									Pearson Chi-Square 27.11 Df: 5 p-.005
age		illiterate	Under matric	High School	Grad.	Post Grad.	Prof.	Total	
	Upto 30 Count	17	10	96	234	99	90	546	
	% of Total	2.02	1.17	11.30	27.56	11.66	10.60	64.35	
	Above 30 Count	4	9	85	84	63	58	303	
	% of Total	0.47	1.060	10.01	9.89	7.42	6.83	35.68	
	Total Count	21	19	181	318	162	148	849	
	% of Total	2.47	2.23	21.31	37.45	19.08	17.43	100	

The above table highlights that the number of Graduates is highest in the sample, this is followed by High School constituting 21.31 per cent and Post graduates constituting 19.03. The professionals represent 17.43 per cent of the sample which is reasonably good. Graduates represent a good percentage in both below thirty and above thirty age groups. The results of Chi-square depict a relation between age and educational Qualification.

ANOVA has been used to find out whether there is a significant difference amongst Demographic variables, viz. age, gender, area and marital status and preference to get the computerized Citizen Services/ e-Governance services, from the Government.

<b>Table 5.20 - Gender and Preference to get the computerized Citizen Services/ e-Governance services, from the Government:</b>							
			Sum of Squares	df	Mean Square	F	Sig.
F21_1	Free of cost even if these have to be directly taken through the Government Offices only at the same quality level	Between Groups	2.670	1	2.670	10.795	.001***
		Within Groups	209.474	847	.247		
		Total	212.144	848			
F21_2	Through Banks, Community Centers, Panchayats, Public Kiosks and other similar agencies in my locality duly authorized by the Government at a reasonable cost	Between Groups	.001	1	.001	.005	.946
		Within Groups	210.938	846	.249		
		Total	210.939	847			
F21_3	Through the private dealers/ brokers in my locality duly authorized by Government at a reasonable cost	Between Groups	2.564	1	2.564	13.045	.000***
		Within Groups	166.491	847	.197		
		Total	169.055	848			
F21_4	Private and personal service, I don't care even if it is through un-authorized dealers/ brokers/ touts	Between Groups	1.041	1	1.041	10.295	.001***
		Within Groups	85.647	847	.101		
		Total	86.688	848			
F21_5	Online service through Common Service Centers or Call Centers at a reasonable cost	Between Groups	.441	1	.441	1.898	.169
		Within Groups	196.902	847	.232		
		Total	197.343	848			
F21_6	Online self service through Internet, Cyber café, Internet kiosks at community centers free of cost	Between Groups	.282	1	.282	1.399	.237
		Within Groups	170.559	847	.201		
		Total	170.841	848			

\*\*\* Significant at .1 percent level, \*\* Significant at 1 percent level, \* Significant at 5 percent level

Gender-wise analysis reveals that ANOVA values are significant for i) Free of cost even if these have to be directly taken through the Government Offices only at the same quality level ii) Through the private dealers/ brokers in my locality duly authorized by Government at a reasonable cost and iii) Private and personal service, I don't care even if it is through un-authorized dealers/ brokers/ touts.

<b>Table 5.21 - Age and Preference to get the computerized Citizen Services/ e-Governance services, from the Government:</b>							
			Sum of Squares	df	Mean Square	F	Sig.
F21_1	Free of cost even if these have to be directly taken through the Government Offices only at the same quality level	Between Groups	.392	4	.098	.390	.816
		Within Groups	211.752	844	.251		
		Total	212.144	848			
F21_2	Through Banks, Community Centers, Panchayats, Public Kiosks and other similar agencies in my locality duly authorized by the Government at a reasonable cost	Between Groups	2.484	4	.621	2.512	.040*
		Within Groups	208.454	843	.247		
		Total	210.939	847			
F21_3	Through the private dealers/ brokers in my locality duly authorized by Government at a reasonable cost	Between Groups	8.376	4	2.094	10.999	.000***
		Within Groups	160.680	844	.190		
		Total	169.055	848			
F21_4	Private and personal service, I don't care even if it is through un-authorized dealers/ brokers/ touts	Between Groups	.857	4	.214	2.107	.078
		Within Groups	85.831	844	.102		
		Total	86.688	848			
F21_5	Online service through Common Service Centers or Call Centers at a reasonable cost	Between Groups	2.032	4	.508	2.195	.068
		Within Groups	195.311	844	.231		
		Total	197.343	848			
F21_6	Online self service through Internet, Cyber café, Internet kiosks at community centers free of cost	Between Groups	2.344	4	.586	2.935	.020*
		Within Groups	168.497	844	.200		
		Total	170.841	848			

\*\*\* Significant at .1 percent level, \*\* Significant at 1 percent level, \* Significant at 5 percent level

Results of ANOVA highlight that there is a significant difference amongst age groups and Preference to get the computerized Citizen Services/ e-Governance services, from the Government. ANOVA values are significant for: i) Through Banks, Community Centers, Panchayats, Public Kiosks and other similar agencies in my locality duly authorized by the Government at a reasonable cost, ii) Through the private dealers/

brokers in my locality duly authorized by Government at a reasonable cost and iii) Online self service through Internet, Cyber café, Internet kiosks at community centers free of cost.

<b>Table 5.22 - Area and Preference to get the computerized Citizen Services/ e-Governance services, from the Government:</b>							
			Sum of Squares	df	Mean Square	F	Sig.
F21_1	Free of cost even if these have to be directly taken through the Government Offices only at the same quality level	Between Groups	1.162	2	.581	2.330	.098
		Within Groups	210.981	846	.249		
		Total	212.144	848			
F21_2	Through Banks, Community Centers, Panchayats, Public Kiosks and other similar agencies in my locality duly authorized by the Government at a reasonable cost	Between Groups	3.436	2	1.718	6.996	.001***
		Within Groups	207.503	845	.246		
		Total	210.939	847			
F21_3	Through the private dealers/ brokers in my locality duly authorized by Government at a reasonable cost	Between Groups	1.941	2	.971	4.913	.008**
		Within Groups	167.114	846	.198		
		Total	169.055	848			
F21_4	Private and personal service, I don't care even if it is through un-authorized dealers/ brokers/ touts	Between Groups	.647	2	.324	3.181	.042*
		Within Groups	86.041	846	.102		
		Total	86.688	848			
F21_5	Online service through Common Service Centers or Call Centers at a reasonable cost	Between Groups	1.530	2	.765	3.304	.037*
		Within Groups	195.813	846	.231		
		Total	197.343	848			
F21_6	Online self service through Internet, Cyber café, Internet kiosks at community centers free of cost	Between Groups	3.224	2	1.612	8.136	.000***
		Within Groups	167.617	846	.198		
		Total	170.841	848			

\*\*\* Significant at .1 percent level, \*\* Significant at 1 percent level, \* Significant at 5 percent level

Area wise ANOVA results are significance for all variables except for Free of cost even if these have to be directly taken through the Government Offices only at the same quality level.

<b>Table 5.23 - Marital Status and Preference to get the computerized Citizen Services/ e-Governance services, from the Government:</b>							
			Sum of Squares	df	Mean Square	F	Sig.
F21_1	Free of cost even if these have to be directly taken through the Government Offices only at the same quality level	Between Groups	1.763	3	.588	2.361	.070
		Within Groups	210.380	845	.249		
		Total	212.144	848			
F21_2	Through Banks, Community Centers, Panchayats, Public Kiosks and other similar agencies in my locality duly authorized by the Government at a reasonable cost	Between Groups	.585	3	.195	.782	.504
		Within Groups	210.354	844	.249		
		Total	210.939	847			
F21_3	Through the private dealers/ brokers in my locality duly authorized by Government at a reasonable cost	Between Groups	5.340	3	1.780	9.188	.000***
		Within Groups	163.715	845	.194		
		Total	169.055	848			
F21_4	Private and personal service, I don't care even if it is through un-authorized dealers/ brokers/ touts	Between Groups	.273	3	.091	.890	.446
		Within Groups	86.415	845	.102		
		Total	86.688	848			
F21_5	Online service through Common Service Centers or Call Centers at a reasonable cost	Between Groups	2.559	3	.853	3.700	.012*
		Within Groups	194.784	845	.231		
		Total	197.343	848			
F21_6	Online self service through Internet, Cyber café, Internet kiosks at community centers free of cost	Between Groups	3.767	3	1.256	6.351	.000***
		Within Groups	167.074	845	.198		
		Total	170.841	848			

\*\*\* Significant at .1 percent level, \*\* Significant at 1 percent level, \* Significant at 5 percent level

ANOVA results are significant for i) Through the private dealers/ brokers in my locality duly authorized by Government at a reasonable cost, ii) Online service through Common Service Centers or Call Centers at a reasonable cost and iii) Online self service through Internet, Cyber café, Internet kiosks at community centers free of cost.

## **5.2 - Factors Contributing To Good Governance:**

An attempt has been made to find out the factors contributing to good Governance. Since there are many factors, therefore, principle component factor analysis with varimax rotation and Kaiser Normalization was applied. The results highlight that two factors namely, i) Provision of Basic Fundamental Facilities and SMART Governance ii) Creation of conducive Environment account for a total variance of 56.095. SMART Governance means Simple, Moral, Accountable, Responsive and Transparent Governance.

These factors are explained below:

- 1. Provision of Basic Fundamental Facilities and SMART Governance:** This factor has emerged as the most important factor of the study with a total variance of 41.449. The major elements consisting this factor include: i) Maintaining rule of law and applying the same rules/ yardstick to everyone (.775), ii) Creating new job opportunities in the private sector and the government (.773), iii.) Safety of life and property and peaceful law and order (.756) iv) Transparency and accountability in the dealings with the government (.755), v) Citizen centric services in a responsive manner (.736), vi) Corruption free dealings with the government (.733), vii) Basic Infrastructure development like roads, bridges, power, telecom, Airports, irrigation, transport etc.(.688), viii) Effectiveness and efficiency of the working of government and its staff (.688) , ix) Overall economic development of the state, growth rate of economy (.679) and x) Good education facilities by the government which are job oriented (.677) .
- 2. Creation of conducive Environment:** This factor has emerged as the second most important determinant of the research with a total variance of 14.646. The major elements consisting this factor include: i) Provide more concessions and

freebies by the government, even at the cost of overall development (.853) ,ii) reducing digital divide and other inequalities in the society by positive discrimination in favour of the poorest of the poor (.582), iii) Good business environment with free-market economy (.519) and providing total freedom(.357)

All respondents in all three categories i.e. citizens, Government (politicians and bureaucrats) and academia and professionals agree completely that the factors contributing to the good governance are: Good education facilities, Basic Infrastructure, Safety, Peaceful Law and Order, Creating new job opportunities, Effectiveness and efficiency of the working of government and its staff, Good business environment, reducing digital divide and other inequalities in the society by positive discrimination in favour of the poorest of the poor and Providing total freedom of speech, of religion, of work and an attitude of non-interference by government.

The astonishing facts are that an attitudinal change is visible in the mindsets of Indian citizens where freebies are losing their importance as factor of good Governance. Rather the citizen has preferred economic factors more than the freebies. The citizens are ready to pay a price for a good service. Five factors considered least relevant for good governance are: Total freedom, Provision of more concessions and freebies, iii) Reducing inequalities by special provision for poor, Good business environment and v) Citizen centric services. There was agreement on all factors except freebies and total freedom as factors of good Governance.

Table 5.24 - Factors For Good Governance With Their Item Loading:								
Factor No	Factor Name	Eigen Value	Total % of Var.	Items	Item Loading	Mean	S.D.	Rank
1.	Provision of Basic Fundamental Facilities and SMART Governance	5.803	41.449	i. Maintaining rule of law and applying the same rules/ yardstick to everyone	.776	1.29	1.010	5
				ii. Creating new job opportunities in the private sector and the government	.773	1.32	1.066	4
				iii. Safety of life and property and peaceful law and order	.756	1.36	1.030	3
				iv. Transparency and accountability in the dealings with the government	.755	1.23	1.025	9
				v. Citizen centric services in a responsive manner,	.736	1.15	1.023	10
				vi. Corruption free dealings with the government	.733	1.24	1.179	8
				vii. Basic Infrastructure development like roads, bridges, power, telecom, Airports, irrigation, transport etc,	.688	1.39	.963	2
				viii. Effectiveness and efficiency of the working of government and its staff ,	.688	1.26	1.076	7
				ix. Overall economic development of the state, growth rate of economy	.679	1.26	1.064	6
				x. Good education facilities by the government which are job oriented.	.677	1.41	.999	1
Mean Score of Provision of Basic Fundamental Facilities and SMART Governance						1.29		
2.	<b>Creation of conducive Environment</b>	2.050	14.646	i. Provide more concessions and freebies by the government, even at the cost of overall development	.853	.55	1.383	13
				ii. Reducing digital divide and other inequalities in the society by positive discrimination in favour of the poorest of the poor	.582	1.05	1.161	12
				iii. Good business environment with free-market economy	.519	1.14	1.130	11
				iv. Providing total freedom of speech, of religion, of work and an attitude of non-interference by government	.357	0.19	1.56	14

The mean score of factor 1 viz., Provision of Basic Fundamental Facilities and SMART Governance is 1.29 and is much higher than overall average of 1.13. Good

education facilities by the government which are job oriented had the highest average followed by Basic Infrastructure development like roads, bridges, power, telecom, Airports, irrigation, transport etc. Citizen centric services in a responsive manner had the lowest average score in this factor.

The second factor, Creation of conducive Environment had a lower score of 0.73 than overall average and in this factor Provision of more concessions and freebies by the government, even at the cost of overall development had the low score of 0.55 and Providing total freedom of speech, of religion, of work and an attitude of non-interference by government had the lowest score of 0.19. This highlights that Indian citizens give least priority to these two. It may also be interesting to note that while for the 12 factors, the mean response of the citizen is ranging from the agreement to the strong agreement. However, for the two remaining factors, namely, no. 10 – ‘Provide more concessions and freebies by the Government, even at the cost of the overall development’ and no.1 - ‘Providing total freedom to citizens and non-interference by the Government’ the mean response is below agreement. It may also be interesting to note that standard deviation is the highest for these two factors

Thus the results reveal that all three categories of stake holders agree completely that the following factors contribute to good governance. These are: i) Good education facilities by the government which are job oriented, ii) Basic Infrastructure development like roads, bridges, power, telecom, Airports, irrigation, transport etc., iii) Safety of Life and property and peaceful Law and Order, iv) Creating new job opportunities in the private sector and the government, v) Effectiveness and efficiency of the working of government and its staff, vi) Good business environment with free-market economy, vii) reducing digital divide and other inequalities in the society by positive discrimination in favour of the poorest of the poor and viii) Providing total freedom of speech, of religion, of work and an attitude of noninterference by government.

In six factors, there is significant difference in opinion in the three categories of respondents. These are: i) Corruption free dealings with the government, ii) Transparency and accountability in the dealings with the government, iii) Citizen centric services in a responsive manner, iv) Maintaining rule of law and Peaceful law

and order and applying the same rules/ yardstick to everyone, v) Provide more concessions and freebies by the government, even at the cost of overall development and vi) Overall economic development of the state, growth rate of economy.

Expectations of providing more concessions and freebies by the government is inversely proportional to the education. The less educated respondents want more freebies. A lower test followed by post hoc test (SNK preceded) clearly reveals that less educated the respondent, more inclined he or she is to freebies as part of good governance. Respondents involved in government jobs professionals and intellectuals have shown more relevance for safety of property and law and order factors. Matriculates relatively given Leicester importance to consumption as one of the factors of good governance.

**5.3. Citizen's Perception about various Government Institutions and their services on the basis of the yearly frequency of use of the services; level of corruption, inefficiency, harassment or difficulty encountered and priority for improving the service through computerisation/ use of IT / e-Governance:**

The data was collected across the 26 major services being rendered by the Government departments/ institutions which normally span across the life cycle of a citizen. Most of these were services required by the citizens on a day to day basis. The idea was to understand if the perception of the citizen regarding the level of corruption, inefficiency, harassment or difficulty encountered matches his priority for improving the service and is it also related to his frequency of use of the service?. If it is so, it means that citizen believes that if we improve the quality of service through computerisation / use of IT / e-Governance in that case it will also reduce corruption inefficiency, harassment or difficulty encountered. Appendix-III Table Question No. 19-A indicates the yearly frequency of use of the services; 19-B indicates the level of corruption, inefficiency, harassment, or difficulty encountered and 19-C indicates the priority for improving the service through computerisation/ use of IT / e-Governance, respectively. Based on the frequency of use the first five services are:

1. Utility bill payment – electricity, water, sewer, phone, mobile
2. Education from govt. School/ college - admissions, quality of teaching, attendance, results, certificates, scholarships

3. Electricity connections, quality, timings, cuts, problems
4. Transport services- driving licenses, vehicle registrations, renewals, transfers, bus service, mini bus license etc.
5. Banks, bank loans, insurance, financing (micro credit) etc.
6. Hospital / dispensaries / PHC for health services like vaccination, maternity care, family planning, medicines, ambulance services, blood bank, etc.

Similarly, the five services with highest level of corruption, inefficiency, harassment, or difficulty encountered by the citizen are :

1. Police station/ for registration of complaint/ FIR
2. Land records, registration and transfer of property, copies of other records, property tax, revenue related cases
3. Electricity connections, quality, timings, cuts, problems
4. Municipal / civic services for water supply, sewerage, trade licenses, birth and death certificates, passing of building plans
5. Sales taxes, VAT, excise, entry tax, other taxes

In citizen's opinion the five priority services for improving the service through computerisation/ use of IT / e-Governance are:

1. Police station/ for registration of complaint/ FIR
2. Electricity connections, quality, timings, cuts, problems
3. Land records, registration and transfer of property, copies of other records, property tax, revenue related cases
4. Municipal / civic services for water supply, sewerage, trade licenses, birth and death certificates, passing of building plans

5. Education from govt. School/ college - admissions, quality of teaching, attendance, results, certificates, scholarships

It may be seen that the perception of corruption and harassment as also the priority of improvement through ICT is more or less matching (the sales tax has been rated at the sixth place for improvement through ICT). This also leads us to a point that the common man believes in that the power of information and communication technologies can really reduce the level of corruption, inefficiency, harassment or difficulty encountered.

Factor analysis of the priority for improving these services through Computerisation / use of IT/ e-Governance resulted in the three factors namely: i) Public utilities and basic services ii) Agriculture, procurement, banking and related services and iii) welfare, approvals and development account for a total variance of 67.639. Public utilities and basic services factor includes basic services like medical, health, education, police, public utilities like electricity connections, quality, timings, cuts, problems and utility bill payment – electricity, water, sewer, phone, mobile. It emerges as a most important factor and explains 27.09 per cent of total variation.

Another factor covering Agriculture, procurement, banking and related services explains 22.39 per cent of variation. It also includes: tenders pertaining to all departments/ agencies and information under the Right to Information Act, 2005. Redressal of grievance, consumer welfare and consumer rights also are included in this factor.

Additional services: i) Social security, pensions, welfare of SC, ii) Industrial project related clearances, approvals, subsidies, labour laws, compliances of law and rules (VAT, RTO), iii) Sales taxes, VAT, excise, entry tax, other taxes and iv) Urban development- quality of service, allotment of plots, passing of plans, change in land use etc. This factor explains 18.16 per cent of total variation.

<b>Table 5.25 - Priority for improving the services through Computerisation / use of IT/ e-Governance:</b>							
Factor No	Factor Name	Eigen Value	Total % of Variance	Items	Item Loading	Mean	S.D.
1.	<b>Public Utilities and Basic Services</b>	7.043	27.090	i Land Records, Registration and Transfer of property, copies of other Records, Property Tax, revenue related cases	.788	3.71	1.603
				ii Deputy Commissioner/ SDM/ Tehsildar' 's Office for Licences, Permits, NOC' 's, and all kinds of Certificates etc	.779	3.74	1.613
				iii Civil surgeon/ Chief medical Officer' 's Office for Birth / Death certificate, handicap certificate	.747	3.60	1.651
				iv Hospital / Dispensaries / PHC for health services like Vaccination, Maternity Care, Family Planning, Medicines, Ambulance Services, Blood Bank, etc.	.701	3.60	1.633
				v Municipal / Civic Services for water supply, sewerage, trade licenses, Birth and death certificates, passing of building plans	.711	3.70	.586
				vi Education from Govt. School/ College - admissions, quality of teaching, attendance, results, certificates, scholarships	.669	3.73	1.588
				vii Police Station/ for Registration of complaint/ FIR	.677	3.64	1.758
				viii Electricity connections, quality, timings, cuts, problems	.628	3.58	1.660
				ix Utility Bill Payment – Electricity, water, sewer, phone, mobile	.590	3.51	1.799
				x Food and Civil Supplies – Ration card, ration depots, supplies	.564	3.67	1.1.7
				xi sales tax, vat, excise, entry tax, other taxes	.560	3.42	1.712
2.	<b>Agriculture , procurement banking and related Services</b>	5.822	22.392	i Tenders pertaining to all departments/ Agencies	.812	3.45	1.781
				ii Information under the Right to Information Act, 2005	.799	3.51	1.812
				iii Redressal of Grievance in the Government	.764	3.48	1.750
				iv Procurement of food grains, facilities in mandi, payments, Crop Insurance, contract farming,	.672	3.28	1.749
				v Cooperative Societies Related works – loans, agri inputs etc.	.638	3.38	1.711
				vi Agriculture services related- seeds, insecticides, pesticides, fertilizers, irrigation, extension services, Weather Reports, Disaster Warnings	.618	3.28	1.763
				vii Consumer Welfare and Consumer Rights from Consumer Courts, Legal Assistance	.571	3.48	1.677
				viii Banks, Bank loans, insurance, financing (Micro Credit) etc	.553	3.53	1.667
3	<b>Welfare, approvals and development</b>	4.721	18.158	i Social Security, pensions, Welfare of SC	.772	3.25	1.860
				ii Industrial project related clearances, approvals, subsidies, labour laws, compliances of Law and Rules (VAT, RTO)	.735	3.14	1.857
				iii transport services, bus servies etc	.712	3.51	1.799
				iv Urban Development- quality of service, allotment of plots, passing of plans, change in land use etc.	.636	3.42	1.703

### **5.3.1 - Citizens' experiences about various Government Institutions and their services on the basis of frequency of use of the services:**

Factor analysis (Q19) of Citizens' experiences about various Government Institutions and their services on the basis of Frequency of Use of the Services resulted in four factors namely:

- i. Public utilities
- ii. Consumer welfare and related Services, and
- iii. Social development and Approvals
- iv. Basic Services

These four factors accounted for a total variance of 61.738. Basic Services factor includes basic services like medical, health, education, police and urban development. It emerges as a most important factor and explains 45.851 per cent of total variation.

Public utilities factor accounted for 6.326 per cent of variation. This factor included: Public utilities like electricity connections, quality, timings, cuts, problems and Utility bill payment – electricity, water, sewer, phone, mobile. It also covered banking and agriculture services.

The Consumer Welfare and Related Services explains 5.687 per cent of variation. This factor includes: Consumer welfare and consumer rights from consumer courts, legal assistance, tenders pertaining to all departments/ agencies, information under the Right to Information Act, 2005 and cooperative societies related works.

Social Development and Approvals factor includes transport services, driving license, vehicle registration, renewals, transfers, sales tax, vat, excise, entry tax, other taxes, social security, pensions, welfare of SC, industrial project related clearances, approvals, subsidies, labour laws, compliances of law and rules (VAT, RTO) This factor explains 3.863 per cent of total variation.

Important components of Basic Services are: i) Education from Govt. school/ college - admissions, quality of teaching, attendance, results, certificates, scholarships ii) hospital / dispensaries / PHC for health services like vaccination, maternity care,

family planning, medicines, ambulance services, blood bank, etc. and iii) Municipal / civic services for water supply, sewerage, trade licenses, birth and death certificates, passing of building plan. The mean of all these is higher than the factor mean of Basic Services, i.e., 2.41.

The mean score of Public utilities is 2.49. The important components of this factor having higher mean than the factor mean are: i) Utility bill payment – electricity, water, sewer, phone, mobile, ii) Electricity connections, quality, timings, cuts, problems and iii) Banks, bank loans, insurance, financing (micro credit) etc.

The third factor that emerged from the factor analysis is: Consumer welfare and related activities. Its mean score is 2.13. The important components of this factor are: i) Cooperative societies related works – loans, agri. inputs etc, ii) Consumer welfare and consumer rights from consumer courts, legal assistance and iii) Information under the Right to Information Act, 2005.

The last factor viz. Social Development and Approvals had a mean score of 2.27. The dominant components of this factor are: i) transport services, Driving license, vehicle registration, renewals, transfers, bus service, mini bus licenses with a mean score of 2.56 and ii) sales tax, vat, excise, entry tax, other taxes with a mean score of 2.39.

**Table 5.26 - Factors Explaining Citizen's experience about various Government Institutions and their services on the basis of Frequency of Use of the Services:**

Factor No	Factor Name	Eigen Value	Total % of Variance	Items	Item Loading	Mean	S.D.	Rank Mean
1.	<b>Basic Services</b>	11.924	45.861	i. Land Records, Registration and Transfer of property, copies of other Records, Property Tax, revenue related cases	.725	2.24	1.39	5
				ii. Civil surgeon/ Chief medical Officer's Office for Birth / Death certificate, handicap certificate	.704	2.23	1.49	6
				iii. Deputy Commissioner/ SDM/ Tehsildar's Office for Licences, Permits, NOC's, and all kinds of Certificates etc	.689	2.16	1.39	8
				iv. Police Station/ for Registration of complaint/ FIR	.644	2.34	1.37	4
				v. Municipal / Civic Services for water supply, sewerage, trade licenses, Birth and death certificates, passing of building plan	.628	2.53	1.54	3
				vi. Hospital / Dispensaries / PHC for health services like Vaccination, Maternity Care, Family Planning, Medicines, Ambulance Services, Blood Bank, etc.	.616	2.60	1.59	2
				vii. Education from Govt. School/ College - admissions, quality of teaching, attendance, results, certificates, scholarships	.515	3.01	1.69	1
				viii. Urban Development- quality of service, allotment of plots, passing of plans, change in land use etc.	.509	2.23	1.49	7
				<b>Mean of Basic Services</b>				
2	<b>Public Utilities</b>	1.645	6.326	i. Utility Bill Payment – Electricity, water, sewer, phone, mobile	.729	3.07	1.72	1
				ii. Food and Civil Supplies – Ration card, ration depots, supplies	.694	2.54	1.68	4
				iii. Electricity connections, quality, timings, cuts, problems	.665	2.83	1.76	2
				iv. Procurement of food grains, facilities in mandi, payments, Crop Insurance, contract farming.	.632	2.34	1.64	6
				v. Registration in Employment Exchange, Interview call for jobs, self employment schemes.	.610	2.47	1.66	5
				vi. Banks, Bank loans, insurance, financing (Micro Credit) etc.	.591	2.65	1.61	3
				vii. Agriculture services related- seeds, insecticides, pesticides, fertilizers, irrigation, extension services, Weather Reports, Disaster Warning	.561	2.27	1.67	7
				<b>Mean of Public Utilities</b>				
3.	Consumer Welfare and related Services	1.479	5.687	i. Tenders pertaining to all departments/ Agencies	.802	2.09	1.54	5
				ii. Information under the Right to Information Act, 2005	.754	2.14	1.59	3
				iii. Cooperative Societies Related works – loans, agri inputs etc.	.656	2.19	1.54	1
				iv. Redressal of Grievance in the Government	.640	2.09	1.51	4
				v. Consumer Welfare and Consumer Rights from Consumer Courts, Legal Assistance	.618	2.14	1.53	2

**Table 5.26 - Factors Explaining Citizen’s experience about various Government Institutions and their services on the basis of Frequency of Use of the Services:**

Factor No	Factor Name	Eigen Value	Total % of Variance	Items	Item Loading	Mean	S.D.	Rank Mean	
<b>Mean of Consumer Welfare and related Services</b>					<b>2.13</b>				
4	<b>Social development and Approvals</b>	1.004	3.863	i. transport services, Driving license, vehicle registration, renewals, transfers, bus service, mini bus licenses	.652	2.56	1.73	1	
				ii. sales tax, vat, excise, entry tax, other taxes	.621	2.39	1.69	2	
				iii. Social Security, pensions, Welfare of SC	.573	2.18	1.63	3	
				iv. Industrial project related clearances, approvals, subsidies, labour laws, compliances of Law and Rules (VAT, RTO)	.560	1.96	1.56	4	
<b>Mean of Social Development</b>					<b>2.27</b>				
<b>Overall mean of four Factors</b>					<b>2.38</b>				

The analysis highlights that the mean of two factors namely Public Utilities i.e., 2.59 and Basic Services, i.e. 2.41 are higher than overall mean of for factors, i.e., 2.38. These two factors are important factors describing the Citizen’s experience about various Government institutions and their services on the basis of frequency of use of the services. For e-governance the government has to focus on these factors. Consumer welfare and related services and social development – these two factors had relatively lower mean score than the overall mean of all factors (2.38).

Two variables viz, i) Requests for construction or repair of roads, bridges, bus stand, schools, other public infrastructure etc and ii) Rural Development related demands, projects, grants, water supply, complaints had similar loading at all four factors and the loading was less than five these two were not included in factor explanation.

#### **5.4 - Factors causing pain and harassment:**

Along with frequency of use of services, the factors causing pain and harassment were also considered. Factors rated high on mean score and considered to be causing pain and harassment and difficulties to the citizens in getting the citizen services from various Government departments are: i) Unreasonable delay, multiple visits even for small services, ii) Poor public infrastructure/ lack of public infrastructure and its maintenance in Government offices and iii) need to visit many staff members for one single work and multiple points of contact for one task only.

<b>Table 5.27 - Relevance factors causing pain and harassment and difficulties to the Citizens in getting the Citizen services from various Government departments :</b>				
<b>S No.</b>	<b>Factors</b>	<b>Mean</b>	<b>Std. Deviation</b>	<b>Rank</b>
i.	Unreasonable Delay, multiple visits even for small services	.89	1.334	1
ii.	Poor Public Infrastructure / lack of Public Infrastructure and its maintenance in Government offices	.84	1.294	2
iii.	Need to visit many staff members for one single work. Multiple Points of Contact for One task only	.84	1.227	3
iv.	Not pointing out discrepancies/ shortcomings in the applications in one go	.82	1.250	4
v.	Non availability of Government staff/ dealing hand on the seat	.82	1.282	5
vi.	Non-Cooperative behavior and negative/ rough attitude of Dealing Government Staff	.81	1.271	6
vii.	Collusion between the touts and the Government staff	.80	1.228	7
viii.	Need for filling of multiple forms, filling Same Information in Different Forms	.75	1.310	8
ix.	Multiplicity of agencies without clear boundaries	.71	1.253	9
x.	Non-Responsiveness of Government Staff to the needs / urgency of citizen	.71	1.355	10
xi.	Difficult access to Senior Government Functionaries / officers	.71	1.317	11
xii.	Lack of information and guidance on the correct procedures, forms, rules etc	.71	1.379	12
xiii.	Lack of knowledge and training of Government Staff	.70	1.305	13
xiv.	Pervasive Corruption at various levels, demand of speed money by dealing staff	.70	1.347	14
xv.	Limited Working / Visiting Hours with long lunch and tea breaks by Government staff	.69	1.304	15
xvi.	Arbitrary Nature of dealings by some staff members without any recourse/ remedy	.67	1.209	16
xvii.	Lot of unwanted Holidays further reduce time available to Common man	.65	1.238	17

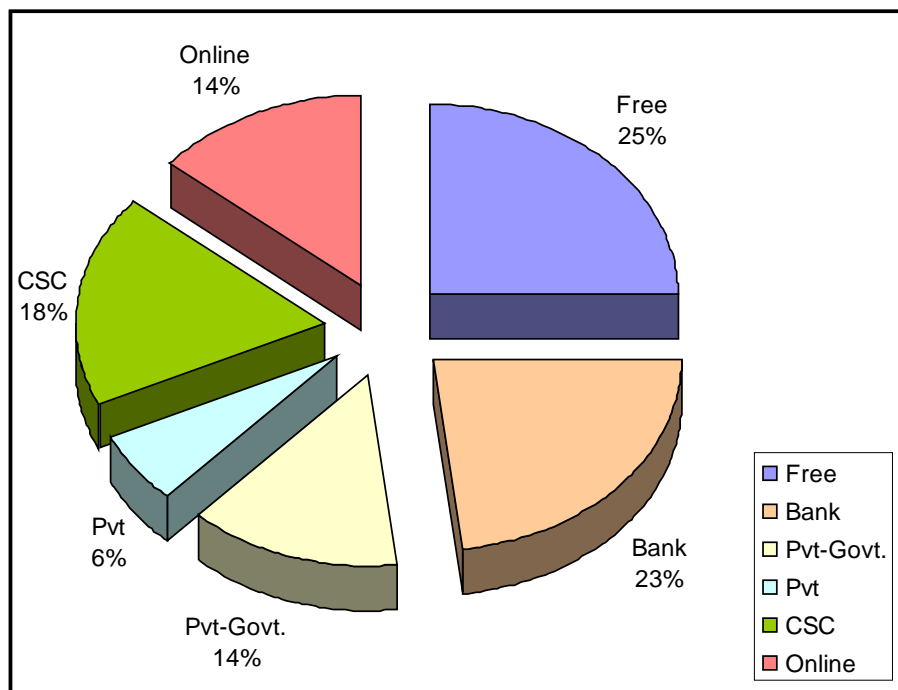
Least important Factors included: Lot of unwanted holidays further reduce time available to common man, arbitrary nature of dealings by some staff members without any recourse/ remedy and limited working / visiting hours with long lunch and tea breaks by government staff. The results of factors causing pain and harassment again underscores the fact that Indian citizens preferred to have speedy service, good quality

infrastructure and delivery from one kiosk rather than running from one place to another.

<b>Table 5.28 - Factors causing Pain and Harassment:</b>							
<b>Factor No</b>	<b>Factor Name</b>	<b>Eigen Value</b>	<b>Total % of Var.</b>	<b>Items</b>	<b>Item Loading</b>	<b>Mean</b>	<b>S.D.</b>
1.	<b>Citizen Awareness and Training, Work Culture, Accountability and e-culture and Simplification and updation of rules</b>	6.483	36.018	<ul style="list-style-type: none"> <li>• Incomplete and incorrect applications / papers by the citizen</li> <li>• Weak Disciplinary Action against corrupt and inefficient</li> <li>• Complexity of rules, long procedures and Lack of clarity on the same</li> <li>• Inefficiency, negative mindset and lethargy on part of Government employees</li> <li>• Slow implementation of Computerisation/ e-Governance</li> <li>• Un--mindful application of rules especially by the lower staff</li> <li>• Very old laws and rules which are sometime impractical and need to be changed</li> </ul>	.945 .926 .922 .911 .858 .856 .711	.71 1.43 1.43 1.43 .71 .86 1.46	1.38 .79 1.13 .79 1.11 1.46 1.46
<b>Mean score of Citizen Awareness and Training, Work Culture, Accountability and e-culture and Simplification and updation of rules</b>					<b>1.147</b>		
2.	<b>Capacity building in staff and Lack of planning, MIS and systems, service orientation and Customer handling</b>	5.827	32.378	<ul style="list-style-type: none"> <li>• Lack of proper Monitoring of cases and projects by senior officers</li> <li>• Unjust request by the citizens/ applicants not within the rules</li> <li>• Non-Responsiveness of the Government to the changing needs of business and economy</li> <li>• Lack of training of Government staff in customers/ citizens Services</li> <li>• Lack of proper vision and Planning by departments for improving delivery of services</li> <li>• Excessive discretion at the hands of Govt functionaries which is sometime misused</li> <li>• Weak and Slow Redressal of Grievances Mechanisms</li> </ul>	.967 .890 .843 .840 .817 .763 .716	1.29 .86 1.00 1.29 1.00 .71 .86	1.11 1.21 1.52 1.11 1.52 1.38 .07
<b>Mean Score of Capacity building in staff and Lack of planning, MIS and systems, service orientation and Customer handling</b>					<b>1.00</b>		
3	<b>Collusion and Work pressure because of unequal distribution</b>	2.729	15.163	<ul style="list-style-type: none"> <li>• Collusion of Officials with Touts</li> <li>• Excessive workload with Government functionaries dealing with important areas</li> </ul>	.698 .598	1.00 .86	.82 1.21
<b>Mean Score of Collusion and Work pressure because of unequal distribution</b>					<b>.93</b>		
4	<b>Lack of Responsiveness and Accountability mechanism</b>	1.878	10.436	<ul style="list-style-type: none"> <li>• Lack of Accountability mechanism for the Staff for delays and harassment of citizens</li> </ul>	.869	1.43	.79
<b>Mean Score of Lack of Responsiveness and Accountability mechanism</b>					<b>1.43</b>		
<b>Overall mean of all the factors</b>							

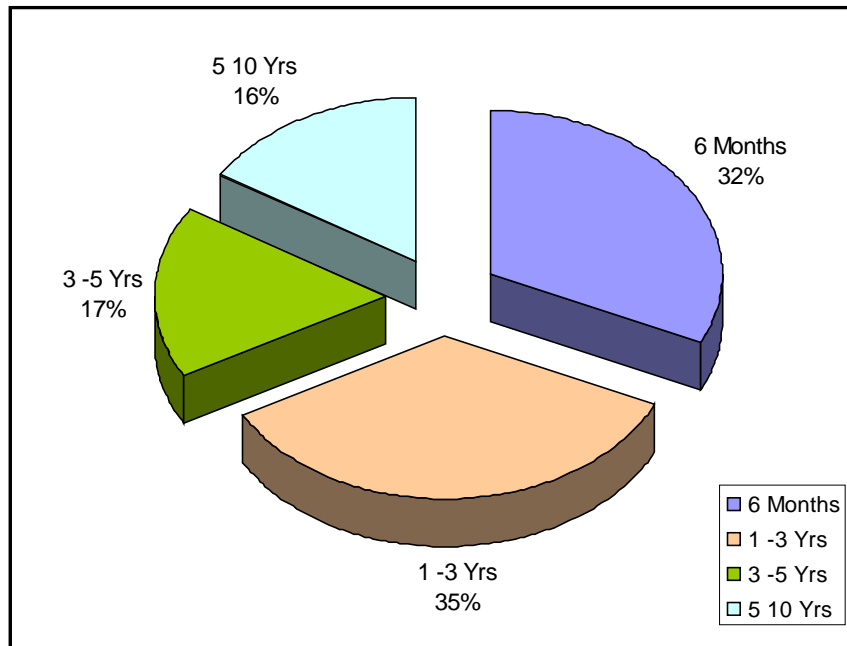
The result of factor analysis (Table 5.27) reveals that factors causing pain and harassment can be classified under the following heads:

- **Complex rules, old laws and weak disciplinary action against inefficiency:** citizen prefer awareness and training, work culture, accountability and e-culture and simplification and updation of rules. This factor explains the maximum variation, i.e., 36.018 per cent. This factor includes strategies and policies, laws and legislation, leadership, decision making processes, funding issues and international affairs.
- **Lack of planning, service orientation and customer handling:** This factor explains 32.378 per cent of total variation. This factor demands improvement in planning, MIS and systems, capacity building in staff and service orientation and customer handling involving software, hardware, infrastructure, telecom, IT skilled people, maintenance, safety and security issues and (level of) education, literacy and IT skills.
- **Collusion, work pressure because of unequal distribution, functional delays:** This relates to professional attitude and capabilities. This factor explains 15.163 per cent of total variation.
- **Lack of responsiveness and accountability mechanism:** This includes lack of accountability mechanism for the staff for delays and harassment of citizens and explains 10.436 per cent of variation.



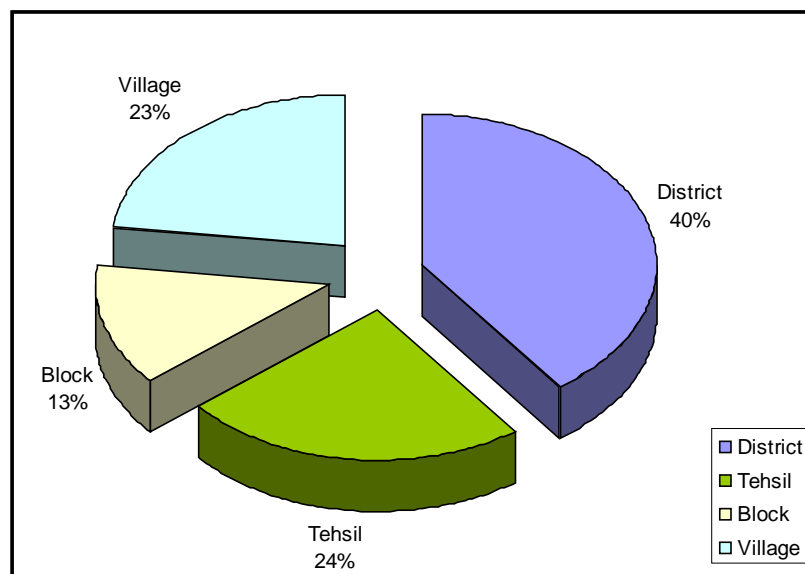
**Figure 5.10: - Service Outlet types the Citizen Wants**

25 per cent respondents opt for free services, 23 per cent through banks and 14 per cent prefer to have online services. (Figure 5.10)



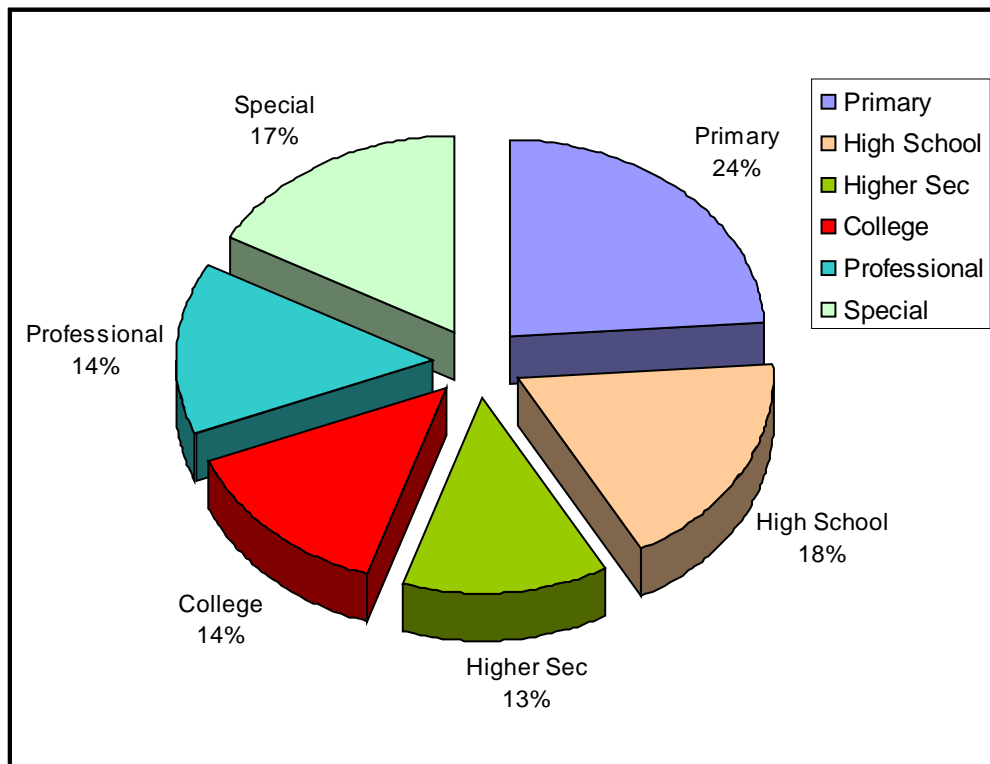
**Figure 5.11 - Timeframe in which the Citizen wants e-Governance services**

The time frame in which the Citizen wants e-Governance services is 1-3 years although 32 per cent of respondents opt for the choice, i.e., six months.



**Figure 5.12 - Extra a Citizen is willing to pay for Nearness of service to Home**

At the district level people are willing to pay 40 per cent extra while at the block level it is 13 per cent. Citizens preferred that all the government services should be available from just one kiosk. And these outputs should be delivered at the doorstep in a manner they want and at the time they choose rather than that by the government.



**Figure 5.13 - Creating awareness and training of citizens-ICT Education**

As results from Figure 5.13 reveal that the majority of the citizens respond that awareness and training programmes need to be introduced at the primary level. Second priority was given to Higher school level. On the whole there was not much difference of opinion for all other options.

It may be worthwhile to mention that citizen has more trust in the Government/ Government institutional service delivery mechanism rather than through private channels of service delivery (figure 5.10 Service Outlet types the Citizen Wants)

<b>Table 5.29 - Preferred Mode of payment for utility Bills and other computerized Citizen Services/ e-Governance services:</b>			
<b>S No</b>	<b>Preferred Mode of payment for utility Bills and other computerized Citizen Services/ e-Governance services</b>	<b>Mean</b>	<b>Std. Deviation</b>
i.	At any ATM through an ATM card or Credit Card or Debit card	3.54	1.597
ii.	Online Payments / Online Bank Transfers on the Internet	3.40	1.619
iii.	Electronic Payment without disclosing your Credit Card number. (Prepaid Coupons Like Bill Pay, Paisa Pay and Pay Pal)	3.26	1.599
iv.	Standing Instructions to my Bank for transfer of utility payments against bills	3.13	1.617
v.	Cash payment may be collected from my house, may be at extra cost	2.97	1.676
vi.	Bank Cheque/ Bank draft/ Indian Postal Order	2.95	1.569
vii.	Cash in the bank/ Post Office/ Government Treasury	2.85	1.543
viii.	Cash at the service counter where service is being provided	2.80	1.621

The preferred mode of payment for utility bills and other computerized citizen services/ e-governance services is ATM, online or electronic payment. Indian citizens' were switching over to e-modes of payments. Cash at the service counter where service is being provided is ranked last.

<b>Table 5.30 : Factors contributing to the success or Effectiveness of Improved Services through e-Governance:</b>				
	<b>Factors</b>	<b>Mean</b>	<b>Std. Deviation</b>	<b>Rank</b>
F26_17	Overall Convenience and experience of the Citizens	1.25	1.016	1
F26_8	Reduction in the corruption levels or improvement in the transparency of Government functioning	1.13	1.074	2
F26_10	Awareness about the availability of service amongst general masses	1.09	1.078	3
F26_4	Friendliness and Simplicity of procedures and interface, availability of self service options	1.08	1.048	4
F26_15	Properly maintained Government record/ data of all kinds including files, registers, citizen record etc.	1.08	1.141	5
F26_2	Distance of service location/ access point from Citizen's home	1.07	1.063	6
F26_11	Percentage of population covered by the service in the district	1.05	1.089	7
F26_16	Adequate number of properly trained working hands/ staff	1.04	1.113	8
F26_12	Consistency and timeliness of service delivery, Reliability and expectability of service	1.03	1.112	9
F26_14	Enforcing better accountability of Government staff providing service	1.02	1.041	10
F26_1	Reduction in time for providing service and improved Speed/ Efficiency	.98	1.204	11
F26_3	Service timings and Total number of Hours of service availability including holidays	.97	1.121	12
F26_5	Language interface options in which the service is available	.94	1.161	13
F26_6	Whether information only or full transaction including payment and delivery of service online possible	1.02	1.158	14
F26_7	Services of how many departments being provided from the same counter. Completeness of service.	.93	1.153	15
F26_13	Reduction of discretion and distortions	.85	1.117	16
F26_9	Cost of getting service and its affordability (including both, the direct and the indirect costs)	.82	1.133	17

Coming to the Factors contributing to the success or effectiveness of improved services through e-governance the citizens perceive that the five most relevant factors contributing to the effectiveness for improved services through computerized government services / e-governance are: i) Overall convenience and experience of the citizens, ii) Reduction in the corruption levels or improvement in the transparency of

Government functioning, iii) Awareness about the availability of service amongst general masses, iv) Friendliness and simplicity of procedures and interface, availability of self service options and v) Properly maintained Government record/ data of all kinds including files, registers, citizen record etc.

The analysis of factors contributing to effectiveness of services through e-governance depicts that the citizens value convenience, transparency, awareness, proper maintenance of Government record and simplicity of procedures and interface. Similar results have been reported earlier as well. Absence of corruption, increase in transparency and accountability, growth in revenue or reduction in costs and participation are the visible features of good governance (Sujatha, 2003). Cost of getting service and its affordability (including both, the direct and the indirect costs are given the last rank. The citizens ranked Reduction of discretion and distortions also low in priority.

<b>Table 5.31: Relevance of factors contributing to the success or Effectiveness for Improved Services through Computerized Government Services / e-Governance</b>	
<b>Five Most Relevant factors contributing to the success or Effectiveness for Improved Services through Computerized Government Services / e-Governance</b>	
<b>Factor</b>	<b>Rank</b>
Overall Convenience and experience of the Citizens	1
Reduction in the corruption levels or improvement in the transparency of Government functioning	2
Awareness about the availability of service amongst general masses	3
Properly maintained Government record/ data of all kinds including files, registers, citizen record etc.	4
Friendliness and Simplicity of procedures and interface, availability of self service options	5
Cost of getting service and its affordability (including both, the direct and the indirect costs)	17
Reduction of discretion and distortions	16
Services of how many departments being provided from the same counter. Completeness of service.	15
Language interface options in which the service is available	14
Service timings and Total number of Hours of service availability including holidays	13

**Table 5.31 depicts that the citizens value convenience, transparency, awareness, Proper maintenance of Government record and Simplicity of procedures and interface.**

#### **5.5 - Factors for an effective Good Governance framework through the use of IT:**

Factor analysis for an effective Good Governance framework through the use of IT resulted in five factors namely, i) Political will, public support and technical feasibility; ii) Economic feasibility, computer literacy and infrastructural support; iii) Process simplification, service availability and public acceptability; iv) Benefits to stakeholders and v) Marketing and public awareness. These five factors explained 84.156 per cent of variation.

The highest mean score is recorded by factor III, viz, process simplification, service availability and public acceptability. This factor has the mean score of 1.43, signifying that this factor is rated highest by i) academicians and it professionals, ii) politicians and bureaucrats for an effective good governance framework through the use of IT.

The mean score of factor I, i.e. political will, public support and technical feasibility is equal to the overall mean of 1.29. The mean score of factor IV i.e., benefits to stakeholders factor V viz, marketing and public awareness are also higher than overall average. Only factor II, i.e. economic feasibility, computer literacy and infrastructural support is not considered important and has a lower rank of 1.18.

**Table 5.32 - The level of importance to be given to each variable for an effective Good Governance framework through the use of IT:**

Factor No	Factor Name	Eigen Value	Total % of Var.	Item	Item Loading	Mean	S.D.
1	Political will, Public Support and technical feasibility	7.716	36.745	i. Regular Monitoring and feedback to enforce accountability, systems and rule of law	.863	1.61	.798
				ii. Political will, support and patronage	.815	1.22	.943
				iii. Public Usage, friendliness and Appropriateness of service	.811	1.44	.686
				iv. Public Acceptability of service methods and modes	.790	1.11	1.183
				v. Public Accessibility, Reachability and Coverage of the service	.781	1.33	.840
				vi. Problem Identification for each department/ service	.738	1.33	1.237
				vii. Participation of Local self Government ( Municipal Committees and Panchayats)	.737	1.06	.725
				viii. Support and participation of local communities and NGOs for creating awareness	.731	1.11	.873
				ix. Technical feasibility, scalability, robustness and replicability of the IT solution	.696	1.58	.618
				x. Clarity on Stakeholders' roles and responsibilities	.692	1.11	1.211
<b>Mean Score of factor Political will, Public Support and technical feasibility</b>						<b>1.29</b>	
2	Economic Feasibility , Computer literacy and Infrastructural support	3.656	17.407	i. Capacity building and Training of Government staff and operators	.738	1.44	.784
				ii. Physical Infrastructure, i.e., building, interiors, power, furniture, PCs etc.	.620	1.17	.924
				iii. Financial sustainability of the service model/ Government's financial support	.583	.94	1.132
				iv. Basic literacy and Awareness amongst citizens for being able to use the service	.556	1.11	.857
<b>Mean Score of Economic Feasibility , Computer literacy and Infrastructural support</b>						<b>1.16</b>	
3	Process Simplification, Service Availability and public Acceptability	2.606	12.408	i. Public Acceptability of service methods and modes	.784	1.39	.698
				ii. Process simplification, improvements and reengineering	.739	1.67	.485
				iii. Availability of proper IT based Solution to the problem	.549	1.22	.943
<b>Mean Score of factor Process Simplification, Service Availability and public Acceptability</b>						<b>1.43</b>	
4	Benefits to stakeholders	1.905	9.073	i. Clear Benefits and Return on Investments for the Stakeholders/ Government	.930	1.22	.732
				ii. Selective Disintermediation (removal/ elimination of intermediaries / middlemen	.738	1.41	.784
<b>Mean Score of factor Benefits to stakeholders</b>						<b>1.31</b>	
5	Marketing and Public awareness	1.790	8.523	i. Marketing of services, their awareness and Encouragement of people to use them	.948	1.33	.686
<b>Mean Score of factor Marketing and Public awareness</b>						<b>1.33</b>	
<b>Overall Mean of all factors</b>						<b>1.29</b>	

The five most important variables for effective good governance framework through the use of IT are: i) process simplification, improvements and reengineering having the highest average score, followed by ii) regular monitoring and feedback to enforce accountability, systems and rule of law, iii) technical feasibility, scalability, robustness and replicability of the IT solution, iv) public usage, friendliness and appropriateness of service and v) capacity building and training of government staff and operators.

The least important variables are: financial sustainability of the service model/ government's financial support, clarity on stakeholders' roles and responsibilities, support and participation of local communities and NGOs for creating awareness, public acceptability of service methods and modes and basic literacy and awareness amongst citizens for being able to use the service.

<b>Table 5.33 - Severity of following key issues, with respect to the existing national and state level e-governance policies:</b>				
<b>S. No.</b>	<b>Issues</b>	<b>Mean</b>	<b>S.D.</b>	<b>Rank</b>
<b>i.</b>	Well defined policy framework for sustainability, scalability and profitability of E-Governance not in place	4.00	1.000	1
<b>ii.</b>	Policies and plans not integrated with the local requirements of citizens/ departments	3.67	.577	2
<b>iii.</b>	Policies do not lay down roadmaps for integration of services within and outside States at a later date	3.67	.575	3
<b>iv.</b>	Insufficient employee training, officers motivation and public awareness	3.67	1.528	4
<b>v.</b>	Local language interfaces not uniformly developed	3.33	1.528	5
<b>vi.</b>	Standalone state-level policies and applications not integrated with national requirements	2.33	2.082	6
<b>vii.</b>	Absence of policies and regulatory framework for critical issues like database creation, data sharing, security and privacy, Intellectual Property Rights, cyber crimes etc.	2.00	2.000	7

This question was only for academicians and IT professionals. According to the viewpoint of the academicians and IT professionals (Table 5.33), the key issues, with respect to the existing national and state level e-governance policies has been that the

well defined policy framework for sustainability, scalability and profitability of E-Governance is not in place. This was followed by: i) Policies and plans not integrated with the local requirements of citizens/ departments and ii) Policies do not lay down roadmaps for integration of services within and outside States at a later date.

<b>Table 5.34 - Pitfalls in the existing ICT led governance policies / projects:</b>				
<b>S No</b>	<b>Pitfalls in the existing ICT led governance policies / projects</b>	<b>Mean</b>	<b>SD</b>	<b>Rank</b>
1.	Basic Technology Infrastructure, its cost, open technology standards, reliability, robustness, upgradeability, AMC	3.91	.944	1
2.	Skills and human resources (education, basic skills for operating PC, advance skills in IT)	3.82	.751	2
3.	Financial sustainability, Scalability and Profitability	3.73	.786	3
4.	Supporting e-Services by the Government	3.73	1.009	4
5.	Promotion and facilitation (industry led standards)	3.64	1.027	5
6.	Use of the Internet in business, government, Educational Institutions and homes	3.64	1.120	6
7.	Capacity of private sector to handle projects of large size	3.64	1.206	7
8.	Social and Cultural Infrastructure for using Information and Communication Technology	3.55	.820	8
9.	Development of Public Private Partnership and Private Enterprise	3.55	1.036	9
10.	Lack of Accountability	3.55	1.214	10
11.	Consumer and Business Adoption of Information and Communication Technology	3.45	1.20	11
12.	Connectivity, Access to network services, its spread, costing, bandwidth, reliability	3.45	1.293	12
13.	Interest and Needs of the common man overlooked.	3.36	.924	13
14.	Legal and Policy Environment for promoting the use of ICT	3.36	1.027	14
15.	Positioning for the digital economy in terms of taxes and tariffs, industry self regulation, government regulations, consumer trust etc.	3.36	1.286	15

This question was only for academicians and IT professionals. According to the viewpoint of the academicians and IT professionals (Table 5.34), the basic Pitfalls in

the existing ICT led governance policies / projects are: i) basic technology infrastructure, its cost, open technology standards, reliability, robustness, upgradeability, AMC, ii) skills and human resources (education, basic skills for operating PC, advance skills in IT) and iii) financial sustainability, scalability and profitability.

The three least important ranks are: i) positioning for the digital economy in terms of taxes and tariffs, industry self regulation, government regulations, consumer trust etc, ii) legal and policy environment for promoting the use of ICT and iii) interest and needs of the common man overlooked.

<b>Table 5.35 - Level of belief in the use of Technology and e-Governance:</b>							
<b>S No</b>	<b>Your level of belief in the use of Technology and e-Governance is relevant in the Indian Scenario and, if properly implemented, would solve the problems of Indian Government Systems</b>	<b>Academicians and IT Professionals</b>			<b>Politicians and Bureaucrats</b>		
		<b>Mean</b>	<b>S.D.</b>	<b>Rank</b>	<b>Mean</b>	<b>S.D.</b>	<b>Rank</b>
1.	Fully solve the problems	1.46	0.80	1	1.69	0.70	1
2.	Would solve the problems to a Large Extent	1.45	0.73	2	1.50	0.89	2
3.	Not at all	1.39	0.83	3	1.22	0.75	3
4.	Would make too little difference	1.38	0.66	4	1.06	0.47	4
5.	Would not make any difference	1.24	0.78	5	.83	0.72	5

The level of belief in the use of technology and e-Governance is relevant in the Indian context and, if properly implemented, would solve the problems of Indian Government Systems. This got the highest mean score from academicians and IT professionals and bureaucrats and politicians. That means both groups i.e. academicians and IT professionals and bureaucrats and politicians strongly believe in the power of ICT in solving our governance issues and providing good governance.

As far as direct / indirect risks / threats involved while implementing good governance through the use of IT/ e-governance are concerned There is almost similarity of results in case of top priority and least priority of academicians and IT professionals and bureaucrats and politicians.

<b>Table 5.36 - Direct / Indirect Risks / Threats Involved while implementing Good Governance through the use of IT/ e-Governance :</b>							
S No	Direct / Indirect Risks / Threats Involved while implementing Good Governance through the use of IT/ e-Governance.	Academicians and IT Professionals			Politicians and Bureaucrats		
		Mean	SD	Rank	Mean	SD	Rank
i.	Resistance by political masters and bureaucracy	3.65	1.59	1	3.24	1.11	1
ii.	Resistance by citizen, Government staff to change	3.55	1.06	3	2.95	1.05	2
iii.	Benefits of service may not reach the poor and down trodden	3.57	1.29	2	2.95	1.26	3
iv.	Affordability of service by the public	3.20	1.18	7	2.78	1.13	4
v.	Quick obsolescence of technology, huge cost of up-gradation	3.08	1.30	10	2.61	1.30	5
vi.	Threats of increasing Cyber crimes, Security, data protection and Privacy Laws	3.14	1.35	8	2.56	1.16	6
vii.	Huge capital Costs Involved for providing basic infrastructure	3.22	1.14	5	2.56	1.29	7
viii.	High Dependency of technology mostly from MNCs	3.13	1.38	9	2.35	1.27	8
ix.	Privacy of citizen may be intruded	2.95	1.36	11	2.20	1.01	9
x.	Risk of Failure of e-Governance projects based on which services are being provided	3.23	1.24	4	2.12	1.03	10
xi.	This may create Digital divide which may further widen disparity	2.80	1.35	12	2.05	1.18	11
xii.	There could be reduction in Jobs in the Government	3.21	1.45	6	2.02	0.99	12

According to both categories the greatest risk is: i) resistance by political masters and bureaucracy, followed by ii) resistance by citizen, government staff to change and iii) benefits of service may not reach the poor and down trodden.

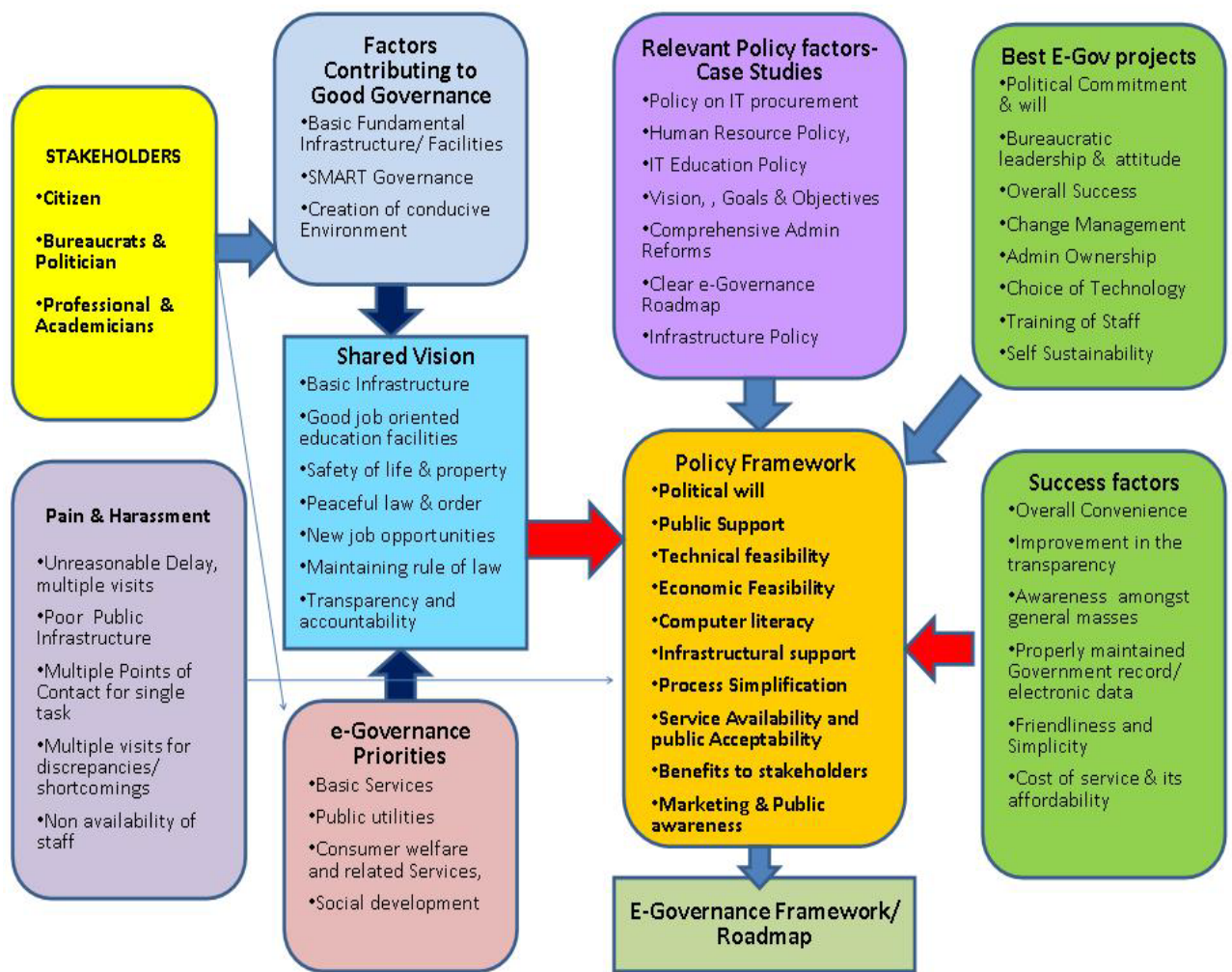
Least Important direct / indirect risks / threats involved while implementing good governance through the use of IT/ e-Governance are: i) this may create digital divide which may further widen disparity and privacy of citizen may be intruded.

#### **5.6 - Evolution of Policy Framework parameters:**

The present study has been undertaken with an aim to evolve a 'Broad Strategic e-Governance Policy Framework' in terms of citizens' prioritization, preferences, methodologies, measuring success, for achieving 'Good Governance' as per the expectations of stakeholders. The study takes the participatory stake holder analysis of the factors considered important for good governance of all three categories of stakeholders viz, i) citizens, ii) academicians and professionals, iii) politicians and bureaucrats. The respondents in all three categories agree completely that the factors contributing to the good governance are: good education facilities, basic infrastructure, safety, peaceful law and order, creating new job opportunities, effectiveness and efficiency of the working of government and its staff, good business environment, reducing digital divide and other inequalities in the society by positive discrimination in favour of the poorest of the poor and providing total freedom of speech, of religion, of work and an attitude of noninterference by government.

The astonishing result was an attitudinal change visible in the mindsets of Indian citizens where concessions and freebies by the Government are losing their importance as factor of good Governance. Rather the citizen has preferred factors relating to overall economic development more than the concessions and freebies. The citizens are ready to pay the price for good quality services. Five factors considered least relevant for good governance are: total freedom, provision of more concessions and freebies, iii) reducing inequalities by special provision for poor, good business environment and v) citizen centric services. Two main factors namely, i) provision of basic fundamental facilities and SMART governance and ii) creation of conducive environment account for a total variance of 56.095.

There was general agreement on all factors by the stakeholders except freebies and total freedom as factors of good governance



**Figure 5.14 - Strategic Framework for Good Governance**

Information and Communication Technology by itself is not the cure-all to the world's problems. But it can be a powerful tool to facilitate and enable affordable good governance, i.e., improved citizen services and high internal efficiencies. The requirements and expectations of the citizens from e-Governance and how it is actually reflected and translated into the functioning of the government, is very interesting. Factor analysis of the priority for improving this service through computerisation / use of IT/ e-Governance resulted in three factors namely: i) public utilities and basic services ii) agriculture, procurement, banking and related services and welfare and development account for a total variance of 67.639. Overall results depict that citizens in all categories value convenience, transparency, awareness, proper maintenance of government record and simplicity of procedures and interface.

The citizen demands speedy service, easy accessibility, reduced corruption, more transparency and accountability. The analysis also depicts that Indian citizen is interested more in the deliverable outputs from the Government services than the inputs going into the process of e-Governance. Citizen wants to see a single face of the government, yearning that all the government services should be available from just one kiosk like a general store. The citizen does not want to go from department to department and kiosk to kiosk to avail different services. There is an expectation that these outputs should be delivered at the doorstep in a manner desired and at the chosen time, rather than that by the government. This is the minimum expectation the Indian citizen has from the e-Governance. There is a preference for English language for the ICT led e- services. In a District, a citizen is willing to pay forty per cent extra for the service being available near home, while for that in village or tehsil, this is 24 per cent.

The analysis was also done for E-governance projects in India from ten leading states. Highly relevant policy factors that emerged from the case studies are: i) policy on corporate agreements with IT companies (IT resource acquisitions), ii) human resource policy, roadmap, iii) IT education policy (schools, college and professional), iv) vision, mission, goals and objectives and v) comprehensive administrative reforms. In terms of overall performance four e-governance projects viz, i) e-Sewa in Andhra Pradesh, ii) Bhoomi in Karnataka, iii) Setu in Maharashtra and iv) Suvidha in Punjab had higher scores than other projects.

For the Indian citizens good economics is also good and effective governance and vice-versa. The five most important variables for effective good governance framework through the use of IT are: process simplification, improvements and reengineering having the highest average score, followed by i) regular monitoring and feedback to enforce accountability, systems and rule of law, ii) technical feasibility, scalability, robustness and replicability of the IT solution, iii) public usage, friendliness and appropriateness of service and capacity building and training of government staff and operators.

The least Important variables are: financial sustainability of the service model/ government's financial support, clarity on stakeholders' roles and responsibilities , support and participation of local communities and NGOs for creating awareness,

public acceptability of service methods and modes and basic literacy and awareness amongst citizens for being able to use the service. E-governance models based on the following aspects will be able to deliver the best value to the citizens. All these factors taken together will result in good deliverability, better performance, improved outputs and less failure of e-governance projects.

The broad strategic ICT policy framework must, therefore, address some of the basic issues identified in this study. In addition to the above mentioned factors, the following facts must also be kept in mind while framing the strategic ICT policy framework:

- i) Most Indian citizens today believe in the power of ICT and want to access e-Governance services.
- ii) Factors causing pain and harassment and difficulties to the Citizens in getting the Citizen services from various Government departments include
  - Unreasonable Delay, multiple visits even for small services;
  - Poor public infrastructure / lack of public infrastructure and its maintenance in government offices;
  - Multiple points of contact for single task;
  - Not pointing out discrepancies/ shortcomings in the applications in one go; and
  - Non availability of Government staff/ dealing hand on the seat.
- iii) In the understanding of citizens the most important factors for the success of an e-governance service are
  - Overall convenience and experience of the citizens;
  - Reduction in the corruption levels by improvement in the transparency of government functioning;
  - Awareness about the availability of service amongst general masses;

- Friendliness and simplicity of procedures and interface;
  - Availability of self service options, properly maintained government record/ data of all kinds including files, registers, citizen record etc.;
  - and
  - Distance of service location/ access point from citizen's home.
- iv) Most citizens have access to TV, phones/ cell-phones or PC with Internet access. The service could be designed around these devices.
- v) Majority citizens want services from 9.00 am to 5.00 pm with no services on holidays. But a number of educated citizens want service on tatkaal basis or on 24x7 basis.
- vi) The time-frame in which the citizen want the service to be computerized is 1-3 years provided the cost should be reasonable and within affordable limits.
- vii) Most citizens want service through
- any ATM through an ATM card or Credit Card or Debit card;
  - Online Payments / Online Bank Transfers on the Internet; or
  - Electronic Payment without disclosing your Credit Card number. (Prepaid Coupons like Bill Pay, Paisa Pay and Pay Pal) in that order of preference.
- viii) Citizens feel that use of ICT can solve most of their governance related problems.
- ix) The citizen believes that the biggest direct / indirect risks / threats involved while implementing good governance through the use of IT/ e-Governance are
- Resistance by political masters and bureaucracy;

- Resistance by citizen;
  - Government staff to change;
  - Benefits of service may not reach the poor and down trodden; and
  - Affordability of service by the public.
- x) The five most important pitfalls in the existing ICT led governance policies/ projects which need to be tackled are:
- Basic technology infrastructure, its cost, open technology standards, reliability, robustness, upgradeability, AMC;
  - Skills and human resources (education, basic skills for operating PC, advance skills in IT);
  - Financial sustainability, scalability and profitability;
  - Supporting e-services by the Government; and
  - Promotion and facilitation (industry led standards).
- xi) Severity of following key issues, with respect to the existing national and state level e-governance policies
- Well defined policy framework for sustainability, scalability and profitability of E-Governance not in place;
  - Policies and plans not integrated with the local requirements of citizens/ departments;
  - Policies do not lay down roadmaps for integration of services within and outside States at a later date;
  - Insufficient employee training, officers' motivation and public awareness.

xii) The following Good Governance framework through the use of ICT has emerged:

<b>Table 5.37 Good Governance Framework</b>		
<b>Serial No</b>	<b>Policy Factor</b>	<b>Details of Policy Factors</b>
1	Political will, Public Support and technical feasibility	<ul style="list-style-type: none"> <li>i. Regular Monitoring and feedback to enforce accountability, systems and rule of law</li> <li>ii. Political will, support and patronage</li> <li>iii. Public Usage, friendliness and Appropriateness of service</li> <li>iv. Public Acceptability of service methods and modes</li> <li>v. Public Accessibility, Reachability and Coverage of the service</li> <li>vi. Problem Identification for each department/ service</li> <li>vii. Participation of Local self Government ( Municipal Committees and Panchayats)</li> <li>viii. Support and participation of local communities and NGOs for creating awareness</li> <li>ix. Technical feasibility, scalability, robustness and replicability of the IT solution</li> <li>x. Clarity on Stakeholders' roles and responsibilities</li> </ul>
2	Economic Feasibility , Computer literacy and Infrastructural support	<ul style="list-style-type: none"> <li>xi. Capacity building and Training of Government staff and operators</li> <li>xii. Physical Infrastructure, i.e., building, interiors, power, furniture, PCs etc.</li> <li>xiii. Financial sustainability of the service model/ Government's financial support</li> <li>xiv. Basic literacy and Awareness amongst citizens for being able to use the service</li> </ul>
3	Process Simplification, Service Availability and Public Acceptability	<ul style="list-style-type: none"> <li>xv. Public Acceptability of service methods and modes</li> <li>xvi. Process simplification, improvements and reengineering</li> <li>xvii. Availability of proper IT based Solution to the problem</li> </ul>
4	Benefits to stakeholders	<ul style="list-style-type: none"> <li>xviii. Clear Benefits and Return on Investments for the Stakeholders/ Government</li> <li>xix. Selective Disintermediation (removal/ elimination of intermediaries / middlemen)</li> </ul>
5	Marketing and Public awareness	<ul style="list-style-type: none"> <li>ii. Marketing of services, their awareness and Encouragement of people to use them</li> </ul>

### **5.7 - Concluding Remarks:**

Citizens in Indian context have shown an appetite for good governance through the use of ICT. Citizens' today perceive that Information and Communication enabled services may lead to good governance. A conducive and holistic policy framework approach is however necessary to succeed in the implementation of e-governance projects as their success is linked to a multidimensional matrix of factors.

## **CHAPTER-VI**

### **CONCLUSIONS, LIMITATIONS AND FURTHER STUDY**

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#### **6.1 – Summary of the Study**

The literature review as well as the study has yielded understanding about a number of important issues and conclusions regarding good governance, e-governance and use of ICT in governance. The study has strengthened the idea that e-governance is the ICT-enabled route to achieving good governance. ICT is one of the major contributors in reinforcing Knowledge Society. Information and communication technologies have a valuable potential to help meet good governance goals in India. Yet that potential remains largely untapped to date. When ICTs are properly aligned with governance goals, they can help to create gains in both efficiency and effectiveness.

All of the e-government projects in India are still in a nascent stage; hence, proper information flow for calculating ‘return on e-government’ considering tangible and intangible benefits cannot be fully ascertained. Evaluation of e-government projects may yield meaningful results. However, surveys of e-governance initiatives are incredibly rare.

There is a the belief that maximizing computing power and communication capabilities while minimizing organizational constraints leads to IT usage for decision making in developing countries. The challenges facing IT and public managers in developing countries are not allocation constraints but knowledge problems. Link exists between information flows and governance and link between information flows and governance. Good policymaking requires the sharing of information for better coordination, analysis and monitoring. Externalities effects of electronic transactions suggest they are appropriately financed by some combination of public investment and user charges.

E-Governance initiative should be led by ‘good governance’ driven goal/purpose and additionally, the initiative must be outcome-focused. Most e-government projects

within developing countries employ high-technology intervention whereas citizens are not ready for this. Using IT as a tool for delivery of government information and services to the masses requires major rethinking of the working of the government and its processes.

The major findings of the study are as follows:

- i. Younger generations upto the age of 35 years have good access to information/ services through TV, Cable, PC, Internet.
- ii. It is the age rather than the level of income which determines the preferred mode of access to information/ services by the citizen.
- iii. Citizens have appetite for good governance through e-governance/ICT
- iv. There are takers for all categories of service timings. There are some elite and others conventional customers of government services. However, the majority of the common citizens prefer to have vanilla service.
- v. There is market for all levels of e-governance services desired by the citizen. One third citizens want all kinds of transaction services. Only a marginal number is either not ready or not aware of e-governance services.
- vi. The preferred language for service would be English, vernacular language followed by Hindi (for non Hindi State like Punjab).
- vii. An attitudinal change is visible in the mindsets of Indian citizens where concessions and freebies by the Government are losing their importance as factor of good Governance. Rather the citizen prefers factors relating to economic development more than the concessions and freebies.
- viii. However, there was a shared vision of all stakeholders and an agreement on all factors except concessions and freebies and total freedom as factors of good Governance. Less educated the respondent, more inclined he or she is to freebies as part of good governance.
- ix. Most citizens are ready to pay a price for a good quality service.
- x. Good education facilities by the government which are job oriented had the highest average score followed by basic infrastructure development

- xi. The common man believes in the power of information and Communication Technologies that it can really reduce the level of corruption, inefficiency, harassment or difficulty encountered.
- xii. The results of factors causing pain and harassment again underscores the fact that Indian citizens preferred to have speedy service, good quality infrastructure and single point delivery rather than running from one place to another.
- xiii. Most Citizens preferred that all the government services should be available from just one kiosk. And these outputs should be delivered at the doorstep in a manner they want and at the time they choose rather than that by the government.

## **6.2 Conclusion:**

India has been one of the first entrants to the IT and e-Governance movement. E-Governance initiatives are being taken by Government of India and many States for the last decade and a half since the formation of National Informatics Centre in 1987-88. What is the minimum expectation that a citizen has from e-governance?

The specific hypotheses which have been attempted to be empirically tested in this study for acceptance or rejection are as follows:

### **6.2.1 Information and Communication Technology may be a potent tool for realizing good governance.**

- i. One of the hypotheses of the study was to find out if ICT is the most Pervasive and Cross-Cutting technology tool which can be applied to the full range of human activities. ICT is multifunctional and flexible to meet diverse needs. e-Governance is the use of Information and Communication Technologies to facilitate the processes of Government and Public Administration for achieving Good Governance. There are various facets of Good Governance. Changes to government processes, e.g., by decentralization generally to improve efficiency and effectiveness and to save costs. e-government is no longer an experiment in administrative reform but a permanent part of the governing process. e-Governance allows real-time participation in the governmental and democratic process. e-

Governance ensures better policy outcomes, higher quality services and greater engagement with citizens. These could be online services and information that increase democratic participation, accountability, transparency, and the quality and speed of services.

- ii. ICT can be a powerful tool to facilitate and enable affordable solutions for firstly the infrastructure development, secondly the basic human needs, quality of life and development i.e. education, healthcare and empowerment, thirdly the economic development i.e. entrepreneurship, investments, employment and revenues, and lastly and most importantly the good governance, i.e., Improved citizen services and high internal efficiencies.
- iii. The respondents for this study from three categories i.e. citizens, Government (politicians and bureaucrats) and academia and professionals agree completely that the factors contributing to the good governance are: good education facilities, basic infrastructure, safety, peaceful law and order, creating new job opportunities, effectiveness and efficiency of the working of government and its staff, good business environment, reducing digital divide and other inequalities in the society by positive discrimination in favour of the poorest of the poor and providing total freedom of speech, of religion, of work and an attitude of non-interference by government.
- iv. The citizens are ready to pay a price for a good quality service using ICT as a tool.
- v. As is also clear from the responses and analysis of question 19-A, 19-B and 19-C in section 5.3 it can be deduced that the perception of corruption and harassment as also the priority indicated by the citizen to bring improvement through ICT is more or less matching. This also leads us to a point that the common man believes in the power of information and communication technologies that it can really reduce the level of corruption, inefficiency, harassment or difficulty encountered and thus prove to be a potent tool for good governance. Information and Communication Technology has unique characteristics which make it a potent tool for good governance.

vi. Hence the hypothesis is accepted.

### **6.2.2 Different categories of stakeholders have different perceptions of factors for good governance.**

- i. The detailed analysis in section 5.2 has shown astonishing results. An attitudinal change which is visible in the mindsets of Indian citizens.
- ii. The results highlight that two factors namely, i) Provision of Basic Fundamental Facilities and SMART Governance ii) Creation of conducive Environment account for a total variance of 56.095. SMART Governance means Simple, Moral, Accountable, Responsive and Transparent Governance.
- iii. All respondents in all three categories i.e. citizens, Government (politicians and bureaucrats) and academia and professionals agree completely that the factors contributing to the good governance are: Good education facilities, Basic Infrastructure, Safety, Peaceful Law and Order, Creating new job opportunities, Effectiveness and efficiency of the working of government and its staff, Good business environment, reducing digital divide and other inequalities in the society by positive discrimination in favour of the poorest of the poor and Providing total freedom of speech, of religion, of work and an attitude of non-interference by government.
- iv. However, the detailed analysis in section 5.2 also reveals that in six other factors, there is significant difference in opinion in the three categories of respondents. These are: i) Corruption free dealings with the government, ii) Transparency and accountability in the dealings with the government, iii) Citizen centric services in a responsive manner, iv) Maintaining rule of law and Peaceful law and order and applying the same rules/ yardstick to everyone, v) Provide more concessions and freebies by the government, even at the cost of overall development and vi) Overall economic development of the state, growth rate of economy.
- v. Though on the first look it may appear that different categories of stakeholders would have different perceptions of factors for good governance, and therefore, it may be difficult to define and implement a shared vision of good governance. However, the results discussed above

reveal that all three categories of stake holders agree completely on the majority of factors that contribute to good governance.

vi. Hence the hypothesis is accepted.

### **6.2.3 The expectations from good governance for all citizens mainly relate to providing more concessions and freebies by the Government.**

- i. As per the analysis performed in section 5.3 the concessions and freebies by the Government are losing their importance as factor of good Governance. Rather the citizen prefers factors relating to economic development more than the concessions and freebies. Five factors considered least relevant for good governance are: total freedom, provision of more concessions and freebies, iii) reducing inequalities by special provision for poor, good business environment and v) citizen centric services.
- ii. However, there was a shared vision of all stakeholders and an agreement on most factors (9) except for a few (6) others where their was a significant divergence in their views. Concessions and freebies and total freedom as factors of good Governance was one of them.
- iii. Expectations of providing more concessions and freebies by the government is inversely proportional to the education. The less educated respondents want more freebies. A lower test followed by post hoc test (SNK preceded) clearly reveals that less educated the respondent, more inclined he or she is to freebies as part of good governance. Therefore the hypothesis can only be accepted in case of uneducated or less educated citizens and not all citizens.
- iv. Hence the hypothesis is rejected.

### **6.2.4 The citizen believes that e-Governance may result in speedy information dissemination and improved service delivery.**

- i. The analysis in chapter V also depicts that Indian citizen today is interested more in the deliverable outputs from the Government services than the inputs going into the process of e-Governance. Citizens want to see a single face of the government, yearning that all the government services should be available from just one kiosk like a general store. The citizen does not want

to go from department to department and kiosk to kiosk to avail different services.

- ii. There is an expectation that these outputs should be delivered at the doorstep in a manner desired and at the chosen time, rather than that by the government. This is the minimum expectation the Indian citizen has from the e-Governance.
- iii. Two factors namely, i) provision of basic fundamental facilities and SMART governance and ii) creation of conducive environment account for a total variance of 56.095. The requirements and expectations of the citizens from e-Governance and how it is actually reflected and translated into the functioning of the government, is very interesting. The citizen demands speedy service, easy accessibility, reduced corruption, more transparency, and accountability. Factor analysis of the priority for improving this service through use of IT/ e-Governance resulted in three factors namely: i) public utilities and basic services ii) agriculture, procurement, banking and related services and welfare and development account for a total variance of 67.639. Overall results depict that citizens in all categories value convenience, transparency, awareness, proper maintenance of government record and simplicity of procedures and interface.
- iv. The effective use of IT services in Government administration can greatly enhance existing efficiencies. It can help drive down communication costs and increase transparency in the functioning of government departments. It also provides citizens with easy access.
- v. The transformative power of ICT enables governments to change from centralized, bureaucratized, paper-based, impersonal, rule based, disconnected departmentalization, to decentralized, digital, personalized, client-focused, interconnected networks. Governments are redefining its service delivery processes and integrating delivery services with customer focus.
- vi. Hence the hypothesis is accepted.

The changing economic and governance scenario demands a greater partnership between various major players in the society. Governance should be a collaborative approach and Focus should be on results not on process. Professionalism and new ways of thinking are a must for marching towards good governance. The future is poised on how efforts can sustain momentum and meet the load of increasing expectations and demand; how governments are able to learn from each other and leapfrog; how and if the citizens can influence the face of e-governance. Now the time has come when the Indian political systems must be sensitized to the fact that the citizens' perception has changed and now for the Indian citizens good economics is good governance and hence good politics.

Thus, the present policy framework adopted by the Governments addresses the issue of the overall vision, objectives and goals and has taken certain steps for IT education policy as well as provision of basic ICT infrastructure. However, the policy framework is weak on soft factors like institutional framework, special purpose vehicle, funding policy and sustainability model, public-private partnership policy, special provision for weaker sections, coordination and dispute resolution mechanism which would need to be strengthened.

Similarly, the implementation framework has many weak links. Though the politician of the country has also realized the importance of ICT for good-governance and there is a political commitment and will as well as bureaucratic leadership and administrative ownership of ICT led e-Governance projects, a lot needs to be done on the host of soft factors like common architecture and standards, technology specifications, security, privacy, legal issues, measurable performance indicators, process re-engineering and administrative reforms, public awareness and ICT literacy, quality, coordination, monitoring and review etc.

The critical analysis of the existing policy framework and implementation framework in various States/ Case Studies also clearly bring out the gaps in the existing framework in most states. As already explained, mainly the gap exists in the soft factors more than the other factors. Some of the gaps areas identified in the implementation framework are human challenges – capacity building, security standards, legal and privacy issues, IT literacy, public awareness about the service,

completeness, depth and spread of service, policy parameter, availability of financial resources, architecture and standards, departmental coordination and administrative issues, process reengineering and administrative reforms, friendliness of service delivery and cost, quality of services. infrastructural issues like site, electric power etc.

The other policy gaps also exist viz., dispute resolution mechanism, interdepartmental coordination, ICT entrepreneurship, special schemes / provision for the weaker sections, funding policy and sustainability models, public private partnership policy, institutional framework, special purpose vehicles, outsourcing policy, IT resource acquisition and disposal policy, definitive action plan with milestones and time lines, security and privacy, policy regarding process reengineering, mission mode project execution policy, local language promotion policy, clear e-governance roadmap, infrastructure policy, comprehensive administrative reforms.

#### **6.2.5 The study was able to fulfill its basic objectives to a large extent:**

- i. A Shared Vision of Stakeholders for leveraging the Information and Communication Technologies for realizing Good Governance has been evolved. (Section 5.2)
- ii. The experience / perception / opinion of the citizen about the level of corruption, inefficiency, harassment or difficulty encountered in various government institutions and their services and the priority of citizen regarding e-Governance has been studied and the result presented. (Section 5.3)
- iii. The gaps and pitfalls in the existing ICT led e-Governance policy framework have been identified and mentioned above. (Section 5.5, table 5.34)
- iv. A Broad Strategic e-Governance Policy Framework has been evolved. (Section 5.6)
- v. Critical Success Factors responsible for creating a conducive policy environment for effective and successful adoption of e-Governance in a Multidimensional space have been identified and linkages between them have been attempted. (Section 5.5)

### **6.3 - Constraints and Limitation:**

Like most research, a study can hardly be perfect. As such, this study has limitations. However, these limitations also present opportunities for future research. One of the primary limitations of the study is that the majority of the factors identified were either from literature developed in the west or the experience of limited implementation of e-Governance in India. There is hardly any academically eminent literature available in India. There is a need for extensive study supported by case studies in India. There is also a need to develop a framework for actual delivery of e-governance in India.

Good governance, as a concept, is applicable to all sections of society such as the government, legislature, judiciary, the media, the private sector, the corporate sector, the co-operatives, societies registered under the Societies Registration Act, duly registered trusts, organisations such as the trade unions and lastly the non-government organisations (NGOs). Public accountability and transparency are as relevant for the one as for the other. It is only when all these and various other sections of society conduct their affairs in a socially responsible manner that the objective of achieving larger good of the largest number of people in society can be achieved. However, in view of the scope, this study is confined to good governance in government. This statement needs to be further qualified. The canvas of governmental activities is so large and all encompassing that it is impossible for one study to address all the relevant issues. The study does not, therefore, cover areas such as electoral reforms, judiciary, legislature, democracy, guidelines for conduct of Ministers and so on. Following have been the Limitations of the Study:

- The research work is limited only to the State of Punjab due to time and resource constraints.
- Study focuses on the respondents mainly in the category of political masters, government departments and agencies, common urban citizens, common rural citizens, industrialist and businessman, academia, students and institutions, technology providers, service partners and service providers.

- Study was limited to the variables that helped in understanding people's understanding and expectations from e-Governance and their implementation Challenges.

#### **6.4 - Major Research Contributions**

There was a need to present a comprehensive, integrated and holistic approach for evolving a policy framework on good governance through the use of ICT with Indian perspective and the present study has definitely contributed to bridging this gap. Besides this, evolving a shared vision of good governance in the Indian context has opened up many new possibilities for the Governments to use ICT and help them in prioritizing areas for focused attention. Identification of critical success factors and proposing the new framework by learning from the successes and failures of the existing e-Governance initiatives/ projects by various states has also been a contribution

#### **6.5 - Further Scope of Research:**

The effective use of IT services in Government administration can greatly enhance existing efficiencies. It can help drive down communication costs and increase transparency in the functioning of government departments. It also provides citizens with easy access. The transformative power of ICT enables governments to change from centralized, bureaucratized, paper-based, impersonal, rule based, disconnected departmentalization, to decentralized, digital, personalized, client-focused, interconnected networks. The chaos and turmoil created by the networked society continues to impact e-government initiatives of governments. Governments are redefining its service delivery processes and integrating delivery services with customer focus. In terms of a crucial nexus, ICTs and good governance require more inter-disciplinary research with both relevance and influence to examine the many interfaces between technological, social, economic and political perspectives.

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## APPENDICES

### APPENDIX - I

PHD DATA ANALYSIS WORKSHEET :						
Q#4						
District/Place of Residence	DISTRICT	Total	B	C	IT	P
	not attempted	4				
	AMRITSAR	101				
	BARNALA	1				
	BATHINDA	66				
	FATEHGARH SAHIB	28				
	FEROZEPUR	3				
	GURDASPUR	7				
	HOSHIARPUR	119				
	JALANDHAR	131				
	KAPURTHALA	6				
	LUDHIANA	133				
	MANSA	4				
	MOHALI-CHANDIGARH	123				
	MUKTSAR	1				
	NAWANSHAHR	1				
	OTHERS	72				
	PANCHKULA	7				
	PATIALA	11				
	SANGRUR	31				
		<b>849</b>				
			<b>B</b>	<b>C</b>	<b>IT</b>	<b>P</b>
<b>Q#6 Sex</b>	<b>Male</b>	<b>540</b>	24	437	77	2
	Female	293	5	276	9	3
	NA	16	0	16	0	0
		<b>849</b>				
			<b>B</b>	<b>C</b>	<b>IT</b>	<b>P</b>
<b>Q#7 Reside in</b>	Urban Area	479	27	374	73	5
	Semi-urban Area	78	0	75	3	0
	Rural Area	145	0	144	1	0
	NA	147	2	136	9	0
		<b>849</b>				
			<b>B</b>	<b>C</b>	<b>IT</b>	<b>P</b>
<b>Q#9 Educational Qualification</b>	illiterate	0	0	0	0	0
	Under Matric	18	1	16	2	0
	High School	181	0	173	7	1
	Graduation	320	2	285	31	2

	Post Grad	165	12	133	18	1
	Professional Edu	13	7	0	3	0
	NA	152	7	119	25	1
		<b>849</b>				
			<b>B</b>	<b>C</b>	<b>IT</b>	<b>P</b>
<b>Q#10 Profession</b>	Non Working	19	0	19	0	0
	Student	319	0	318	1	0
	Housewife	33	0	32	1	0
	Unskilled worker	2	0	2	0	0
	Semi-skilled	9	0	8	1	0
	Agriculturist	24	0	24	0	0
	Academics	55	0	48	7	0
	Private Service	119	4	104	11	0
	Govt	129	24	95	8	1
	Retired	22	1	17	5	0
	Defence	16	0	16	0	0
	Politician	3	0	2	1	0
	Industrialist	31	0	2	29	0
	Trade	28	0	24	4	0
	Self Emp	17	0	13	4	0
	Tech Professional	33	0	22	10	0
	Business	6	0	4	2	0
	Other	1	0	1	0	0
	NA	32	0	0	0	4
		<b>898</b>				
			<b>B</b>	<b>C</b>	<b>IT</b>	<b>P</b>
<b>Q#11 Profession of Spouse</b>	Not working	191	9	147	35	0
	Working	143	17	103	21	2
	Self Employed	70	3	57	10	0
	Not Applicable	299	0	293	6	0
	NA	146	0	128	14	3
		<b>849</b>				
			<b>B</b>	<b>C</b>	<b>IT</b>	<b>P</b>
<b>Q#12 Income Level</b>	Below Poverty	27	0	26	1	0
	Not Paying IT	414	1	404	9	0
	Paying IT	307	26	200	75	5
	NA	101	2	99	1	0
		<b>849</b>				
			<b>B</b>	<b>C</b>	<b>IT</b>	<b>P</b>
<b>Q#13 Communication devices</b>	No TV	29	1	28	0	0
	Community TV	13	1	11	1	0
	Personal TV	184	2	178	4	0
	Personal TV with Cable	590	22	485	77	5
	Fixed Line	376	24	285	62	5
	Mobile Phone	562	27	460	70	5
	Smart Phones	36	6	18	13	0
	NA	10				

			<b>B</b>	<b>C</b>	<b>IT</b>	<b>P</b>
<b>Q#14 Computer and Internet</b>	No Access to PC	191	0	186	5	0
	PC without Internet	234	0	218	15	1
	PC with Internet	111	0	95	16	0
	PC/Laptop with Internet	281	27	183	66	4
	PC/Internet Access other	123	6	101	17	0
	NA	31				
			<b>B</b>	<b>C</b>	<b>IT</b>	<b>P</b>
<b>Q#15 Computerized Govt Services</b>	Don't want computerisation	92	6	88	3	0
	Only information	176	1	164	9	0
	Only Application forms	151	3	139	9	0
	Forms and Procedures	236	3	202	27	0
	Forms with Payment	315	6	232	56	5
	NA	58	22			
			<b>B</b>	<b>C</b>	<b>IT</b>	<b>P</b>
<b>Q#16 Timings of Govt Services</b>	9 AM TO 5 PM	470	5	442	19	5
	8 AM TO 8 PM	78	3	56	19	0
	8 AM TO 8 PM all week	111	10	86	15	0
	On all Govt holidays	86	2	70	14	0
	24/7/365	222	12	182	27	0
	Tatkal	169	11	125	31	3
	Internet based	143	19	92	28	3
	Other	17	1	16	1	
	NA	15				
			<b>B</b>	<b>C</b>	<b>IT</b>	<b>P</b>
<b>Q#17 What Language</b>	Punjabi	407	4	351	48	4
	English	659	25	547	81	5
	Hindi	281	15	227	37	3
	Operator	162	5	138	18	1
	Graphic Signage	152	10	125	17	0
	Special asst	217	9	170	33	5
	NA	17				
			<b>B</b>	<b>C</b>	<b>IT</b>	<b>P</b>
<b>Q#18 Good Quality Admn</b>		-2	-1	0	1	2
1.	Providing total freedom to Citizen and noninterference by the Government	202	107	123	161	256
2.	Safety of life and property and peaceful law and order	19	51	84	144	551
3.	Corruption free dealings with the government	47	45	94	129	534
4.	Transparency and accountability in the dealings with the government	14	53	127	186	469
5.	Citizen centric services in a responsive manner	19	43	144	225	418
6.	Maintaining rule of law and applying the same rules/ yardstick to everyone	21	34	108	200	486
7.	Creating new job opportunities in the private sector and the government	33	30	103	153	530
8.	Basic Infrastructure development like roads, bridges, power, telecom, Airports, irrigation, transport etc.	14	40	87	162	546
9.	Good education facilities by the government which are job oriented	21	39	78	147	564
10.	Provide more concessions and freebies by the government, even at the cost of overall development	110	85	177	187	290
11.	Good business environment with free-market economy and no black	39	41	132	183	454

marketing					
12. In reducing inequalities in the society by making special provision for the poor and down trodden	46	51	122	226	404
13. Effectiveness and efficiency of the working of government and its staff	31	43	94	189	492
14. Overall economic development of the state, growth rate of economy	29	42	98	188	492
<b>Q#19 Perception about Govt Inst</b>	Frequency of use of Service				
	1	2	3	4	5
1. Deputy Commissioner/ SDM/ Tehsildar's Office for Licences, Permits, NOC's, and all kinds of Certificates etc	321	134	191	79	71
2. Land Records, Registration and Transfer of property, copies of other Records, Property Tax, revenue related cases	249	207	145	92	87
3. Civil surgeon/ Chief medical Officer's Office for Birth / Death certificate, handicap certificate	278	174	146	77	104
4. Hospital / Dispensaries / PHC for health services like Vaccination, Maternity Care, Family Planning, Medicines, Ambulance Services, Blood Bank, etc.	207	117	157	172	122
5. Education from Govt. School/ College - admissions, quality of teaching, attendance, results, certificates, scholarships	158	127	123	136	246
6. Municipal / Civic Services for water supply, sewerage, trade licenses, Birth and death certificates, passing of building plans	213	168	160	87	155
7. Urban Development- quality of service, allotment of plots, passing of plans, change in land use etc.	289	159	122	126	84
8. Police Station/ for Registration of complaint/ FIR	299	106	134	68	160
9. Industrial project related clearances, approvals, subsidies, labour laws, compliances of Law and Rules (VAT, RTO)	261	122	140	88	75
10. Requests for construction or repair of roads, bridges, bus stand, schools, other public infrastructure etc.	212	163	177	94	120
11. Rural Development Related demands, projects, grants, water supply, complaints	236	145	147	118	109
12. Sales taxes, VAT, Excise, Entry tax, other taxes	252	130	128	118	132
13. Social Security, pensions, Welfare of SC	235	126	139	109	102
14. Transport Services- Driving Licenses, Vehicle Registrations, renewals, transfers, bus service, mini bus license etc.	189	86	170	120	165
15. Utility Bill Payment – Electricity, water, sewer, phone, mobile	154	107	119	135	269
16. Food and Civil Supplies – Ration card, ration depots, supplies	218	128	154	86	176
17. Electricity connections, quality, timings, cuts, problems	161	109	136	117	230
18. Agriculture services related- seeds, insecticides, pesticides, fertilizers, irrigation, extension services, Weather Reports, Disaster Warnings	277	104	112	125	122
19. Procurement of food grains, facilities in mandi, payments, Crop Insurance, contract farming,	256	128	132	106	131
20. Cooperative Societies Related works – loans, agri inputs etc.	280	134	155	91	96
21. Banks, Bank loans, insurance, financing (Micro Credit) etc.	169	118	180	156	141
22. Registration at Employment exchange, Interview calls for Jobs, self employment schemes	219	137	128	126	143
23. Consumer Welfare and Consumer Rights from Consumer Courts, Legal Assistance	303	148	127	89	97
24. Redressal of Grievance in the Government	308	129	143	89	85
25. Tenders pertaining to all departments/ Agencies	315	107	121	103	102

26. Information under the Right to Information Act, 2005	299	100	131	94	105
<b>Q#20 Pain and Harrassment</b>	-2	-1	0	1	2
1. Lack of information and guidance on the correct procedures, forms, rules etc	84	115	117	181	352
2. Non availability of Government staff/ dealing hand on the seat	56	107	130	196	360
3. Need for filling of multiple forms, filling Same Information in Different Forms	80	72	163	197	337
4. Unreasonable Delay, multiple visits even for small services	73	87	109	174	406
5. Not pointing out discrepancies/ shortcomings in the applications in one go	53	98	143	213	342
6. Need to visit many staff members for one single work. Multiple Points of Contact for One task only	59	75	136	248	331
7. Non-Responsiveness of Government Staff to the needs / urgency of citizen	94	80	135	211	329
8. Non-Cooperative behavior and negative/ rough attitude of Dealing Government Staff	76	64	134	248	327
9. Limited Working / Visiting Hours with long lunch and tea breaks by Government staff	77	100	135	238	299
10. Lot of unwanted Holidays further reduce time available to Common man	67	89	183	247	263
11. Pervasive Corruption at various levels, demand of speed money by dealing staff	101	65	133	237	313
12. Difficult access to Senior Government Functionaries / officers	87	87	114	262	299
13. Poor Public Infrastructure / lack of Public Infrastructure and its maintenance in Government offices	73	70	140	202	364
14. Lack of knowledge and training of Government Staff	89	72	140	255	293
15. Collusion between the touts and the Government staff	57	79	162	230	321
16. Arbitrary Nature of dealings by some staff members without any recourse/ remedy	64	77	188	262	258
17. Multiplicity of agencies without clear boundaries	76	68	164	259	282
<b>Q#21 Preference reg Govt Services</b>		<b>B</b>	<b>C</b>	<b>IT</b>	<b>P</b>
1. Free of cost even if these have to be directly taken through the Government Offices only at the same quality level	415	1	388	26	0
2. Through Banks, Community Centers, Panchayats, Public Kiosks and other similar agencies in my locality duly authorized by the Government at a reasonable cost	394	18	320	56	0
3. Through the private dealers/ brokers in my locality duly authorized by Government at a reasonable cost	233	17	165	51	0
4. Private and personal service, I don't care even if it is through un-authorized dealers/ brokers/ touts	98	1	79	18	0
5. Online service through Common Service Centers or Call Centers at a reasonable cost	312	13	268	31	0
6. Online self service through Internet, Cyber café, Internet kiosks at community centers free of cost	237	13	193	26	5
<b>Q#22 Timeframe you want</b>		<b>B</b>	<b>C</b>	<b>IT</b>	<b>P</b>
1. Six months to one year timeframe at the cost to be paid by the citizen	312	16	250	46	0
2. One year to three years timeframe at half the cost to be paid by the citizen	335	6	299	25	5
3. Three to five years timeframe at one fourth the cost to be paid by the citizen	161	4	145	12	0
4. Five to 10 years time frame at no cost to the citizen	151	1	137	13	0

<b>Q#23 Extra charges</b>			<b>B</b>	<b>C</b>	<b>IT</b>	<b>P</b>
1. District Office HQ at Basic Cost (For example say 20 Rs. For Birth Certificate)	312	6	317	45	5	
2. Tehsil Level Office at 1.5 times of the Basic Cost (which becomes 30 Rs)	335	6	193	19	0	
3. Block Level Office at 2 times of the Basic Cost ( which becomes 40 Rs)	161	5	108	10	0	
4. At Municipal Ward / Village Panchayat Level at 2.5 times of the Basic Cost ( which becomes 50 Rs.)	151	11	181	23	0	
<b>Q#24 Mode of Payment</b>	1	2	3	4	5	
1. Cash at the service counter where service is being provided	0	0	61	163	176	
2. Cash in the bank/ Post Office/ Government Treasury	0	0	70	125	132	
3. Bank Cheque/ Bank draft/ Indian Postal Order	0	0	69	111	148	
4. Online Payments / Online Bank Transfers on the Internet	0	0	75	73	93	
5. At any ATM through an ATM card or Credit Card or Debit card	0	0	68	64	75	
6. Standing Instructions to my Bank for transfer of utility payments against bills	0	0	82	102	78	
7. Cash payment may be collected from my house, may be at extra cost	0	0	67	174	101	
8. Electronic Payment without disclosing your Credit Card number. (Prepaid Coupons Like Bill Pay, Paisa Pay and Pay Pal)	0	0	78	77	81	
<b>Q#25 Importance of challenges</b>	-2	-1	0	1	2	
1. Pressure from vested interest groups/ Politician	109	104	200	193	243	
2. Lack of initiative and participation from the Government officials as well as citizens	50	136	201	207	255	
3. Lack of Bureaucratic commitment and Resistance by Government Staff for various reasons	75	127	151	223	273	
4. Lack of Infrastructure (Building, Electric Power, Stationary, Technology-Internet, networking, Computers etc.)	78	107	168	174	322	
5. Lack of Training of Government staff/ their Capacity to handle technology	94	67	137	255	296	
6. Resistance by the forces benefiting from Corruption, especially the Financial corruption	76	69	135	208	361	
7. Lack of Awareness and education of end users/ Citizen/ stakeholders	39	124	155	218	313	
<b>Q#26 Perception of success factors</b>	-2	-1	0	1	2	
1. Reduction in time for providing service and improved Speed/ Efficiency	55	61	110	242	381	
2. Distance of service location/ access point from Citizen's home	24	59	135	253	378	
3. Service timings and Total number of Hours of service availability including holidays	34	60	162	237	356	
4. Friendliness and Simplicity of procedures and interface, availability of self service options	17	68	132	256	376	
5. Language interface options in which the service is available	33	86	140	225	365	
6. Whether information only or full transaction including payment and delivery of service online possible	44	49	149	217	390	
7. Services of how many departments being provided from the same counter. Completeness of service.	39	74	145	250	341	
8. Reduction in the corruption levels or improvement in the transparency of	16	73	128	206	426	

Government functioning						
9.	Cost of getting service and its affordability (including both, the direct and the indirect costs)	37	83	163	281	285
10.	Awareness about the availability of service amongst general masses	19	77	116	241	396
11.	Percentage of population covered by the service in the district	29	60	135	250	375
12.	Consistency and timeliness of service delivery, Reliability and expectability of service	27	65	156	217	384
13.	Reduction of discretion and distortions	30	81	186	249	303
14.	Enforcing better accountability of Government staff providing service	22	58	144	286	339
15.	Properly maintained Government record/ data of all kinds including files, registers, citizen record etc.	16	99	125	175	434
16.	Adequate number of properly trained working hands/ staff	22	82	128	224	393
17.	Overall Convenience and experience of the Citizens	18	48	116	206	461
<b>Q#27 Way for creating Awareness</b>			<b>B</b>	<b>C</b>	<b>IT</b>	<b>P</b>
1.	Free computer education at primary school level	630	15	539	65	5
2.	Computer education at high school level at a nominal fee	479	12	407	49	5
3.	Computer education at higher secondary school level at a fee	364	8	311	34	5
4.	Computer education at college level at a fee	364	5	319	32	3
5.	Professional computer education at certificate, diploma and degree level	392	6	350	24	4
6.	Special computer literacy programs should be started for the citizens and business users	445	18	386	39	3
<b>Political Stakeholders</b>						
<b>Q#28 What in your opinion or experience are the factors responsible for pain and harassment and causing difficulties to the Citizens in getting the Citizen services from various Government departments and also resulting in ineffectiveness or Corruption.</b>		-2	-1	0	1	2
1.	Very old laws and rules which are sometime impractical and need to be changed	0	0	0	1	4
2.	Complexity of rules, long procedures and Lack of clarity on the same	0	0	0	4	1
3.	Lack of proper vision and Planning by departments for improving delivery of services	0	0	0	4	1
4.	Un-mindful application of rules especially by the lower staff	0	0	0	5	0
5.	Excessive discretion at the hands of Govt functionaries which is sometime misused	0	0	0	0	5
6.	Excessive workload with Government functionaries dealing with important areas	0	0	4	1	0
7.	Inefficiency, negative mindset and lethargy on part of Government employees	0	0	0	5	0
8.	Lack of training of Government staff in customers/ citizens Services	0	0	0	5	0
9.	Lack of Accountability mechanism for the Staff for delays and harassment of citizens	0	0	1	4	0
10.	Lack of proper Monitoring of cases and projects by senior officers	0	0	2	1	2
11.	Weak Disciplinary Action against corrupt and inefficient	0	0	1	0	4
12.	Weak and Slow Redressal of Grievances Mechanisms	0	0	0	2	3
13.	Non-Responsiveness of the Government to the changing needs of business and economy	0	0	0	2	3

14. Collusion of Officials with Touts	0	0	2	1	2
15. Incomplete and incorrect applications / papers by the citizen	0	0	4	0	1
16. Unjust request by the citizens/ applicants not within the rules	0	0	4	1	0
17. Slow implementation of Computerisation/ eGovernance	0	0	3	2	0
<b>Q#29</b>					
implemantaion of e-gov. would affect	-2	-1	0	1	2
1. Implementation of e governance would create more problems than it solves. It would create unemployment and digital divide, specially amongst the poor strata of society	0	0	4	1	0
2. Neither our infrastructure nor our government machinery is presently geared to provide e-Governance services which should be introduced slowly	0	0	0	5	0
3. E-governance is not a solution to most of our problems. Implementation of a governance would therefore bring only cosmetic improvements in the delivery of citizen services	0	0	0	4	1
4. With the implementation of the e-governance, the executive will lose control of the government as in the computerized environment nobody would have any discretion left.	0	0	0	0	5
5. e-Governance will provide lot of political/ administrative mileage with voters/ citizens as the overall quality of government service to the citizen will improve	0	0	0	5	0
6. Implementation of the governance would bring in the radical changes in the way government functions to the and would bring in real benefit to the citizen	0	0	1	4	0
7. Implementation of e governance is absolutely essential for bringing the quality of citizen service delivery in line with expectations of a modern day Indian citizen. This would be an engine of growth.	0	0	3	1	0
<b>Q#30</b>					
<b>creating awareness and training the govt. staff</b>					
	1	2	3	4	5
1. Computer literacy should be made compulsory for all Group A, B and C government jobs in future	0	1	4	0	0
2. Computer literacy is also important for the elected representatives	0	0	0	5	0
3. Basic computer literacy should also be provided to the existing government staff	0	0	5	0	0
4. Basic computer literacy should be made compulsory for all future promotions in Govt.	0	0	0	5	0
5. Special computer literacy programs should be started for the citizens and business users	0	0	5	0	0
<b>Q#31</b>					
<b>Use of Technology and e-Gov.</b>	<b>Respondent</b>				
1. Fully solve the problems	0				
2. Would solve the problems to a Large Extent	5				
3. Would not make any difference	0				
4. would make to little difference	0				
5. Not At All	0				

<b>Q#32</b>						
<b>Direct/Indirect Risks or Treats</b>		1	2	3	4	5
1. Resistance by political masters and bureaucracy		0	0	4	1	0
2. Resistance by citizen, Government staff to change		0	0	2	3	0
3. This may create Digital divide which may further widen disparity		0	1	1	3	0
4. Privacy of citizen may be intruded		0		4	1	0
5. High Dependency of technology mostly from MNCs		0	1	1	3	0
6. Quick obsolescence of technology, huge cost of upgradation		0	1	0	4	0
7. Threats of increasing Cyber crimes, Security, data protection and Privacy Laws		0	3	0	1	1
8. There could be reduction in Jobs in the Government		0	2	2	1	0
9. Risk of Failure of e-Governance projects based on which services are being provided		0	1	2	2	0
10. Huge capital Costs Involved for providing basic infrastructure		1	0	2	2	0
11. Affordability of service by the public		0	2	1	2	0
12. Benefits of service may not reach the poor and down trodden		1	0	0	0	4
<b>Bureaucrat Stakeholdres</b>						
<b>Q#28 What in your opinion or experience are the factors responsible for pain and harassment and causing difficulties to the Citizens in getting the Citizen services from various Government departments and also resulting in ineffectiveness or Corruption.</b>						
		-2	-1	0	1	2
1. Very old laws and rules which are sometime impractical and need to be changed		1	2	1	15	7
2. Complexity of rules, long procedures and Lack of clarity on the same		0	0	0	13	12
3. Lack of proper vision and Planning by departments for improving delivery of services		0	1	4	10	10
4. Un-mindful application of rules especially by the lower staff		0	1	3	14	6
5. Excessive discretion at the hands of Govt functionaries which is sometime misused		1	1	4	14	5
6. Excessive workload with Government functionaries dealing with important areas		0	1	5	12	7
7. Inefficiency, negative mindset and lethargy on part of Government employees		0	3	4	11	6
8. Lack of training of Government staff in customers/ citizens Services		0	1	4	15	5
9. Lack of Accountability mechanism for the Staff for delays and harassment of citizens		0	1	3	9	12
10. Lack of proper Monitoring of cases and projects by senior officers		0	0	2	17	6
11. Weak Disciplinary Action against corrupt and inefficient		0	0	1	13	11
12. Weak and Slow Redressal of Grievances Mechanisms		0	0	3	13	9
13. Non-Responsiveness of the Government to the changing needs of business and economy		1	0	3	13	8
14. Collusion of Officials with Touts		0	1	6	11	7
15. Incomplete and incorrect applications / papers by the citizen		1	1	11	9	3
16. Unjust request by the citizens/ applicants not within the rules		2	1	13	7	1
17. Slow implementation of Computerisation/ eGovernance		0	0	7	13	4

<b>Q#29</b>						
<b>Implementation of e-Gov.</b>		-2	-1	0	1	2
1. Implementation of e governance would create more problems than it solves. It would create unemployment and digital divide, specially amongst the poor strata of society	13	5	2	3	3	
2. Neither our infrastructure nor our government machinery is presently geared to provide e-Governance services which should be introduced slowly	7	4	7	5	3	
3. E-governance is not a solution to most of our problems. Implementation of a governance would therefore bring only cosmetic improvements in the delivery of citizen services	11	5	4	4	1	
4. With the implementation of the e-governance, the executive will lose control of the government as in the computerized environment nobody would have any discretion left.	7	4	8	2	4	
5. e-Governance will provide lot of political/ administrative mileage with voters/ citizens as the overall quality of government service to the citizen will improve	0	0	6	7	12	
6. Implementation of the governance would bring in the radical changes in the way government functions to the and would bring in real benefit to the citizen	0	0	0	10	15	
7. Implementation of e governance is absolutely essential for bringing the quality of citizen service delivery in line with expectations of a modern day Indian citizen. This would be an engine of growth.	0	0	0	7	18	
<b>Q#30</b>						
<b>Creating awareness and training in staff</b>		1	2	3	4	5
1. Computer literacy should be made compulsory for all Group A, B and C government jobs in future	1	0	2	10	12	
2. Computer literacy is also important for the elected representatives	1	0	7	5	12	
3. Basic computer literacy should also be provided to the existing government staff	0	1	3	8	13	
4. Basic computer literacy should be made compulsory for all future promotions in Govt.	2	3	4	7	9	
5. Special computer literacy programs should be started for the citizens and business users	1	1	9	6	8	
<b>Q#31</b>						
<b>Effective Good Governance Framework</b>						
		-2	-1	0	1	2
1. Political will, support and patronage	0	0	2	9	15	
2. Basic literacy and Awareness amongst citizens for being able to use the service	1	0	6	12	6	
3. Problem Identification for each department/ service	0	0	4	9	13	
4. Process simplification, improvements and reengineering	0	0	0	7	19	
5. Availability of proper IT based Solution to the problem	0	0	5	12	9	
6. Public Usage, friendliness and Appropriateness of service	0	0	1	16	9	
7. Public Acceptability of service methods and modes	1	0	2	14	9	
8. Public Affordability of cost of service	1	0	5	13	7	
9. Public Accessibility, Reachability and Coverage of the service	0	0	2	14	10	

10. Technical feasibility, scalability, robustness and replicability of the IT solution	0	0	1	18	7
11. Financial sustainability of the service model/ Government's financial support	0	0	2	13	11
12. Participation of Local self Government ( Municipal Committees and Panchayats),	0	0	4	14	8
13. Support and participation of of local communities and NGOs for creating awareness	0	0	5	17	4
14. Marketing of services, their awareness and Encouragement of people to use them	0	0	5	12	9
15. Physical Infrastructure i.e. building, interiors, power, furniture, PCs etc.	0	1	6	10	9
16. Regular Monitoring and feedback to enforce accountability, systems and rule of law	0	0	1	14	11
17. Capacity building and Training of Government staff and operators	0	0	1	10	15
18. Selective Disintermediation (removal/ elimination of intermediaries / middlemen)	0	1	8	8	8
19. Clarity on Stakeholders' roles and responsibilities	0	2	3	12	7
20. Clear Benefits and Return on Investments for the Stakeholders/ Government	0	1	3	16	3
<b>Q#32</b>					
<b>Existing National and state level e-gov policies</b>					
	1	2	3	4	5
1. Policies and plans not integrated with the local requirements of citizens/ departments	2	3	12	6	3
2. Standalone state-level policies and applications not integrated with national requirements	0	6	12	6	2
3. Absence of policies and regulatory framework for critical issues like database creation, data sharing, security and privacy, Intellectual Property Rights, cyber crimes etc.	0	4	7	10	5
4. Insufficient employee training, officers motivation and public awareness	1	1	11	8	4
5. Policies do not lay down roadmaps for integration of services within and outside States at a later date	1	5	10	7	3
6. Local language interfaces not uniformly developed	4	4	6	11	1
7. Well defined policy framework for sustainability, scalability and profitability of E-Governance not in place	0	3	9	6	8
<b>Q#33 use of Tech. and e-gov</b>					
1. Fully solve the problems	2				
2. Would solve the problems to a Large Extent	24				
3. Would not make any difference	1				
4. would make to little difference	0				
5. Not At All	0				
<b>Q#34 What, in your opinion, is the importance of the following factors for measuring the Effectiveness/ impact/ success of an e-Governance project / service?</b>	-2	-1	0	1	2
1. Citizen centric approach by all departments while redesigning/ providing service	0	0	2	7	15
2. Political Will, commitment and Leadership	1	0	2	14	9

3. Proper Policy formulation and its implementation	0	0	1	16	9
4. Making the procedures and Process people friendly rather than Government friendly through Government process re-engineering	0	1	1	7	17
5. Capacity Building at all level i.e. Imparting the proper training knowledge and empowerment to all stakeholders	0	0	1	9	16
6. Involving all stakeholders at all levels while redesigning and implementing services	0	0	3	15	8
7. Change Management- of Government staff, processes and services	0	0	1	15	10
8. Choice of Technology, its reliability, future roadmap, cost of ownership	0	1	2	18	5
9. Financial Model of service Delivery and its Self sustainability of service	0	0	3	14	9
10. Creating and maintaining ICT related infrastructure effectively	0	0	3	17	6
11. Availability of Adequate Funds for infrastructure/ manpower wherever required	2	0	2	18	4
12. Establishing and maintaining common access infrastructure specially for the poor	1	0	2	10	12
13. Rightsizing of Manpower (or not creation of additional posts for increased work)	2	1	5	13	4
14. Total savings to the Government through cost reduction	3	1	6	11	4
15. Additional revenue generation in the Government	5	1	7	8	4
16. Time-bound implementation of the e-Governance project	0	0	4	7	14
17. Project management during and after the implementation	0	0	0	12	13
18. Accountability resulting from the service	0	0	0	14	11
19. Transparency resulting from the service	0	0	1	8	16
20. Auditability of service by independent agencies	0	1	3	13	8
21. Scalability and Replicability of service	0	0	4	10	11
22. Responsiveness of the service to the changing needs of the people	0	0	0	12	12
23. Creation of Employment by Private Sector Partner / Self-Employment generation	0	1	2	14	4
24. Removal of digital divide / penetration of ICT at all levels of society	0	1	1	14	5
<b>Q#35 What, in your opinion, is the importance of the following Direct / Indirect Risks or Threats Involved while implementing Good Governance through the use of IT/ e-Governance.</b>					
Direct/indirect risks or Threats involved	1	2	3	4	5
1. Resistance by political masters and bureaucracy	1	6	7	5	6
2. Resistance by citizen, Government staff to change	2	5	11	7	0
3. This may create Digital divide which may further widen disparity	14	7	2	1	1
4. Privacy of citizen may be intruded	10	9	4	2	0
5. High Dependency of technology mostly from MNCs	12	3	5	4	0
6. Quick obsolescence of technology, huge cost of upgradation	7	7	9	0	2
7. Threats of increasing Cyber crimes, Security, data protection and Privacy Laws	7	6	8	2	2
8. There could be reduction in Jobs in the Government	11	7	5	2	0
9. Risk of Failure of e-Governance projects based on which services are being provided	10	9	2	4	0
10. Huge capital Costs Involved for providing basic infrastructure	5	7	4	7	2
11. Affordability of service by the public	3	8	3	10	1
12. Benefits of service may not reach the poor and down trodden	5	5	6	8	1

<b>IT, Academia</b>						
<b>Q#28 What in your opinion or experience are the factors responsible for pain and harassment and causing difficulties to the Citizens in getting the Citizen services from various Government departments and also resulting in ineffectiveness or Corruption.</b>						
		-2	-1	0	1	2
1. Very old laws and rules which are sometime impractical and need to be changed		3	0	7	18	55
2. Complexity of rules, long procedures and Lack of clarity on the same		0	1	1	26	54
3. Lack of proper vision and Planning by departments for improving delivery of services		0	2	3	42	35
4. Un-mindful application of rules especially by the lower staff		1	1	5	24	50
5. Excessive discretion at the hands of Govt functionaries which is sometime misused		0	5	9	28	40
6. Excessive workload with Government functionaries dealing with important areas		4	13	16	28	21
7. Inefficiency, negative mindset and lethargy on part of Government employees		1	1	6	31	43
8. Lack of training of Government staff in customers/ citizens Services		0	4	9	24	45
9. Lack of Accountability mechanism for the Staff for delays and harassment of citizens		0	3	9	36	34
10. Lack of proper Monitoring of cases and projects by senior officers		0	2	9	31	39
11. Weak Disciplinary Action against corrupt and inefficient		1	0	3	13	64
12. Weak and Slow Redressal of Grievances Mechanisms		1	0	7	24	49
13. Non-Responsiveness of the Government to the changing needs of business and economy		0	3	13	24	41
14. Collusion of Officials with Touts		1	7	19	26	27
15. Incomplete and incorrect applications / papers by the citizen		4	2	13	30	31
16. Unjust request by the citizens/ applicants not within the rules		3	7	17	35	18
17. Slow implementation of Computerisation/ eGovernance		0	0	10	21	45
<b>Q#29 Please mention the level of importance to be given to each variable for an effective Good Governance framework through the use of IT.</b>						
		-2	-1	0	1	2
1. Political will, support and patronage		0	2	10	18	51
2. Basic literacy and Awareness amongst citizens for being able to use the service		0	2	6	31	42
3. Problem Identification for each department/ service		1	1	8	38	33
4. Process simplification, improvements and reengineering		0	1	5	38	37
5. Availability of proper IT based Solution to the problem		1	2	6	22	50
6. Public Usage, friendliness and Appropriateness of service		0	2	9	28	42
7. Public Acceptability of service methods and modes		0	2	17	25	37
8. Public Affordability of cost of service		2	5	12	29	33
9. Public Accessibility, Reachability and Coverage of the service		0	2	7	28	44
10. Technical feasibility, scalability, robustness and replicability of the IT solution		0	2	10	26	43
11. Financial sustainability of the service model/ Government's financial support		0	9	13	20	39
12. Participation of Local self Government ( Municipal Committees and Panchayats),		0	1	8	30	42
13. Support and participation of of local communities and NGOs for creating awareness		0	6	6	36	34

14. Marketing of services, their awareness and Encouragement of people to use them	0	1	9	28	43
15. Physical Infrastructure i.e. building, interiors, power, furniture, PCs etc.	0	2	16	27	36
16. Regular Monitoring and feedback to enforce accountability, systems and rule of law	0	1	5	25	49
17. Capacity building and Training of Government staff and operators	0	2	9	21	48
18. Selective Disintermediation (removal/ elimination of intermediaries / middlemen)	3	3	10	27	38
19. Clarity on Stakeholders' roles and responsibilities	2	4	12	30	33
20. Clear Benefits and Return on Investments for the Stakeholders/ Government	1	4	4	33	39
<b>Q#30 Please rank the severity of following key issues, with respect to the existing national and state level e- governance policies.</b>					
	1	2	3	4	5
1. Policies and plans not integrated with the local requirements of citizens/ departments	1	7	8	15	31
2. Standalone state-level policies and applications not integrated with national requirements	1	1	9	36	16
3. Absence of policies and regulatory framework for critical issues like database creation, data sharing, security and privacy, Intellectual Property Rights, cyber crimes etc.	1	1	19	12	26
4. Insufficient employee training, officers motivation and public awareness	1	4	12	24	24
5. Policies do not lay down roadmaps for integration of services within and outside States at a later date	1	2	19	20	22
6. Local language interfaces not uniformly developed	3	4	14	25	17
7. Well defined policy framework for sustainability, scalability and profitability of E-Governance not in place	0	7	11	24	22
<b>Q#31 Your level of belief in the use of Technology and e-Governance is relevant in the Indian Scenario and, if properly implemented, would solve the problems of Indian Government Systems.</b>					
		<b>Respondent</b>			
1. Fully solve the problems	6				
2. Would solve the problems to a Large Extent	57				
3. Would not make any difference	10				
4. would make to little diffrence	0				
5. Not At All	0				
<b>Q#32 Please rank the following factors on a scale of 1 to 5 , (1 being lowest and 5 being highest relevance) which you consider the pitfalls in the existing ICT led governance policies / projects.</b>					
	1	2	3	4	5
1. Basic Technology Infrastructure, its cost, open technology standards, reliability, robustness, upgradeability, AMC	4	9	19	36	13
2. Connectivity, Access to network services, its spread, costing, bandwidth, reliability	5	8	18	32	20
3. Use of the Internet in business, government, Educational Institutions and	5	6	14	23	35

homes					
4. Promotion and facilitation (industry led standards)	1	4	34	29	13
5. Skills and human resources (education, basic skills for operating PC, advance skills in IT)	3	2	15	45	18
6. Positioning for the digital economy in terms of taxes and tariffs, industry self regulation, government regulations, consumer trust etc.	1	5	20	31	24
7. Interest and Needs of the common man overlooked.	0	10	19	23	30
8. Lack of Accountability	2	10	18	28	25
9. Financial sustainability, Scalability and Profitability	0	5	19	39	18
10. Consumer and Business Adoption of Information and Communication Technology	1	6	20	30	24
11. Social and Cultural Infrastructure for using Information and Communication Technology	1	5	19	36	21
12. Legal and Policy Environment for promoting the use of ICT	3	5	15	32	27
13. Supporting e-Services by the Government	0	4	20	24	34
14. Development of Public Private Partnership and Private Enterprise	2	6	18	27	30
15. Capacity of private sector to handle projects of large size	3	8	19	21	32
<b>Q#33 What, in your opinion, is the importance of the following factors for measuring the Effectiveness/ impact/ success of an e-Governance project / service?</b>					
	-2	-1	0	1	2
1. Citizen centric approach by all departments while redesigning/ providing service	0	2	7	24	50
2. Political Will, commitment and Leadership	1	5	13	20	44
3. Proper Policy formulation and its implementation	0	3	4	33	44
4. Making the procedures and Process people friendly rather than Government friendly through Government process re-engineering	1	0	7	26	50
5. Capacity Building at all level i.e. Imparting the proper training knowledge and empowerment to all stakeholders	0	5	10	33	36
6. Involving all stakeholders at all levels while redesigning and implementing services	0	1	21	26	36
7. Change Management- of Government staff, processes and services	0	2	11	29	42
8. Choice of Technology, its reliability, future roadmap, cost of ownership	0	1	8	40	35
9. Financial Model of service Delivery and its Self sustainability of service	0	6	13	28	37
10. Creating and maintaining ICT related infrastructure effectively	1	2	4	26	49
11. Availability of Adequate Funds for infrastructure/ manpower wherever required	2	0	6	26	48
12. Establishing and maintaining common access infrastructure specially for the poor	0	5	6	26	45
13. Rightsizing of Manpower (or not creation of additional posts for increased work)	1	4	11	29	38
14. Total savings to the Government through cost reduction	1	5	11	30	35
15. Additional revenue generation in the Government	6	8	11	24	32
16. Time-bound implementation of the e-Governance project	0	3	8	25	43
17. Project management during and after the implementation	0	2	12	20	45
18. Accountability resulting from the service	0	2	8	24	46
19. Transparency resulting from the service	1	6	7	23	43

20. Auditability of service by independent agencies	1	5	9	25	39
21. Scalability and Replicability of service	1	3	10	29	38
22. Responsiveness of the service to the changing needs of the people	0	0	10	27	43
23. Creation of Employment by Private Sector Partner / Self-Employment generation	2	2	5	29	42
24. Removal of digital divide / penetration of ICT at all levels of society	1	5	2	32	36
<b>Q#34 What, in your opinion, is the importance of the following Direct / Indirect Risks or Threats Involved while implementing Good Governance through the use of IT/ e-Governance.</b>					
	1	2	3	4	5
1. Resistance by political masters and bureaucracy	3	2	10	24	32
2. Resistance by citizen, Government staff to change	4	6	24	23	14
3. This may create Digital divide which may further widen disparity	16	18	14	12	10
4. Privacy of citizen may be intruded	17	9	20	13	12
5. High Dependency of technology mostly from MNCs	15	8	16	18	14
6. Quick obsolescence of technology, huge cost of upgradation	13	10	20	17	10
7. Threats of increasing Cyber crimes, Security, data protection and Privacy Laws	13	9	15	22	11
8. There could be reduction in Jobs in the Government	15	8	11	19	17
9. Risk of Failure of e-Governance projects based on which services are being provided	7	16	15	19	14
10. Huge capital Costs Involved for providing basic infrastructure	6	10	28	15	12
11. Affordability of service by the public	6	15	19	20	10
12. Benefits of service may not reach the poor and down trodden	4	12	18	13	21

## APPENDIX – II

### QUESTION WISE ANALYSIS

#### Age group

	Citizen	Academician	Bureaucrats	Total
<= 25	388	11	0	399
26-35	165	28	6	199
36-50	98	28	15	141
51-65	68	14	12	94
>65	10	5	1	16
	729	86	34	849

Male	Female	Total
198	201	399
137	62	199
120	21	141
85	9	94
13	3	16
553	296	849

Urban	Semi	Rural	Total
251	48	100	399
144	26	29	199
94	15	32	141
64	11	19	94
9	4	3	16
562	104	183	849

	Single	Married	Divorced	Total
<= 25	379	11	0	390
26-35	53	145	1	199
36-50	6	134	1	141
51-65	2	84	8	94
>65	1	14	1	16
	441	388	11	840

Illiterate	UG	High Sch	Grad	PG	Prof	Total
10	6	73	170	64	76	399
8	6	32	84	48	21	199
3	3	41	38	32	24	141
0	4	28	22	15	25	94
0	0	7	4	3	2	16
21	19	181	318	162	148	849

	Not Av	BPL	Not IT	IT	Total
<= 25	18	11	321	49	399
26-35	13	11	89	86	199
36-50	5	3	29	104	141
51-65	4	1	27	62	94
>65	0	1	9	6	16
	40	27	475	307	849

**Question Wise Analysis: gender**

	<b>Citizen</b>	<b>Academician</b>	<b>Bureaucrats</b>	<b>Total</b>
Male	450	77	26	553
Female	279	9	8	296
	729	86	34	849

<b>Urban</b>	<b>Semi</b>	<b>Rural</b>	<b>Total</b>
364	64	125	553
198	40	58	296
562	104	183	849

	<b>Single</b>	<b>Married</b>	<b>Divorced</b>	<b>Total</b>
Male	231	312	4	547
Female	210	76	7	293
	441	388	11	840

<b>Illiterate</b>	<b>UG</b>	<b>High Sch</b>	<b>Grad</b>	<b>PG</b>	<b>Prof</b>	<b>Total</b>
18	16	150	193	74	102	553
3	3	31	125	88	46	296
21	19	181	318	162	148	849

	<b>Not Av</b>	<b>BPL</b>	<b>Not IT</b>	<b>IT</b>	<b>Total</b>
Male	24	19	261	249	553
Female	16	8	214	58	296
	40	27	475	307	849

<b>&lt;=25</b>	<b>26-35</b>	<b>36-50</b>	<b>51-65</b>	<b>&gt;65</b>	<b>Total</b>
198	137	120	85	13	553
201	62	21	9	3	296
399	199	141	94	16	849

**Question Wise Analysis: Area**

	<b>Citizen</b>	<b>Academician</b>	<b>Bureaucrats</b>	<b>Total</b>
Urban	446	82	34	562
Semi	101	3	0	104
Rural	182	1	0	183
	729	86	34	849

<b>Male</b>	<b>Female</b>	<b>Total</b>
364	198	562
64	40	104
125	58	183
553	296	849

	<b>Single</b>	<b>Married</b>	<b>Divorced</b>	<b>Total</b>
Urban	286	265	9	560
Semi	53	50	0	103
Rural	102	73	2	177
	441	388	11	840

<b>Illiterate</b>	<b>UG</b>	<b>High Sch</b>	<b>Grad</b>	<b>PG</b>	<b>Prof</b>	<b>Total</b>
16	9	74	216	123	124	562
0	3	32	44	14	11	104
5	7	75	58	25	13	183
21	19	181	318	162	148	849

	Not Av	BPL	Not IT	IT	Total
Urban	24	16	279	243	562
Semi	6	3	77	18	104
Rural	10	8	119	46	183
	40	27	475	307	849

<=25	26-35	36-50	51-65	>65	Total
251	144	94	64	9	562
48	26	15	11	4	104
100	29	32	19	3	666
399	199	141	94	16	849

#### Question Wise Analysis: Qualification

	Citizen	Academician	Bureaucrats	Total
Illi	17	4	0	21
UG	16	2	1	19
High Sch	173	7	1	181
Grad	283	31	4	318
PG	133	18	11	162
Prof	107	24	17	148
	729	86	34	849

Male	Female	Total
18	3	21
16	3	19
150	31	181
193	125	318
74	88	162
102	46	148
553	296	849

Urban	Semi	Rural	Total
16	0	5	21
9	3	7	19
74	32	75	181
216	44	58	318
123	14	25	162
124	11	13	148
562	104	183	849

	Single	Married	Divorced	Total
Illi	12	7	0	19
UG	7	10	1	18
High Sch	78	96	6	180
Grad	184	130	2	316
PG	80	79	2	161
Prof	80	66	0	146
	441	388	11	840

<=25	26-35	36-50	51-65	>65	Total
10	8	3	0	0	21
6	6	3	4	0	19
73	32	41	28	7	181
170	84	38	22	4	318
64	48	32	15	3	162
76	21	24	25	2	148
399	199	141	94	16	849

	Not Av	BPL	Not IT	IT	Total
Illi	3	1	7	10	21
UG	0	1	11	7	19
High Sch	8	8	111	54	181
Grad	15	12	202	89	318
PG	10	5	71	76	162
Prof	4	0	73	71	148
	40	27	475	307	849

#### Question Wise Analysis: Income

	Citizen	Academician	Bureaucrats	Total
Not Av	38	1	1	40
BPL	26	1	0	27
Non IT	465	9	1	475
IT	200	75	32	307
	729	86	34	849

Male	Female	Total
24	16	40
19	8	27
261	214	475
249	58	307
553	296	849

Urban	Semi	Rural	Total
24	6	10	40
16	3	8	27
279	77	119	475
243	18	46	307
562	104	183	849

	Single	Married	Divorced	Total
Not Av	19	19	0	38
BPL	12	15	0	27
Non IT	346	120	5	471
IT	64	234	6	304
	441	388	11	840

Illiterate	UG	High Sch	Grad	PG	Prof	Total
3	0	8	15	10	4	40
1	1	8	12	5	0	27
7	11	111	202	71	73	475
10	7	54	89	76	71	307
21	19	181	318	162	148	849

	<=25	26-35	36-50	51-65	>65	Total
Not Av	18	13	5	4	0	40
BPL	11	11	3	1	1	27
Non IT	321	89	29	27	9	475
IT	49	86	104	62	6	307
	399	199	141	94	16	849

**Question Wise Analysis: Phone - TV**

	Single	Married	Divorced	Total
No TV	11	19	0	30
Comm TV	10	3	0	13
TV w/o Cable	95	81	2	178
TV With Cable	309	270	8	587
Fixed Line	189	181	5	375
Mobile	290	259	7	556
PDA	16	22	0	38
Total	920	835	22	1777

	Illiterate	UG	High Sch	Grad	PG	Prof	Total
No TV	0	1	5	14	6	4	30
Comm TV	0	1	2	2	4	4	13
TV w/o Cable	6	1	62	77	23	15	184
TV With Cable	12	15	109	212	120	121	589
Fixed Line	11	5	52	147	78	83	376
Mobile	16	10	103	203	109	121	562
PDA	2	1	1	6	16	11	37
Total	47	34	334	661	356	359	1791

	Not Av	BPL	Not IT	IT	Total
No TV	3	6	11	10	30
Comm TV	1	2	8	2	13
TV w/o Cable	6	8	118	52	184
TV With Cable	26	11	318	234	589
Fixed Line	14	8	173	181	376
Mobile	24	11	291	236	562
PDA	1	1	14	21	37
Total	75	47	933	736	1791

	<=25	26-35	36-50	51-65	>65	Total
No TV	9	14	4	3	0	30
Comm TV	9	2	0	2	0	13
TV w/o Cable	93	40	29	20	2	184
TV With Cable	270	140	99	66	14	589
Fixed Line	162	87	76	43	8	376
Mobile	262	122	109	62	7	562
PDA	10	14	6	6	1	37
Total	815	419	323	202	32	1791

**Question Wise Analysis: Computer Internet Access**

	<b>Citizen</b>	<b>Academician</b>	<b>Bureaucrats</b>	<b>Total</b>
<b>No Access</b>	186	5	0	191
<b>Comp wo inter</b>	218	15	1	234
<b>Public</b>	95	16	0	111
<b>Laptop w Int</b>	183	66	31	280
<b>Other</b>	101	17	6	124
<b>Total</b>	783	119	38	940

	<b>Male</b>	<b>Female</b>	<b>Total</b>
<b>No Access</b>	144	47	191
<b>Comp wo inter</b>	131	103	234
<b>Public</b>	82	29	111
<b>Laptop w Int</b>	179	101	280
<b>Other</b>	83	41	124
<b>Total</b>	619	321	940

	<b>Urban</b>	<b>Semi</b>	<b>Rural</b>	<b>Total</b>
<b>No Access</b>	94	30	67	191
<b>Comp wo inter</b>	147	25	62	234
<b>Public</b>	80	14	17	111
<b>Laptop w Int</b>	224	27	29	280
<b>Other</b>	88	14	22	124
<b>Total</b>	633	110	197	940

	<b>Single</b>	<b>Married</b>	<b>Divorced</b>	<b>Total</b>
<b>No Access</b>	65	120	3	188
<b>Comp wo inter</b>	152	79	1	232
<b>Public</b>	76	32	1	109
<b>Laptop w Int</b>	136	136	5	277
<b>Other</b>	81	41	1	123
<b>Total</b>	510	408	11	929

	<b>Illiterate</b>	<b>UG</b>	<b>High Sch</b>	<b>Grad</b>	<b>PG</b>	<b>Prof</b>	<b>Total</b>
<b>No Access</b>	6	9	72	70	24	10	191
<b>Comp wo inter</b>	6	2	38	118	49	21	234
<b>Public</b>	2	1	26	40	21	21	111
<b>Laptop w Int</b>	5	2	35	80	76	82	280
<b>Other</b>	3	4	24	38	15	40	124
<b>Total</b>	22	18	195	346	185	174	940

	<b>Not Av</b>	<b>BPL</b>	<b>Not IT</b>	<b>IT</b>	<b>Total</b>
<b>No Access</b>	7	10	108	66	191
<b>Comp wo inter</b>	14	10	145	65	234
<b>Public</b>	3	4	74	30	111
<b>Laptop w Int</b>	8	1	127	144	280
<b>Other</b>	5	4	78	37	124
<b>Total</b>	37	29	532	342	940

	<=25	26-35	36-50	51-65	>65	Total
No Access	61	51	51	23	5	191
Comp wo inter	134	55	23	19	3	234
Public	71	23	12	5	0	111
Laptop w Int	119	66	54	35	6	280
Other	74	27	9	14	0	124
<b>Total</b>	459	222	149	96	14	940

**Question Wise Analysis: Service Type**

	Citizen	Academician	Bureaucrats	Total
No Change	88	3	1	92
Simple Info	164	9	3	176
Blank Appl	139	9	3	151
Fill Forms	202	27	6	235
Payments	232	56	27	315
<b>Total</b>	825	104	40	969

	Male	Female	Total
No Change	67	25	92
Simple Info	123	53	176
Blank Appl	98	53	151
Fill Forms	132	103	235
Payments	198	117	315
<b>Total</b>	618	351	969

	Urban	Semi	Rural	Total
No Change	63	8	21	92
Simple Info	117	16	43	176
Blank Appl	96	21	34	151
Fill Forms	146	29	60	235
Payments	206	48	61	315
<b>Total</b>	628	122	219	969

	Single	Married	Divorced	Total
No Change	38	51	1	90
Simple Info	103	69	2	174
Blank Appl	100	49	2	151
Fill Forms	152	77	2	231
Payments	144	168	3	315
<b>Total</b>	537	414	10	961

	Illiterate	UG	High Sch	Grad	PG	Prof	Total
No Change	2	3	26	27	14	20	92
Simple Info	6	4	51	69	26	20	176
Blank Appl	4	4	40	57	23	23	151
Fill Forms	7	4	36	98	47	43	235
Payments	5	5	66	103	74	62	315
<b>Total</b>	24	20	219	354	184	168	969

	Not Av	BPL	Not IT	IT	Total
No Change	4	11	34	43	92
Simple Info	6	5	115	50	176
Blank Appl	8	6	105	32	151
Fill Forms	5	4	150	76	235
Payments	9	3	172	131	315
<b>Total</b>	32	29	576	332	969

	<=25	26-35	36-50	51-65	>65	Total
No Change	36	30	19	6	1	92
Simple Info	94	45	27	10	0	176
Blank Appl	89	35	13	12	2	151
Fill Forms	143	38	26	24	4	235
Payments	126	76	64	38	11	315
<b>Total</b>	488	224	149	90	18	969

#### Question Wise Analysis: Timings of service

	Citizen	Academician	Bureaucrats	Total
9 to 5	442	19	10	471
8 to 8	56	19	3	78
8 to 8 all	86	15	10	111
sat and Sun	70	14	2	86
24x7x365	182	27	12	221
Tatkal	125	31	14	170
Internet	92	28	22	142
Other	16	1	1	18
<b>Total</b>	1069	154	74	1297

	Male	Female	Total
9 to 5	287	184	471
8 to 8	58	20	78
8 to 8 all	76	35	111
sat and Sun	66	20	86
24x7x365	131	90	221
Tatkal	139	31	170
Internet	106	36	142
Other	11	7	18
<b>Total</b>	874	423	1297

	Urban	Semi	Rural	Total
9 to 5	323	35	113	471
8 to 8	63	9	6	78
8 to 8 all	83	14	14	111
sat and Sun	53	10	23	86
24x7x365	118	48	55	221
Tatkal	118	23	29	170

	Single	Married	Divorced	Total
9 to 5	252	205	8	465
8 to 8	44	31	1	76
8 to 8 all	61	48	1	110
sat and Sun	45	39	1	85
24x7x365	116	104	1	221
Tatkal	52	114	4	170
Internet	58	80	4	142
Other	10	8	0	18
<b>Total</b>	638	629	20	1287

	Illiterate	UG	High Sch	Grad	PG	Prof	Total
9 to 5	14	13	109	176	91	68	471
8 to 8	2	1	8	29	16	22	78
8 to 8 all	1	1	12	38	27	32	111
sat and Sun	1	1	20	31	18	15	86
24x7x365	5	2	53	80	46	35	221
Tatkal	3	4	49	51	26	37	170
Internet	3	2	21	39	31	46	142
Other	0	1	3	4	5	5	18
<b>Total</b>	29	25	275	448	260	260	1297

	Not Av	BPL	Not IT	IT	Total
9 to 5	28	22	264	157	471
8 to 8	0	2	40	36	78
8 to 8 all	3	3	62	43	111
sat and Sun	4	1	42	39	86
24x7x365	2	1	141	77	221
Tatkal	4	1	72	93	170
Internet	1	2	54	85	142
Other	0	1	12	5	18
<b>Total</b>	42	33	687	535	1297

	<=25	26-35	36-50	51-65	>65	Total
9 to 5	230	115	68	50	8	471
8 to 8	43	18	11	4	2	78
8 to 8 all	55	24	22	9	1	111
sat and Sun	39	25	15	7	0	86
24x7x365	100	50	37	27	7	221
Tatkal	41	47	48	28	6	170
Internet	45	37	32	24	4	142
Other	9	2	4	3	0	18
<b>Total</b>	562	318	237	152	28	1297

**Question Wise Analysis: language of service**

	<b>Citizen</b>	<b>Academician</b>	<b>Bureaucrats</b>	<b>Total</b>
<b>Punjabi</b>	351	48	8	407
<b>English</b>	547	81	30	658
<b>Hindi</b>	227	37	18	282
<b>Operator</b>	138	18	6	162
<b>GUI</b>	125	17	10	152
<b>Assistance</b>	170	33	14	217
<b>Total</b>	1558	234	86	1878

	<b>Male</b>	<b>Female</b>	<b>Total</b>
<b>Punjabi</b>	303	104	407
<b>English</b>	419	239	658
<b>Hindi</b>	198	84	282
<b>Operator</b>	120	42	162
<b>GUI</b>	106	46	152
<b>Assistance</b>	142	75	217
<b>Total</b>	1288	590	1878

	<b>Urban</b>	<b>Semi</b>	<b>Rural</b>	<b>Total</b>
<b>Punjabi</b>	239	54	114	407
<b>English</b>	460	78	120	658
<b>Hindi</b>	209	33	40	282
<b>Operator</b>	128	13	21	162
<b>GUI</b>	115	20	17	152
<b>Assistance</b>	163	26	28	217
<b>Total</b>	1314	224	340	1878

	<b>Single</b>	<b>Married</b>	<b>Divorced</b>	<b>Total</b>
<b>Punjabi</b>	175	223	6	404
<b>English</b>	342	302	7	651
<b>Hindi</b>	137	140	3	280
<b>Operator</b>	82	79	0	161
<b>GUI</b>	81	69	1	151
<b>Assistance</b>	111	102	3	216
<b>Total</b>	928	915	20	1863

	<b>Illiterate</b>	<b>UG</b>	<b>High Sch</b>	<b>Grad</b>	<b>PG</b>	<b>Prof</b>	<b>Total</b>
<b>Punjabi</b>	12	14	127	163	46	45	407
<b>English</b>	13	9	118	247	139	132	658
<b>Hindi</b>	9	6	48	114	53	52	282
<b>Operator</b>	9	2	25	68	25	33	162
<b>GUI</b>	7	1	25	60	34	25	152
<b>Assistance</b>	7	1	36	92	39	42	217
<b>Total</b>	57	33	379	744	336	329	1878

	Not Av	BPL	Not IT	IT	Total
<b>Punjabi</b>	18	15	208	166	407
<b>English</b>	22	16	361	259	658
<b>Hindi</b>	15	8	133	126	282
<b>Operator</b>	10	8	62	82	162
<b>GUI</b>	9	6	66	71	152
<b>Assistance</b>	8	7	92	110	217
<b>Total</b>	82	60	922	814	1878

	<=25	26-35	36-50	51-65	>65	Total
<b>Punjabi</b>	152	114	82	48	11	407
<b>English</b>	314	153	103	72	16	658
<b>Hindi</b>	120	78	47	28	9	282
<b>Operator</b>	72	46	33	8	3	162
<b>GUI</b>	64	51	27	8	2	152
<b>Assistance</b>	99	55	49	10	4	217
<b>Total</b>	821	497	341	174	45	1878

#### Question Wise Analysis: Preference of Service Provider

	Citizen	Academician	Bureaucrats	Total
<b>Free</b>	388	26	1	415
<b>bank</b>	320	56	18	394
<b>Pvt - Govt</b>	165	51	17	233
<b>Pvt</b>	79	18	1	98
<b>CSC</b>	268	31	13	312
<b>Online</b>	193	26	18	237
<b>Total</b>	1413	208	68	1689

	Male	Female	Total
<b>Free</b>	293	122	415
<b>bank</b>	256	138	394
<b>Pvt - Govt</b>	174	59	233
<b>Pvt</b>	78	20	98
<b>CSC</b>	194	118	312
<b>Online</b>	147	90	237
<b>Total</b>	1142	547	1689

	Urban	Semi	Rural	Total
<b>Free</b>	265	61	89	415
<b>bank</b>	286	41	67	394
<b>Pvt - Govt</b>	171	28	34	233
<b>Pvt</b>	75	11	12	98
<b>CSC</b>	191	48	73	312
<b>Online</b>	141	46	50	237
<b>Total</b>	1129	235	325	1689

	Single	Married	Divorced	Total
Free	207	200	2	409
bank	196	189	6	391
Pvt - Govt	89	140	2	231
Pvt	52	46	0	98
CSC	182	127	1	310
Online	110	116	9	235
<b>Total</b>	<b>836</b>	<b>818</b>	<b>20</b>	<b>1674</b>

	Illiterate	UG	High Sch	Grad	PG	Prof	Total
Free	12	8	114	155	72	54	415
bank	8	10	78	132	83	83	394
Pvt - Govt	5	7	44	78	49	50	233
Pvt	2	2	20	42	18	14	98
CSC	9	5	58	122	59	59	312
Online	6	2	44	86	49	50	237
<b>Total</b>	<b>42</b>	<b>34</b>	<b>358</b>	<b>615</b>	<b>330</b>	<b>310</b>	<b>1689</b>

	Not Av	BPL	Not IT	IT	Total
Free	24	17	222	152	415
bank	12	9	216	157	394
Pvt - Govt	5	1	108	119	233
Pvt	9	3	43	43	98
CSC	9	5	190	108	312
Online	6	5	122	104	237
<b>Total</b>	<b>65</b>	<b>40</b>	<b>901</b>	<b>683</b>	<b>1689</b>

	<=25	26-35	36-50	51-65	>65	Total
Free	187	102	71	46	9	415
bank	178	80	75	51	10	394
Pvt - Govt	79	49	64	37	4	233
Pvt	45	21	25	6	1	98
CSC	165	59	52	31	5	312
Online	95	54	47	37	4	237
<b>Total</b>	<b>749</b>	<b>365</b>	<b>334</b>	<b>208</b>	<b>33</b>	<b>1689</b>

#### Question Wise Analysis: Time Frame of Service Provision

	Citizen	Academician	Bureaucrats	Total
Six	250	46	16	312
1 - 3 Yr	299	25	11	335
3 - 5 Yr	145	12	4	161
5 - 10 Yr	137	13	1	151
<b>Total</b>	<b>831</b>	<b>96</b>	<b>32</b>	<b>959</b>

	Male	Female	Total
<b>Six</b>	225	87	312
<b>1 - 3 Yr</b>	200	135	335
<b>3 - 5 Yr</b>	99	62	161
<b>5 - 10 Yr</b>	103	48	151
<b>Total</b>	627	332	959

	Urban	Semi	Rural	Total
<b>Six</b>	222	31	59	312
<b>1 - 3 Yr</b>	230	31	74	335
<b>3 - 5 Yr</b>	108	25	28	161
<b>5 - 10 Yr</b>	73	26	52	151
<b>Total</b>	633	113	213	959

	Single	Married	Divorced	Total
<b>Six</b>	125	178	5	308
<b>1 - 3 Yr</b>	204	126	3	333
<b>3 - 5 Yr</b>	77	81	1	159
<b>5 - 10 Yr</b>	79	68	2	149
<b>Total</b>	485	453	11	949

	Illiterate	UG	High Sch	Grad	PG	Prof	Total
<b>Six</b>	13	8	55	121	60	55	312
<b>1 - 3 Yr</b>	7	5	74	113	73	63	335
<b>3 - 5 Yr</b>	2	4	25	64	32	34	161
<b>5 - 10 Yr</b>	2	3	61	56	14	15	151
<b>Total</b>	24	20	215	354	179	167	959

	Not Av	BPL	Not IT	IT	Total
<b>Six</b>	21	8	127	156	312
<b>1 - 3 Yr</b>	3	9	220	103	335
<b>3 - 5 Yr</b>	12	4	77	68	161
<b>5 - 10 Yr</b>	7	5	103	36	151
<b>Total</b>	43	26	527	363	959

	<=25	26-35	36-50	51-65	>65	Total
<b>Six</b>	111	81	71	38	11	312
<b>1 - 3 Yr</b>	189	63	47	29	7	335
<b>3 - 5 Yr</b>	70	35	37	19	0	161
<b>5 - 10 Yr</b>	72	33	27	18	1	151
<b>Total</b>	442	212	182	104	19	959

**Question Wise Analysis: Place of Service provisioning**

	<b>Citizen</b>	<b>Academician</b>	<b>Bureaucrats</b>	<b>Total</b>
<b>Distt</b>	317	45	11	373
<b>Tehsil</b>	193	19	6	218
<b>Block</b>	108	10	5	123
<b>Vill</b>	181	23	11	215
<b>Total</b>	799	97	33	929

	<b>Male</b>	<b>Female</b>	<b>Total</b>
<b>Distt</b>	251	122	373
<b>Tehsil</b>	144	74	218
<b>Block</b>	86	37	123
<b>Vill</b>	139	76	215
<b>Total</b>	620	309	929

	<b>Urban</b>	<b>Semi</b>	<b>Rural</b>	<b>Total</b>
<b>Distt</b>	239	35	99	373
<b>Tehsil</b>	153	21	44	218
<b>Block</b>	84	11	28	123
<b>Vill</b>	126	40	49	215
<b>Total</b>	602	107	220	929

	<b>Single</b>	<b>Married</b>	<b>Divorced</b>	<b>Total</b>
<b>Distt</b>	192	170	6	368
<b>Tehsil</b>	113	102	2	217
<b>Block</b>	63	57	1	121
<b>Vill</b>	89	124	2	215
<b>Total</b>	457	453	11	921

	<b>Illiterate</b>	<b>UG</b>	<b>High Sch</b>	<b>Grad</b>	<b>PG</b>	<b>Prof</b>	<b>Total</b>
<b>Distt</b>	7	5	86	145	79	51	373
<b>Tehsil</b>	6	8	46	78	45	35	218
<b>Block</b>	3	1	28	44	20	27	123
<b>Vill</b>	1	3	53	84	35	39	215
<b>Total</b>	17	17	213	351	179	152	929

	<b>Not Av</b>	<b>BPL</b>	<b>Not IT</b>	<b>IT</b>	<b>Total</b>
<b>Distt</b>	15	14	173	171	373
<b>Tehsil</b>	11	6	126	75	218
<b>Block</b>	6	2	64	51	123
<b>Vill</b>	2	3	122	88	215
<b>Total</b>	34	25	485	385	929

	<b>&lt;=25</b>	<b>26-35</b>	<b>36-50</b>	<b>51-65</b>	<b>&gt;65</b>	<b>Total</b>
<b>Distt</b>	179	85	70	32	7	373
<b>Tehsil</b>	98	56	40	24	0	218
<b>Block</b>	52	23	35	13	0	123
<b>Vill</b>	79	46	50	32	8	215
<b>Total</b>	408	210	195	101	15	929

**Question Wise Analysis: How to create ICT Awareness**

	<b>Citizen</b>	<b>Academician</b>	<b>Bureaucrats</b>	<b>Total</b>
<b>Primary</b>	539	65	20	624
<b>High Sch</b>	407	49	17	473
<b>Higher Sec</b>	311	34	13	358
<b>College</b>	319	32	8	359
<b>Prof</b>	350	24	10	384
<b>Special</b>	386	39	21	446
<b>Total</b>	2312	243	89	2644

	<b>Male</b>	<b>Female</b>	<b>Total</b>
<b>Primary</b>	409	215	624
<b>High Sch</b>	309	164	473
<b>Higher Sec</b>	243	115	358
<b>College</b>	240	119	359
<b>Prof</b>	238	146	384
<b>Special</b>	281	165	446
<b>Total</b>	1720	924	2644

	<b>Urban</b>	<b>Semi</b>	<b>Rural</b>	<b>Total</b>
<b>Primary</b>	403	90	131	624
<b>High Sch</b>	306	66	101	473
<b>Higher Sec</b>	238	52	68	358
<b>College</b>	251	36	72	359
<b>Prof</b>	256	48	80	384
<b>Special</b>	304	61	81	446
<b>Total</b>	1758	353	533	2644

	<b>Single</b>	<b>Married</b>	<b>Divorced</b>	<b>Total</b>
<b>Primary</b>	326	284	8	618
<b>High Sch</b>	251	215	4	470
<b>Higher Sec</b>	181	171	5	357
<b>College</b>	181	173	3	357
<b>Prof</b>	226	154	2	382
<b>Special</b>	241	197	6	444
<b>Total</b>	1406	1194	28	2628

	<b>Illiterate</b>	<b>UG</b>	<b>High Sch</b>	<b>Grad</b>	<b>PG</b>	<b>Prof</b>	<b>Total</b>
<b>Primary</b>	12	15	146	235	115	101	624
<b>High Sch</b>	9	8	95	194	94	73	473
<b>Higher Sec</b>	11	4	91	144	65	43	358
<b>College</b>	11	12	70	150	62	54	359
<b>Prof</b>	14	4	70	170	64	62	384
<b>Special</b>	15	11	80	169	90	81	446
<b>Total</b>	72	54	552	1062	490	414	2644

	<b>Not Av</b>	<b>BPL</b>	<b>Not IT</b>	<b>IT</b>	<b>Total</b>
<b>Primary</b>	32	19	349	224	624
<b>High Sch</b>	20	10	252	191	473
<b>Higher Sec</b>	20	11	182	145	358
<b>College</b>	18	12	174	155	359
<b>Prof</b>	21	11	209	143	384
<b>Special</b>	21	12	238	175	446
<b>Total</b>	132	75	1404	1033	2644

	<b>&lt;=25</b>	<b>26-35</b>	<b>36-50</b>	<b>51-65</b>	<b>&gt;65</b>	<b>Total</b>
<b>Primary</b>	297	135	109	72	11	624
<b>High Sch</b>	216	114	88	44	11	473
<b>Higher Sec</b>	157	90	63	40	8	358
<b>College</b>	160	87	73	38	1	359
<b>Prof</b>	201	89	60	29	5	384
<b>Special</b>	209	108	87	40	2	446
<b>Total</b>	1240	623	480	263	38	2644

### APPENDIX – III

IMPORTANT DATA TABLES										
Table – Question Number 18 : Factors Contributing to Good Governance										
		-2	-1	0	1	2	1+2	Rank Rel	Wt Av	Rank Wt Av
1	Providing total freedom of speech, of religion, of work and an attitude of noninterference by government	202	107	123	161	256	417	14	285	14
2	Safety of Life and propriety and peaceful Law and Order	19	51	84	144	551	695	3	1241	3
3	Corruption free dealings with the government	47	45	94	129	534	663	8	1152	9
4	Transparency and accountability in the dealings with the government	14	53	127	186	469	655	9	1170	6
5	Citizen centric services in a responsive manner	19	43	144	225	418	643	10	1124	10
6	Maintaining rule of law and Peaceful law and order and applying the same rules/ yardstick to everyone	21	34	108	200	486	686	4	1204	5
7	Creating new job opportunities in the private sector and the government	33	30	103	153	530	683	5	1220	4
8	Basic Infrastructure development like roads, bridges, power, telecom, Airports, irrigation, transport etc.	14	40	87	162	546	708	2	1273	1
9	Good education facilities by the government which are job oriented	21	39	78	147	564	711	1	1272	2
10	Provide more concessions and freebies by the government, even at the cost of overall development	110	85	177	187	290	477	13	639	13
11	Good business environment with free-market economy	39	41	132	183	454	637	11	1104	11
12	In reducing digital divide and other inequalities in the society by positive discrimination in favour of the poorest of the poor	46	51	122	226	404	630	12	1013	12
13	Effectiveness and efficiency of the working of government and its staff	31	43	94	189	492	681	6	1162	8
14	Overall economic development of the state, growth rate of economy	29	42	98	188	492	680	7	1170	7

All categories have responded in the descending order on factors contributing to good governance as per following Table on weighted average basis

<b>Q.no.</b>	<b>Factor</b>	<b>Priority</b>
8	Basic Infrastructure development like roads, bridges, power, telecom, Airports, irrigation, transport etc.	1.
9	Good education facilities by the government which are job oriented	2.
2	Safety of life and property and peaceful law and order	3.
7	Creating new job opportunities in the private sector and the government	4.
6	Maintaining rule of law and applying the same rules/ yardstick to everyone	5.
4	Transparency and accountability in the dealings with the government	6.
14	Overall economic development of the state, growth rate of economy	7.
13	Effectiveness and efficiency of the working of government and its staff	8.
3	Corruption free dealings with the government	9.
5	Citizen centric services in a responsive manner	10.
11	Good business environment with free-market economy and no black marketing	11.
12	In reducing inequalities in the society by making special provision for the poor and down trodden	12.
10	Provide more concessions and freebies by the government, even at the cost of overall development	13.
1	Providing total freedom to Citizen and noninterference by the Government	14.

All respondents agree completely on the following factors contributing to good governance

9	Good education facilities by the government which are job oriented
8	Basic Infrastructure development like roads, bridges, power, telecom, Airports, irrigation, transport etc.
2	Safety of Life and prosperity and peaceful Law and Order
7	Creating new job opportunities in the private sector and the government
13	Effectiveness and efficiency of the working of government and its staff
11	Good business environment with free-market economy
12	In reducing digital divide and other inequalities in the society by positive discrimination in favour of the poorest of the poor
1	Providing total freedom of speech, of religion, of work and an attitude of noninterference by government

In the following six factors, there is significant difference in opinion in three categories of respondents.

		Gender	Area	Marital	Education	Prof of Spouse	Income
3	Corruption free dealings with the government	M	U	Ma	-	W	I
4	Transparency and accountability in the dealings with the government	M	U	Ma	-	W	I
5	Citizen centric services in a responsive manner	M	U	Ma	-	-	I
6	Maintaining rule of law and Peaceful law and order and applying the same rules/ yardstick to everyone	M	U	Ma	-	W	I
10	Provide more concessions and freebies by the government, even at the cost of overall development	B	U	Ma	PG	HW	I
14	Overall economic development of the state, growth rate of economy	M	U	-	-	-	-

M – Male

B – Both Male and Female

U – Urban

Ma – married

PG – Post Graduate

W – Working Spouse

HW – Both Housewife and

Working Spouse

I – Income Tax Payee

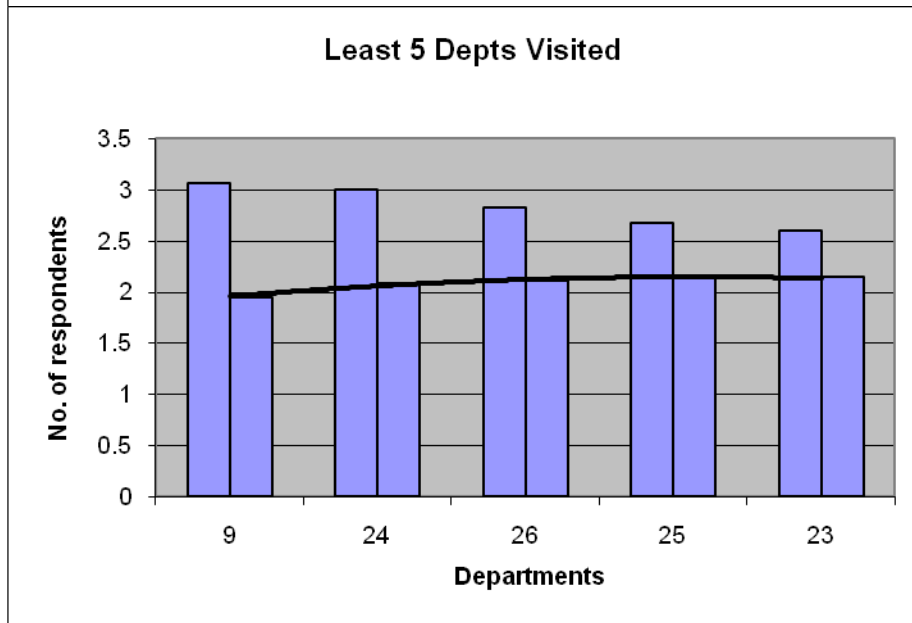
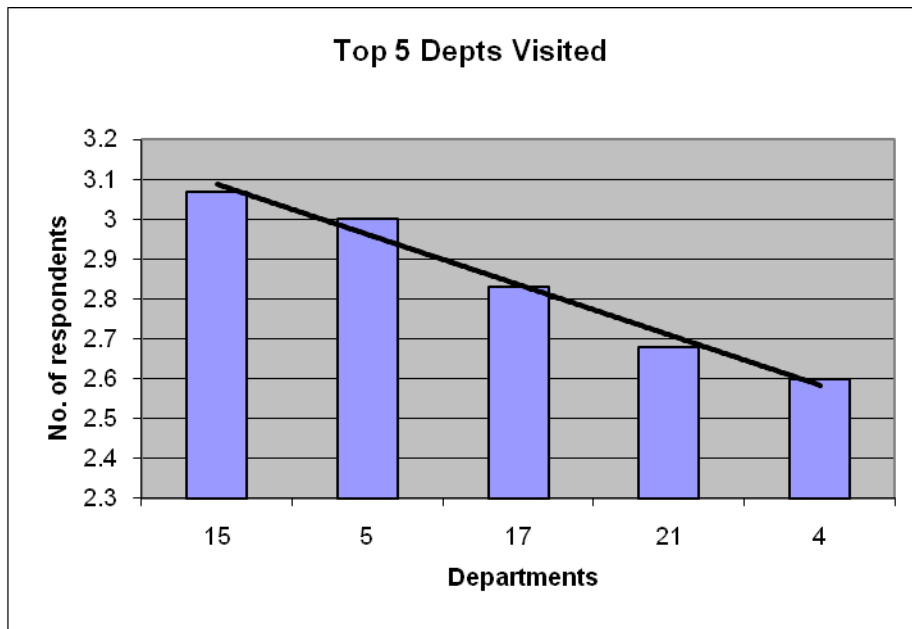
**Table – Question Number 19A: Frequency of Use of Service**

Question	1	2	3	4	5	Total	Average	Weighted Average
15. Utility Bill Payment – Electricity, water, sewer, phone, mobile	154	107	119	135	269	784	156.80	3.33
5. Education from Govt. School/ College - admissions, quality of teaching, attendance, results, certificates, scholarships	158	127	123	136	246	790	158.00	3.23
17. Electricity connections, quality, timings, cuts, problems	161	109	136	117	230	753	150.60	3.19
14. Transport Services- Driving Licenses, Vehicle Registrations, renewals, transfers, bus service, mini bus license etc.	189	86	170	120	165	730	146.00	2.98
21. Banks, Bank loans, insurance, financing (Micro Credit) etc.	169	118	180	156	141	764	152.80	2.98
4. Hospital / Dispensaries / PHC for health services like Vaccination, Maternity Care, Family Planning, Medicines, Ambulance Services, Blood Bank, etc.	207	117	157	172	122	775	155.00	2.85
16. Food and Civil Supplies – Ration card, ration depots, supplies	218	128	154	86	176	762	152.40	2.83
22. Registration at Employment exchange, Interview calls for Jobs, self employment schemes	219	137	128	126	143	753	150.60	2.78
6. Municipal / Civic Services for water supply, sewerage, trade licenses, Birth and death certificates, passing of building plans	213	168	160	87	155	783	156.60	2.75
10. Requests for construction or repair of roads, bridges, bus stand, schools, other public infrastructure etc.	212	163	177	94	120	766	153.20	2.67
12. Sales taxes, VAT, Excise, Entry tax, other taxes	252	130	128	118	132	760	152.00	2.67
19. Procurement of food grains, facilities in mandi, payments, Crop Insurance, contract farming,	256	128	132	106	131	753	150.60	2.64
11. Rural Development Related demands, projects, grants, water supply, complaints	236	145	147	118	109	755	151.00	2.63

Question	1	2	3	4	5	Total	Average	Weighted Average
18. Agriculture services related- seeds, insecticides, pesticides, fertilizers, irrigation, extension services, Weather Reports, Disaster Warnings	277	104	112	125	122	740	148.00	2.61
13. Social Security, pensions, Welfare of SC	235	126	139	109	102	711	142.20	2.60
8. Police Station/ for Registration of complaint/ FIR	299	106	134	68	160	767	153.40	2.59
20. Cooperative Societies Related works – loans, agri inputs etc.	280	134	155	91	96	756	151.20	2.46
26. Information under the Right to Information Act, 2005	299	100	131	94	105	729	145.80	2.46
2. Land Records, Registration and Transfer of property, copies of other Records, Property Tax, revenue related cases	249	207	145	92	87	780	156.00	2.44
3. Civil surgeon/ Chief medical Officer's Office for Birth / Death certificate, handicap certificate	278	174	146	77	104	779	155.80	2.43
7. Urban Development- quality of service, allotment of plots, passing of plans, change in land use etc.	289	159	122	126	84	780	156.00	2.43
25. Tenders pertaining to all departments/ Agencies	315	107	121	103	102	748	149.60	2.43
9. Industrial project related clearances, approvals, subsidies, labour laws, compliances of Law and Rules (VAT, RTO)	261	122	140	88	75	686	137.20	2.41
23. Consumer Welfare and Consumer Rights from Consumer Courts, Legal Assistance	303	148	127	89	97	764	152.80	2.38
24. Redressal of Grievance in the Government	308	129	143	89	85	754	150.80	2.36
1. Deputy Commissioner/ SDM/ Tehsildar's Office for Licences, Permits, NOC's, and all kinds of Certificates etc	321	134	191	79	71	796	159.20	2.30

Top Five (5) Departments Visited		
Question		Weighted Average
15		3.07
5		3
17		2.83
21		2.68
4		2.6

Least Five (5) Departments Visited		
Question		Weighted Average
9		1.95
24		2.09
26		2.11
25		2.14
23		2.14



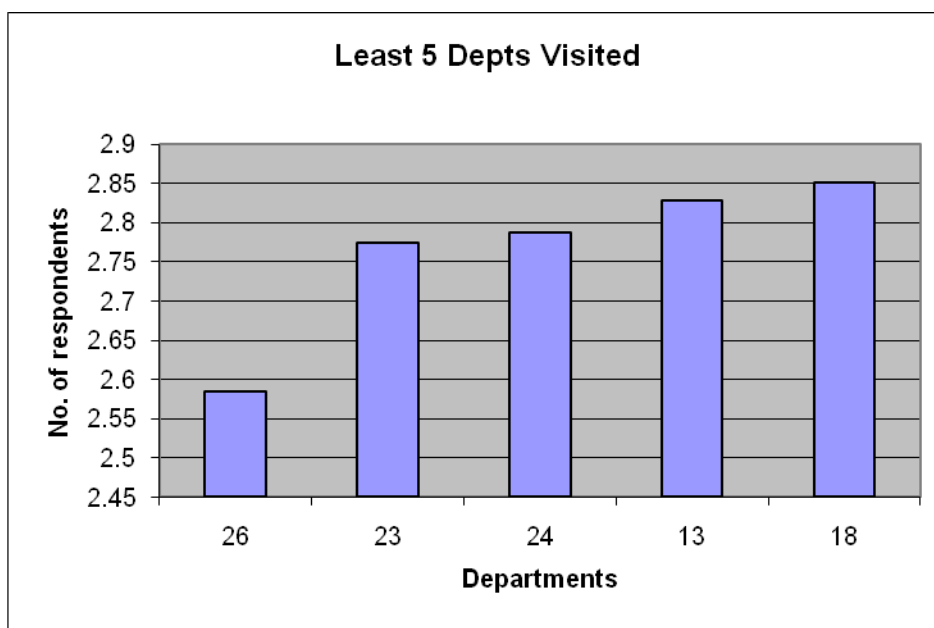
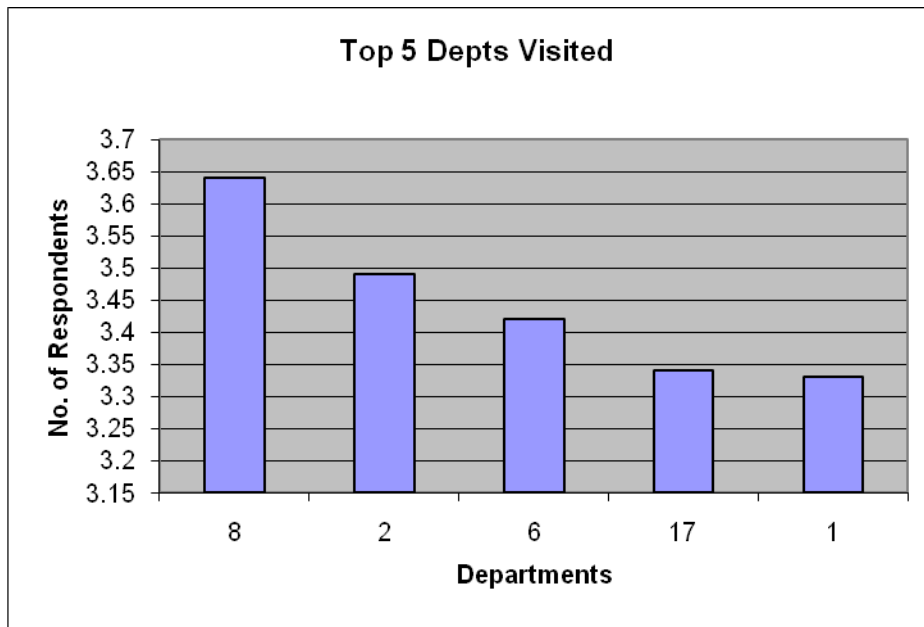
**Table – Question Number 19 B: Level of Corruption encountered**

<b>Question</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>Total</b>	<b>Average</b>	<b>Weighted Average</b>
8. Police Station/ for Registration of complaint/ FIR	32	70	119	140	401	762	152.40	4.06
2. Land Records, Registration and Transfer of property, copies of other Records, Property Tax, revenue related cases	34	84	160	223	277	778	155.60	3.80
17. Electricity connections, quality, timings, cuts, problems	48	92	146	176	293	755	151.00	3.76
6. Municipal / Civic Services for water supply, sewerage, trade licenses, Birth and death certificates, passing of building plans	51	97	186	166	287	787	157.40	3.69
12. Sales taxes, VAT, Excise, Entry tax, other taxes	56	92	159	170	279	756	151.20	3.69
10. Requests for construction or repair of roads, bridges, bus stand, schools, other public infrastructure etc.	57	102	161	181	261	762	152.40	3.64
7. Urban Development- quality of service, allotment of plots, passing of plans, change in land use etc.	46	101	199	206	225	777	155.40	3.60
14. Transport Services- Driving Licenses, Vehicle Registrations, renewals, transfers, bus service, mini bus license etc.	65	91	149	194	229	728	145.60	3.59
1. Deputy Commissioner/ SDM/ Tehsildar's Office for Licences, Permits, NOC's, and all kinds of Certificates etc	52	111	208	165	253	789	157.80	3.58
9. Industrial project related clearances, approvals, subsidies, labour laws, compliances of Law and Rules (VAT, RTO)	50	88	171	160	212	681	136.20	3.58
11. Rural Development Related demands, projects, grants, water supply, complaints	57	107	173	204	211	752	150.40	3.54
16. Food and Civil Supplies – Ration card, ration depots, supplies	67	110	190	148	246	761	152.20	3.52
22. Registration at Employment exchange, Interview calls for Jobs, self employment schemes	92	119	136	131	263	741	148.20	3.48
13. Social Security, pensions,	80	106	169	168	186	709	141.80	3.39

<b>Question</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>Total</b>	<b>Average</b>	<b>Weighted Average</b>
Welfare of SC								
3. Civil surgeon/ Chief medical Officer's Office for Birth / Death certificate, handicap certificate	74	118	206	190	184	772	154.40	3.38
20. Cooperative Societies Related works – loans, agri inputs etc.	87	126	158	160	201	732	146.40	3.36
25. Tenders pertaining to all departments/ Agencies	102	82	199	170	189	742	148.40	3.35
5. Education from Govt. School/ College - admissions, quality of teaching, attendance, results, certificates, scholarships	92	152	188	168	189	789	157.80	3.27
18. Agriculture services related- seeds, insecticides, pesticides, fertilizers, irrigation, extension services, Weather Reports, Disaster Warnings	86	134	205	123	192	740	148.00	3.27
19. Procurement of food grains, facilities in mandi, payments, Crop Insurance, contract farming,	106	125	173	161	187	752	150.40	3.26
24. Redressal of Grievance in the Government	86	112	214	155	159	726	145.20	3.26
23. Consumer Welfare and Consumer Rights from Consumer Courts, Legal Assistance	119	104	172	158	176	729	145.80	3.23
21. Banks, Bank loans, insurance, financing (Micro Credit) etc.	131	147	161	118	209	766	153.20	3.17
4. Hospital / Dispensaries / PHC for health services like Vaccination, Maternity Care, Family Planning, Medicines, Ambulance Services, Blood Bank, etc.	88	162	204	189	137	780	156.00	3.16
15. Utility Bill Payment – Electricity, water, sewer, phone, mobile	132	161	144	141	199	777	155.40	3.15
26. Information under the Right to Information Act, 2005	150	111	189	129	148	727	145.40	3.02

Top Five (5) Departments Visited		
Question		Weighted Average
8		3.64
2		3.49
6		3.42
17		3.34
1		3.33

Least Five (5) Departments Visited		
Question		Weighted Average
26		2.59
23		2.77
24		2.79
13		2.83
18		2.85



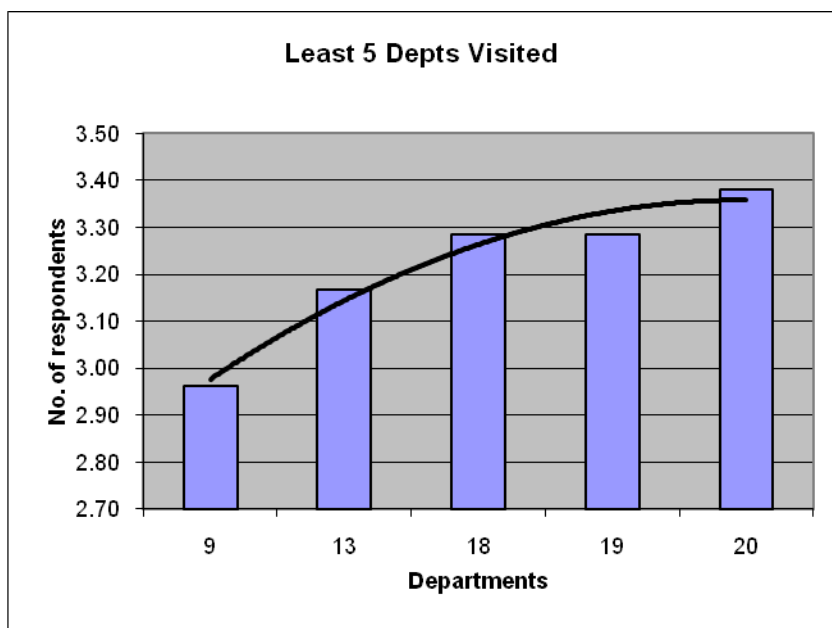
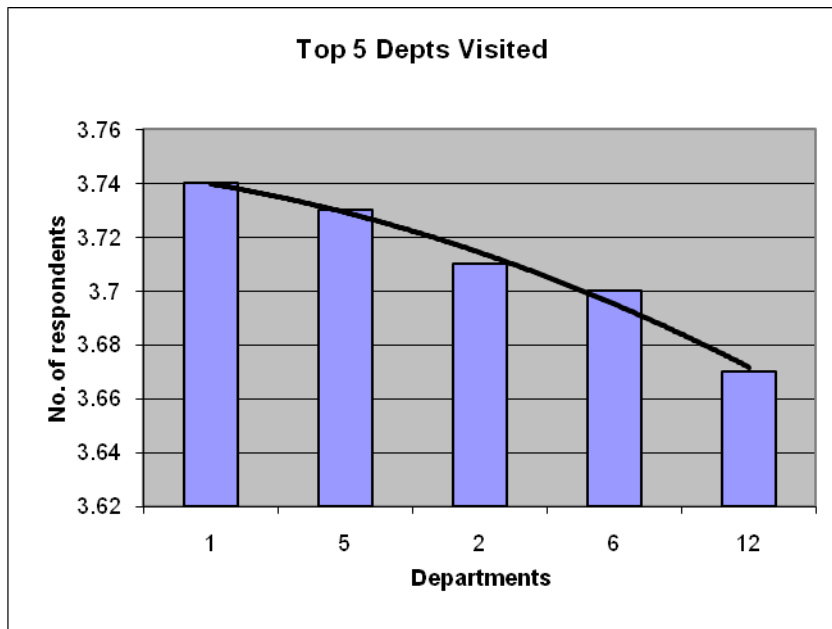
**Table – Question Number 19 C: Priority for Improving Service**

Question	1	2	3	4	5	Total	Average	Weighted Average
8. Police Station/ for Registration of complaint/ FIR	34	59	99	99	440	731	146.20	4.17
17. Electricity connections, quality, timings, cuts, problems	32	53	125	151	385	746	149.20	4.08
2. Land Records, Registration and Transfer of property, copies of other Records, Property Tax, revenue related cases	41	60	118	157	401	777	155.40	4.05
6. Municipal / Civic Services for water supply, sewerage, trade licenses, Birth and death certificates, passing of building plans	31	62	149	139	397	778	155.60	4.04
5. Education from Govt. School/ College - admissions, quality of teaching, attendance, results, certificates, scholarships	42	82	106	146	412	788	157.60	4.02
12. Sales taxes, VAT, Excise, Entry tax, other taxes	43	57	139	139	397	775	155.00	4.02
22. Registration at Employment exchange, Interview calls for Jobs, self employment schemes	54	58	108	129	402	751	150.20	4.02
1. Deputy Commissioner/ SDM/ Tehsildar's Office for Licences, Permits, NOC's, and all kinds of Certificates etc	59	63	123	115	433	793	158.60	4.01
14. Transport Services- Driving Licenses, Vehicle Registrations, renewals, transfers, bus service, mini bus license etc.	38	64	141	141	392	776	155.20	4.01
26. Information under the Right to Information Act, 2005	78	32	102	137	396	745	149.00	3.99
4. Hospital / Dispensaries / PHC for health services like Vaccination, Maternity Care, Family Planning, Medicines, Ambulance Services, Blood Bank, etc.	44	53	143	165	364	769	153.80	3.98
15. Utility Bill Payment – Electricity, water, sewer, phone, mobile	59	65	124	114	419	781	156.20	3.98
16. Food and Civil Supplies – Ration card, ration depots, supplies	36	67	147	140	373	763	152.60	3.98
3. Civil surgeon/ Chief medical Officer's Office for	45	70	143	127	387	772	154.40	3.96

<b>Question</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>Total</b>	<b>Average</b>	<b>Weighted Average</b>
Birth / Death certificate, handicap certificate								
24. Redressal of Grievance in the Government	54	60	139	120	377	750	150.00	3.94
25. Tenders pertaining to all departments/ Agencies	73	45	120	140	370	748	149.60	3.92
9. Industrial project related clearances, approvals, subsidies, labour laws, compliances of Law and Rules (VAT, RTO)	40	63	119	119	303	644	128.80	3.90
10. Requests for construction or repair of roads, bridges, bus stand, schools, other public infrastructure etc.	48	61	162	162	348	781	156.20	3.90
13. Social Security, pensions, Welfare of SC	43	76	120	120	331	690	138.00	3.90
21. Banks, Bank loans, insurance, financing (Micro Credit) etc.	45	83	141	130	369	768	153.60	3.90
11. Rural Development Related demands, projects, grants, water supply, complaints	38	89	136	136	349	748	149.60	3.89
7. Urban Development-quality of service, allotment of plots, passing of plans, change in land use etc.	44	72	152	153	329	750	150.00	3.87
23. Consumer Welfare and Consumer Rights from Consumer Courts, Legal Assistance	52	76	129	167	339	763	152.60	3.87
20. Cooperative Societies Related works – loans, agri inputs etc.	53	76	161	133	330	753	150.60	3.81
18. Agriculture services related- seeds, insecticides, pesticides, fertilizers, irrigation, extension services, Weather Reports, Disaster Warnings	64	92	139	127	323	745	149.00	3.74
19. Procurement of food grains, facilities in mandi, payments, Crop Insurance, contract farming,	65	101	126	142	315	749	149.80	3.72

Top Five (5) Departments Visited		
Question		Weighted Average
1		3.74
5		3.73
2		3.71
6		3.7
12		3.67

Least Five (5) Departments Visited		
Question		Weighted Average
9		2.96
13		3.17
18		3.28
19		3.28
20		3.38

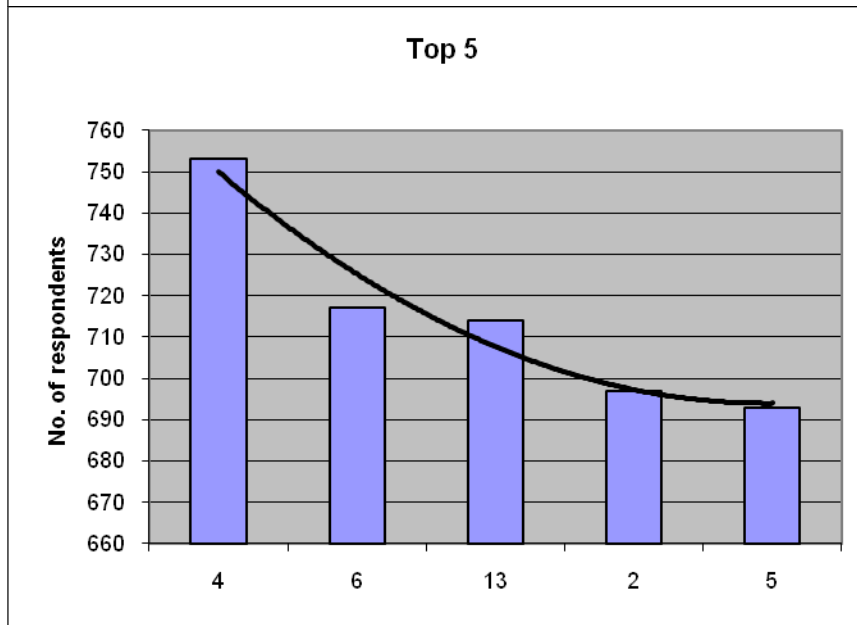
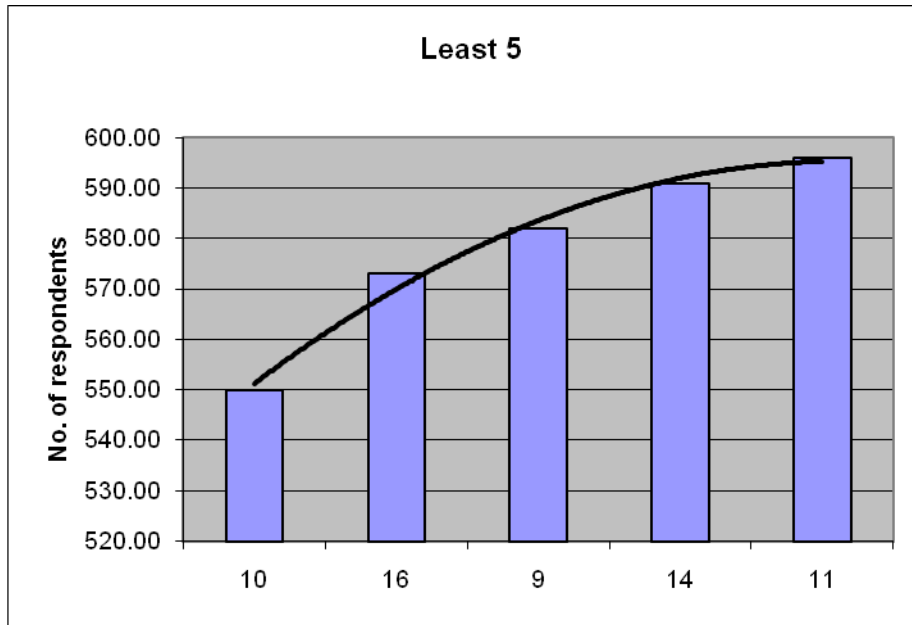


**Table – Question Number 20 - Factors Pertaining to Pain and Harassment**

<b>Question</b>	<b>Total</b>	<b>-2</b>	<b>-1</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>Relevance Index</b>
4. Unreasonable Delay, multiple visits even for small services	849	73	87	109	174	406	753
6. Need to visit many staff members for one single work. Multiple Points of Contact for One task only	849	59	75	136	248	331	717
13. Poor Public Infrastructure / lack of Public Infrastructure and its maintenance in Government offices	849	73	70	140	202	364	714
2. Non availability of Government staff/ dealing hand on the seat	849	56	107	130	196	360	697
5. Not pointing out discrepancies/ shortcomings in the applications in one go	849	53	98	143	213	342	693
8. Non-Cooperative behavior and negative/ rough attitude of Dealing Government Staff	849	76	64	134	248	327	686
15. Collusion between the touts and the Government staff	849	57	79	162	230	321	679
3. Need for filling of multiple forms, filling Same Information in Different Forms	849	80	72	163	197	337	639
17. Multiplicity of agencies without clear boundaries	849	76	68	164	259	282	603
1. Lack of information and guidance on the correct procedures, forms, rules etc	849	84	115	117	181	352	602
7. Non-Responsiveness of Government Staff to the needs / urgency of citizen	849	94	80	135	211	329	601
12. Difficult access to Senior Government Functionaries / officers	849	87	87	114	262	299	599
11. Pervasive Corruption at various levels, demand of speed money by dealing staff	849	101	65	133	237	313	596
14. Lack of knowledge and training of Government Staff	849	89	72	140	255	293	591
9. Limited Working / Visiting Hours with long lunch and tea breaks by Government staff	849	77	100	135	238	299	582
16. Arbitrary Nature of dealings by some staff members without any recourse/ remedy	849	64	77	188	262	258	573
10. Lot of unwanted Holidays further reduce time available to Common man	849	67	89	183	247	263	550
Total Relevance	8937	-2092	-1111	0	3286	8854	
Total	11886	1046	1111	2016	3286	4427	8937

Top 5	
Question	Weighted Average
4	753
6	717
13	714
2	697
5	693

Least Five (5) Departments Visited	
Question	Weighted Average
10	550.00
16	573.00
9	582.00
14	591.00
11	596.00

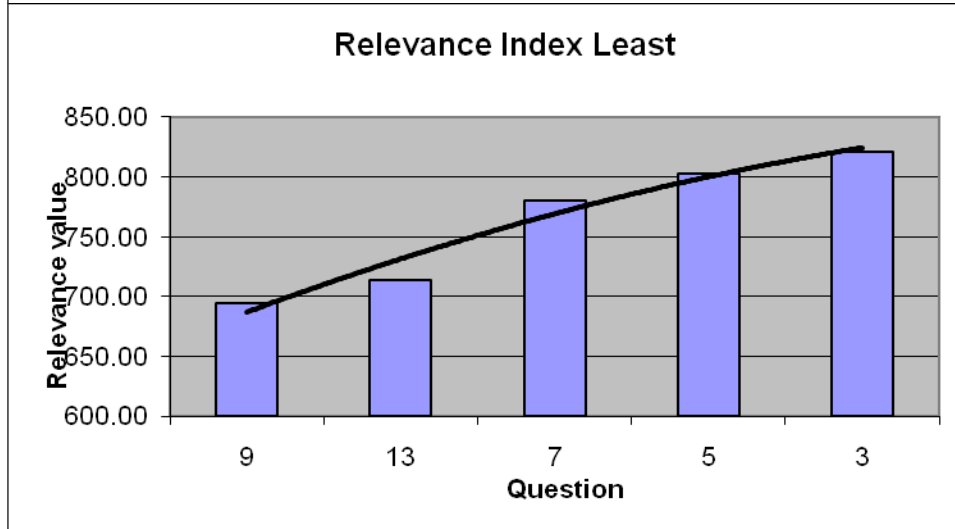
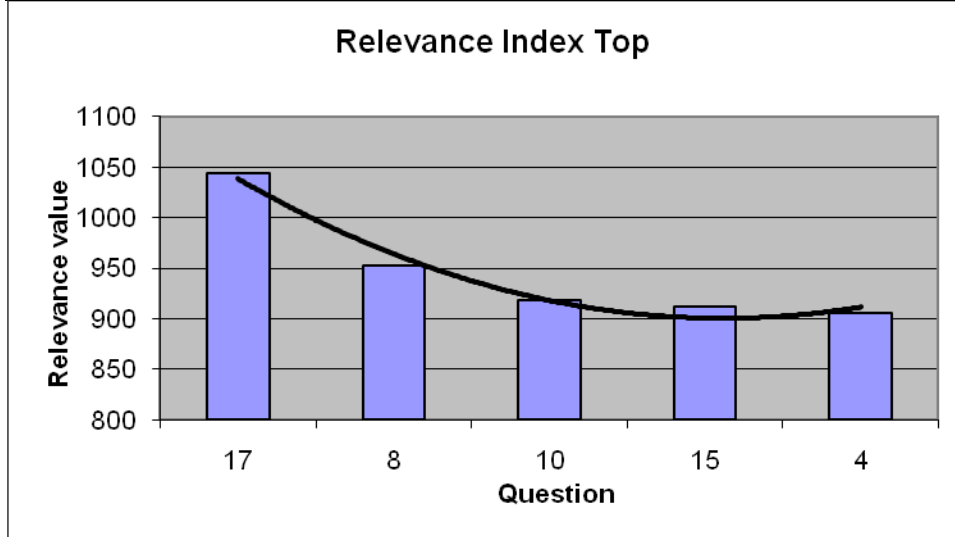


**Table – Question Number 26 - Perception of success factors**

Question	Total	-2	-1	0	1	2	Relevancy Index
17. Overall Convenience and experience of the Citizens	849	18	48	116	206	461	1044
8. Reduction in the corruption levels or improvement in the transparency of Government functioning	849	16	73	128	206	426	953
10. Awareness about the availability of service amongst general masses	849	19	77	116	241	396	918
15. Properly maintained Government record/ data of all kinds including files, registers, citizen record etc.	849	16	99	125	175	434	912
4. Friendliness and Simplicity of procedures and interface, availability of self service options	849	17	68	132	256	376	906
2. Distance of service location/ access point from Citizen's home	849	24	59	135	253	378	902
16. Adequate number of properly trained working hands/ staff	849	22	82	128	224	393	884
11. Percentage of population covered by the service in the district	849	29	60	135	250	375	882
12. Consistency and timeliness of service delivery, Reliability and expectability of service	849	27	65	156	217	384	866
14. Enforcing better accountability of Government staff providing service	849	22	58	144	286	339	862
6. Whether information only or full transaction including payment and delivery of service online possible	849	44	49	149	217	390	860
1. Reduction in time for providing service and improved Speed/ Efficiency	849	55	61	110	242	381	833
3. Service timings and Total number of Hours of service availability including holidays	849	34	60	162	237	356	821
5. Language interface options in which the service is available	849	33	86	140	225	365	803
7. Services of how many departments being provided from the same counter. Completeness of service.	849	39	74	145	250	341	780
13. Reduction of discretion and distortions	849	30	81	186	249	303	714
9. Cost of getting service and its affordability (including both, the direct and the indirect costs)	849	37	83	163	281	285	694
<b>Total</b>	<b>14433</b>	<b>482</b>	<b>1183</b>	<b>2370</b>	<b>4015</b>	<b>6383</b>	<b>14634</b>
<b>Total Relevance</b>	<b>14634</b>	<b>-964</b>	<b>1183</b>	<b>0</b>	<b>4015</b>	<b>12766</b>	

Top Five (5)	
Question	Relevancy Index
17	1044
8	953
10	918
15	912
4	906

Least Five (5)	
Question	Relevancy Index
9	694.00
13	714.00
7	780.00
5	803.00
3	821.00



## APPENDIX – IV

### Data Assumptions

Question number 7			
	Urban	I	1
	Rural + Semi Urban	II	2, 3

Question number 8			
	Single	I	1, 3
	Married	II	3

Question number 10			
	Non workers	I	1, 2, 3
	Work + labor Class	II	4, 5, 6
	Government jobs	III	9, 10, 11, 12
	Business and professionals	IV	13, 14, 15, 16, 17
	Private service	V	8
	Intellectuals	VI	6

Question number 11			
	Not working	I	1
	Working + self-service	II	2, 3
	Not applicable	III	4 to

Question number 12			
	Non tax Paying	I	1, 2
	Tax Paying	II	3

- All respondents below 25 years who did not fill up the marital status were assumed to be unmarried
- 9 respondents who did not mention age were taken as below 25 years.
- All students who did not fill up their income were assumed to be non BPL non Tax payers
- All respondents who did not fill up the qualifications were taken as illiterates
- Data of bureaucrat and politicians were merged as part of the Government
- In some of the questions the respondents have ticked multiple choices though only single ticking was requested
- Valuable advice was sought on the merger of some of the professions/ occupations options
- In the questions with graded responses, it was found that in few of the sub questions, no ticking have been done by the respondents. The range of missing respondents merit from one to 12 out of 849 respondents. However, those missing responses were taken care of by the SPSS while carrying out the analysis and those had a very insignificant effect on the overall outcome of the process. In such cases “exclude cases test my test” option available in SPSS was used.

## APPENDIX – V

### Questionnaires' gist

#### PhD QUESTIONNAIRE for Citizen (Q 1 to 27); Bureaucrat and Politicians; Academia, Business and IT Industry

Objective: The questionnaire is designed to collect data/views of stakeholders on the expectation of stakeholders from Good Governance and the essential factors, their criticality for evolving an effective strategy for sustainable, scalable and profitable Information and Communication Technology (ICT) led e-Governance

1.	<b>Serial No.</b>							
2.	<b>Name of the Respondent</b>							
3.	<b>Address/ Contact Details</b>							
	Address							
	Village / Town / City							
	Phone (optional)							
	Email ID (optional)							
4.	<b>District/ Place of Residence</b>							
	1. Mohali-Chandigarh	2. Bathinda	3. Jalandhar	4. Hoshiarpur	5. Amritsar	6. Sangrur	7. Ludhiana	8. Any Other
5.	<b>Age (Years) as on 1<sup>st</sup> January 2007</b>							
6.	<b>Sex</b>	1. Male			2. Female			
7.	<b>I Reside in</b>	1. Urban Area	2. Semi-Urban Area/ Block/ Sub-Tehsil HQ		3. Rural Area/ Village			
8.	<b>Marital Status</b>	1. Single		2. Married		3. Divorced/ Widow/ Widower		
9.	<b>Educational / Professional Qualifications of Respondent. Please tick (✓) one option.</b>							
	1. Illiterate		2. Under Matric			3. High School, 10 <sup>th</sup> Class		
	4. Graduation- BA, BSc, BCom, BCA, etc		5. Post Graduation MA, MSc, MCom			6. Professional Education		
10.	<b>Profession / Occupation. Please tick (✓) the option. You can select more than one option.</b>							
	1. Non working / Unemployed		2. Student		3. Housewife			
	4. Unskilled worker / labour		5. Semi-skilled / Skilled worker			6. Agriculturist/ Farmer		
	7. Academics/ Teaching		8. Private Service		9. Government / Bureaucrat / PSU Service			
	10. Retired person		11. Defense / Police Personnel			12. Politician		
	13. Industrialist / Manufacturer/ SME Entrepreneur		14. Trader/ Businessman			15. Self-employed Entrepreneur / Worker		
	16. Technical professionals / engineer / doctors/ IT/ Architect/ consultant etc.		17. Business Professionals/ Lawyer/ CA / CS / Management Consultant/ Income Tax etc.			18. Any Other not covered above, please specify		
11.	<b>Profession of the Spouse. Please tick (✓) one option.</b>							
	1. Housewife/ not		2. Working/ In		3. Self employed		4. Not applicable	

	working	Service	
<b>12.</b>	<b>Your Income Level. Please tick (✓) one option.</b>		
	1. Below Poverty Line, BPL Card Holder, Yellow Card Holder		
	2. Not Paying Income Tax but not a BPL Card Holder		
	3. Paying Income Tax		
<b>13.</b>	<b>Do you have access to these communication / entertainment devices? Please tick (✓) the option you use. You can select more than one option.</b>		
	1. No access to TV		
	2. Community TV in Panchayat Ghar/ School/ Neighbourhood		
	3. Personal TV without a cable		
	4. Personal TV with Cable TV facility		
	5. Fixed Line Telephone or WLL Phone at office or home		
	6. Mobile Phone like Airtel, Reliance, Hutch, Tatatel, BSNL, etc.		
	7. Smart Phones/ black berry/ Hand Held Device / Personal Digital Assistant		
<b>14.</b>	<b>Do you have access to a computer and Internet? If yes, then how do you use Computer and Internet? Please tick (✓) the option you use. You can select more than one option.</b>		
	1. I have no Access to a Computer		
	2. I have access to computer with no Internet facility		
	3. Public Kiosk / Cyber Café/ STD / PCO Booth with Computer and Internet facility		
	4. Computer/ laptop with Internet facility at home or in office or with a friend		
	5. Computer and Internet Access through any other way		
<b>15.</b>	<b>What level of Computerized Government Services/ ICT led e- governance services you think citizens want through the Public Kiosk / Common Service Centers/ Suwidha centers/ Personal Computer/ Internet etc.? Please tick (✓) the option you want.</b>		
	1. They do not want any Computerized Government Services or e-Governance Services. The present method is fine.		
	2. To get only the simple Information about the Government schemes and services and their procedure, etc		
	3. To get only the blank application forms and procedures for various Government Services		
	4. To get the forms and procedures and also fill up Application Forms through Internet / Kiosk and submit same Online		
	5. To get the forms and procedures and also fill up Application Forms through Internet / Kiosk and submit same Online and make payments of fee and dues etc. through credit/ debit card online		
<b>16.</b>	<b>Desired timings of Government Service required by you. Please tick (✓) the option you use. You can select more than one option.</b>		
	1. 9 AM to 5 PM on all working days i.e. Monday to Friday (No service on Saturday and Sunday)		
	2. 8 AM to 8 PM on all working days i.e. Monday to Friday (No service on Saturday and Sunday)		
	3. 8 AM to 8 PM on all week days. i.e. Monday to Sunday (Service available on Saturday and Sunday also)		
	4. Want service on all Government Holidays also including Saturdays and Sundays at an extra cost		
	5. Any time any where services on 24X7X365 basis (at an extra cost after standard office hours)		
	6. Special provision for Tatkal Service at an extra cost		
	7. Internet based On-line service (self-service) including on-line payments		
	8. Any Other Timing / Form of Service (Please Specify)		
<b>17.</b>	<b>In what Language you want the Computerised Government Services/ ICT led e-Governance services. Please tick (✓) the option you want. You can select more than one option.</b>		
	1. Punjabi	2. English	
	3. Hindi	4. Assistance by an Operator	

	5. Graphic Signage for illiterate persons		6. Special assistance for Physically Handicapped and challenged persons like Brail assistance for a blind persons			
<b>18.</b>	<b>How important/ relevant, in your opinion, are the following factors for providing a good quality administration and Governance: Please rank each factor on a 5 point scale of ( -2, -1, 0, 1, 2 ) by ticking (✓) one of the five boxes for each factor. ( -2 means most irrelevant, -1 means irrelevant, 0 means neutral, 1 means relevant, 2 means most relevant)</b>					
	1. Providing total freedom to Citizen and noninterference by the Government	-2	-1	0	1	2
	2. Safety of life and property and peaceful law and order	-2	-1	0	1	2
	3. Corruption free dealings with the government	-2	-1	0	1	2
	4. Transparency and accountability in the dealings with the government	-2	-1	0	1	2
	5. Citizen centric services in a responsive manner	-2	-1	0	1	2
	6. Maintaining rule of law and applying the same rules/ yardstick to everyone	-2	-1	0	1	2
	7. Creating new job opportunities in the private sector and the government	-2	-1	0	1	2
	8. Basic Infrastructure development like roads, bridges, power, telecom, Airports, irrigation, transport etc.	-2	-1	0	1	2
	9. Good education facilities by the government which are job oriented	-2	-1	0	1	2
	10. Provide more concessions and freebies by the government, even at the cost of overall development	-2	-1	0	1	2
	11. Good business environment with free-market economy and no black marketing	-2	-1	0	1	2
	12. In reducing inequalities in the society by making special provision for the poor and down trodden	-2	-1	0	1	2
	13. Effectiveness and efficiency of the working of government and its staff	-2	-1	0	1	2
	14. Overall economic development of the state, growth rate of economy	-2	-1	0	1	2
	15. Any other factor (s) (please specify) .....	-2	-1	0	1	2
<b>19.</b>	<b>What is your experience or perception or opinion about various Government institutions and their services on the basis of :</b>					
	<b>4. Frequency of Use of the Services by the citizen</b>					
	<b>5. Level of corruption, inefficiency, harassment or difficulty encountered in getting the service by the citizen</b>					
	<b>6. What should be the priority for improving this service through Computerisation / use of IT/ e-Governance</b>					
	<b>Please rank each department/ service enlisted below, on a scale of 1 to 5 by ticking (✓) one of the five boxes for each factor. (1 being lowest and 5 being highest)</b>					
	<b>Department/ type of service</b>	<b>1. yearly Frequency of use of the Services by you</b>				
		<b>2. Level of Corruption, inefficiency harassment or difficulty encountered</b>				
		<b>3. Priority for improving the service through Computerisation/ use of IT/ E-Governance</b>				
	1. Deputy Commissioner/ SDM/ Tehsildar's Office for Licences, Permits, NOC's, and all kinds of Certificates etc	1	2	3	4	5
	2. Land Records, Registration and Transfer of property, copies of other Records, Property Tax, revenue related cases	1	2	3	4	5
	3. Civil surgeon/ Chief medical Officer's Office for Birth / Death certificate, handicap certificate	1	2	3	4	5
	4. Hospital / Dispensaries / PHC for health services like Vaccination, Maternity Care, Family Planning, Medicines, Ambulance Services, Blood Bank, etc.	1	2	3	4	5
	5. Education from Govt. School/ College - admissions, quality of teaching, attendance, results, certificates, scholarships	1	2	3	4	5
	6. Municipal / Civic Services for water supply, sewerage, trade licenses, Birth and death	1	2	3	4	5

	certificates, passing of building plans					
7.	Urban Development- quality of service, allotment of plots, passing of plans, change in land use etc.	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5		
8.	Police Station/ for Registration of complaint/ FIR	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5		
9.	Industrial project related clearances, approvals, subsidies, labour laws, compliances of Law and Rules (VAT, RTO)	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5		
10.	Requests for construction or repair of roads, bridges, bus stand, schools, other public infrastructure etc.	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5		
11.	Rural Development Related demands, projects, grants, water supply, complaints	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5		
12.	Sales taxes, VAT, Excise, Entry tax, other taxes	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5		
13.	Social Security, pensions, Welfare of SC	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5		
14.	Transport Services- Driving Licenses, Vehicle Registrations, renewals, transfers, bus service, mini bus license etc.	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5		
15.	Utility Bill Payment – Electricity, water, sewer, phone, mobile	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5		
16.	Food and Civil Supplies – Ration card, ration depots, supplies	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5		
17.	Electricity connections, quality, timings, cuts, problems	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5		
18.	Agriculture services related- seeds, insecticides, pesticides, fertilizers, irrigation, extension services, Weather Reports, Disaster Warnings	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5		
19.	Procurement of food grains, facilities in mandi, payments, Crop Insurance, contract farming,	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5		
20.	Cooperative Societies Related works – loans, agri inputs etc.	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5		
21.	Banks, Bank loans, insurance, financing (Micro Credit) etc.	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5		
22.	Registration at Employment exchange, Interview calls for Jobs, self employment schemes	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5		
23.	Consumer Welfare and Consumer Rights from Consumer Courts, Legal Assistance	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5		
24.	Redressal of Grievance in the Government	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5		
25.	Tenders pertaining to all departments/ Agencies	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5		
26.	Information under the Right to Information Act, 2005	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5		
27.	Any other services (please mention)	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5		
<b>20.</b>	<b>Please indicate the relevance of the following factors which may be causing pain and harassment and difficulties to the Citizens in getting the Citizen services from various Government departments</b>					
	<b>Please rank each factor on a 5 point scale of ( -2, -1, 0, 1, 2 ) by ticking (✓) one of the five boxes for each factor. ( -2 means most irrelevant, -1 means irrelevant, 0 means neutral, 1 means relevant, 2 means most relevant)</b>					
	1. Lack of information and guidance on the correct procedures, forms, rules etc	-2	-1	0	1	2
	2. Non availability of Government staff/ dealing hand on the seat	-2	-1	0	1	2
	3. Need for filling of multiple forms, filling Same Information in Different Forms	-2	-1	0	1	2
	4. Unreasonable Delay, multiple visits even for small services	-2	-1	0	1	2
	5. Not pointing out discrepancies/ shortcomings in the applications in one go	-2	-1	0	1	2
	6. Need to visit many staff members for one single work. Multiple Points of Contact for One	-2	-1	0	1	2

	task only					
	7. Non-Responsiveness of Government Staff to the needs / urgency of citizen	-2	-1	0	1	2
	8. Non-Cooperative behavior and negative/ rough attitude of Dealing Government Staff	-2	-1	0	1	2
	9. Limited Working / Visiting Hours with long lunch and tea breaks by Government staff	-2	-1	0	1	2
	10. Lot of unwanted Holidays further reduce time available to Common man	-2	-1	0	1	2
	11. Pervasive Corruption at various levels, demand of speed money by dealing staff	-2	-1	0	1	2
	12. Difficult access to Senior Government Functionaries / officers	-2	-1	0	1	2
	13. Poor Public Infrastructure / lack of Public Infrastructure and its maintenance in Government offices	-2	-1	0	1	2
	14. Lack of knowledge and training of Government Staff	-2	-1	0	1	2
	15. Collusion between the touts and the Government staff	-2	-1	0	1	2
	16. Arbitrary Nature of dealings by some staff members without any recourse/ remedy	-2	-1	0	1	2
	17. Multiplicity of agencies without clear boundaries	-2	-1	0	1	2
	18. Any other factor ( please specify) .....	-2	-1	0	1	2
<b>21.</b>	<b>How would you prefer to get the computerized Citizen Services/ e-Governance services, mentioned above, from the Government? Please tick (✓) the option you want. You can select more than one option.</b>					
	1. Free of cost even if these have to be directly taken through the Government Offices only at the same quality level					
	2. Through Banks, Community Centers, Panchayats, Public Kiosks and other similar agencies in my locality duly authorized by the Government at a reasonable cost					
	3. Through the private dealers/ brokers in my locality duly authorized by Government at a reasonable cost					
	4. Private and personal service, I don't care even if it is through un-authorized dealers/ brokers/ touts					
	5. Online service through Common Service Centers or Call Centers at a reasonable cost					
	6. Online self service through Internet, Cyber café, Internet kiosks at community centers free of cost					
<b>22.</b>	<b>In what timeframe you want the computerized Citizen Services/ e-Governance services to be available to you depending upon the financing method for providing these services. Please tick (✓) the option you want.</b>					
	1. Six months to one year timeframe at the cost to be paid by the citizen					
	2. One year to three years timeframe at half the cost to be paid by the citizen					
	3. Three to five years timeframe at one fourth the cost to be paid by the citizen					
	4. Five to 10 years time frame at no cost to the citizen					
<b>23.</b>	<b>How much extra than the normal charges are you willing to pay for service delivery closer to your doorstep for those services for which presently you have to travel to District/ state Head Quarter. Please tick (✓) the option you want.</b>					
	1. District Office HQ at Basic Cost (For example say 20 Rs. For Birth Certificate)					
	2. Tehsil Level Office at 1.5 times of the Basic Cost (which becomes 30 Rs)					
	3. Block Level Office at 2 times of the Basic Cost ( which becomes 40 Rs)					
	4. At Municipal Ward / Village Panchayat Level at 2.5 times of the Basic Cost ( which becomes 50 Rs.)					
<b>24.</b>	<b>What would be your preferred Mode of payment for utility Bills and other computerized Citizen Services/ e-Governance services. RANK EACH MODE ON A SCALE OF 1 to 5 by ticking (✓) one of the five boxes for each mode. (1 being least preferred and 5 being most preferred choice)</b>					
	1. Cash at the service counter where service is being provided	1	2	3	4	5
	2. Cash in the bank/ Post Office/ Government Treasury	1	2	3	4	5
	3. Bank Cheque/ Bank draft/ Indian Postal Order	1	2	3	4	5
	4. Online Payments / Online Bank Transfers on the Internet	1	2	3	4	5
	5. At any ATM through an ATM card or Credit Card or Debit card	1	2	3	4	5
	6. Standing Instructions to my Bank for transfer of utility payments against bills	1	2	3	4	5
	7. Cash payment may be collected from my house, may be at extra cost	1	2	3	4	5

	8. Electronic Payment without disclosing your Credit Card number. (Prepaid Coupons Like Bill Pay, Paisa Pay and Pay Pal)	1	2	3	4	5
	9. Any other Mode (please specify) .....	1	2	3	4	5
<b>25.</b>	<b>What would be the importance / significance of each of the following identified barriers/ challenges / risks/ hindrances for effective computerized Citizen Services/ e-Governance services. Please rank each factor on a 5 point scale of ( -2, -1, 0, 1, 2 ) by ticking (✓) one of the five boxes for each factor. ( -2 means not at all important, -1 not important, 0 means neutral, 1 means important, 2 means most important)</b>					
	1. Pressure from vested interest groups/ Politician	-2	-1	0	1	2
	2. Lack of initiative and participation from the Government officials as well as citizens	-2	-1	0	1	2
	3. Lack of Bureaucratic commitment and Resistance by Government Staff for various reasons	-2	-1	0	1	2
	4. Lack of Infrastructure (Building, Electric Power, Stationary, Technology- Internet, networking, Computers etc.)	-2	-1	0	1	2
	5. Lack of Training of Government staff/ their Capacity to handle technology	-2	-1	0	1	2
	6. Resistance by the forces benefiting from Corruption, especially the Financial corruption	-2	-1	0	1	2
	7. Lack of Awareness and education of end users/ Citizen/ stakeholders	-2	-1	0	1	2
	8. Any other factor ( please specify) .....	-2	-1	0	1	2
<b>26.</b>	<b>What is, in your perception, opinion or understanding, the relevance of following factors for contributing to the success or Effectiveness for Improved Services through Computerized Government Services / e-Governance. Please rank each factor on a 5 point scale of ( -2, -1, 0, 1, 2 ) by ticking (✓) one of the five boxes for each factor. ( -2 means most irrelevant, -1 means irrelevant, 0 means neutral, 1 means relevant, 2 means most relevant)</b>					
	1. Reduction in time for providing service and improved Speed/ Efficiency	-2	-1	0	1	2
	2. Distance of service location/ access point from Citizen's home	-2	-1	0	1	2
	3. Service timings and Total number of Hours of service availability including holidays	-2	-1	0	1	2
	4. Friendliness and Simplicity of procedures and interface, availability of self service options	-2	-1	0	1	2
	5. Language interface options in which the service is available	-2	-1	0	1	2
	6. Whether information only or full transaction including payment and delivery of service online possible	-2	-1	0	1	2
	7. Services of how many departments being provided from the same counter. Completeness of service.	-2	-1	0	1	2
	8. Reduction in the corruption levels or improvement in the transparency of Government functioning	-2	-1	0	1	2
	9. Cost of getting service and its affordability (including both, the direct and the indirect costs)	-2	-1	0	1	2
	10. Awareness about the availability of service amongst general masses	-2	-1	0	1	2
	11. Percentage of population covered by the service in the district	-2	-1	0	1	2
	12. Consistency and timeliness of service delivery, Reliability and expectability of service	-2	-1	0	1	2
	13. Reduction of discretion and distortions	-2	-1	0	1	2
	14. Enforcing better accountability of Government staff providing service	-2	-1	0	1	2
	15. Properly maintained Government record/ data of all kinds including files, registers, citizen record etc.	-2	-1	0	1	2
	16. Adequate number of properly trained working hands/ staff	-2	-1	0	1	2
	17. Overall Convenience and experience of the Citizens	-2	-1	0	1	2
	18. Any other factor (please specify) .....	-2	-1	0	1	2
<b>27.</b>	<b>The way for creating awareness and training of citizens for using computerized services/ e- governance services in the most effective manner. Please tick (✓) the option you feel is the best. You can select more than one option.</b>					
	1. Free computer education at primary school level					
	2. Computer education at high school level at a nominal fee					
	3. Computer education at higher secondary school level at a fee					

	4. Computer education at college level at a fee					
	5. Professional computer education at certificate, diploma and degree level					
	6. Special computer literacy programs should be started for the citizens and business users					
	7. Any other Method (please specify) .....					
<b>28.</b>	<b>What in your opinion or experience are the factors responsible for pain and harassment and causing difficulties to the Citizens in getting the Citizen services from various Government departments and also resulting in ineffectiveness or Corruption.</b> Please rank each factor on a 5 point scale of ( -2, -1, 0, 1, 2 ) by ticking (✓) one of the five boxes for each factor. ( -2 means most irrelevant, -1 means irrelevant, 0 means neutral, 1 means relevant, 2 means most relevant)					
	1. Very old laws and rules which are sometime impractical and need to be changed	-2	-1	0	1	2
	2. Complexity of rules, long procedures and Lack of clarity on the same	-2	-1	0	1	2
	3. Lack of proper vision and Planning by departments for improving delivery of services	-2	-1	0	1	2
	4. Un-mindful application of rules especially by the lower staff	-2	-1	0	1	2
	5. Excessive discretion at the hands of Govt functionaries which is sometime misused	-2	-1	0	1	2
	6. Excessive workload with Government functionaries dealing with important areas	-2	-1	0	1	2
	7. Inefficiency, negative mindset and lethargy on part of Government employees	-2	-1	0	1	2
	8. Lack of training of Government staff in customers/ citizens Services	-2	-1	0	1	2
	9. Lack of Accountability mechanism for the Staff for delays and harassment of citizens	-2	-1	0	1	2
	10. Lack of proper Monitoring of cases and projects by senior officers	-2	-1	0	1	2
	11. Weak Disciplinary Action against corrupt and inefficient	-2	-1	0	1	2
	12. Weak and Slow Redressal of Grievances Mechanisms	-2	-1	0	1	2
	13. Non-Responsiveness of the Government to the changing needs of business and economy	-2	-1	0	1	2
	14. Collusion of Officials with Touts	-2	-1	0	1	2
	15. Incomplete and incorrect applications / papers by the citizen	-2	-1	0	1	2
	16. Unjust request by the citizens/ applicants not within the rules	-2	-1	0	1	2
	17. Slow implementation of Computerisation/ eGovernance	-2	-1	0	1	2
	18. Any other factor ( please specify) .....	-2	-1	0	1	2
<b>29.</b>	<b>Please mention the level of importance to be given to each variable for an effective Good Governance framework through the use of IT.</b> Please rank each factor on a 5 point scale of ( -2, -1, 0, 1, 2 ) by ticking (✓) one of the five boxes for each factor. ( -2 means not at all important, -1 not important, 0 means neutral, 1 means important, 2 means most important)					
	1. Political will, support and patronage	-2	-1	0	1	2
	2. Basic literacy and Awareness amongst citizens for being able to use the service	-2	-1	0	1	2
	3. Problem Identification for each department/ service	-2	-1	0	1	2
	4. Process simplification, improvements and reengineering	-2	-1	0	1	2
	5. Availability of proper IT based Solution to the problem	-2	-1	0	1	2
	6. Public Usage, friendliness and Appropriateness of service	-2	-1	0	1	2
	7. Public Acceptability of service methods and modes	-2	-1	0	1	2
	8. Public Affordability of cost of service	-2	-1	0	1	2
	9. Public Accessibility, Reachability and Coverage of the service	-2	-1	0	1	2
	10. Technical feasibility, scalability, robustness and replicability of the IT solution	-2	-1	0	1	2
	11. Financial sustainability of the service model/ Government's financial support	-2	-1	0	1	2
	12. Participation of Local self Government ( Municipal Committees and Panchayats),	-2	-1	0	1	2
	13. Support and participation of of local communities and NGOs for creating awareness	-2	-1	0	1	2

	14. Marketing of services, their awareness and Encouragement of people to use them	-2	-1	0	1	2	
	15. Physical Infrastructure i.e. building, interiors, power, furniture, PCs etc.	-2	-1	0	1	2	
	16. Regular Monitoring and feedback to enforce accountability, systems and rule of law	-2	-1	0	1	2	
	17. Capacity building and Training of Government staff and operators	-2	-1	0	1	2	
	18. Selective Disintermediation (removal/ elimination of intermediaries / middlemen)	-2	-1	0	1	2	
	19. Clarity on Stakeholders' roles and responsibilities	-2	-1	0	1	2	
	20. Clear Benefits and Return on Investments for the Stakeholders/ Government	-2	-1	0	1	2	
	21. If you consider any factor is missed out, please specify .....	-2	-1	0	1	2	
<b>30.</b>	<b>Please rank the severity of following key issues, with respect to the existing national and state level e- governance policies. RANK each issue ON A SCALE OF 1 to 5 (1 being least severe and 5 being the most severe issue) (This question is only for the Bureaucrats (32) / Professional/ Academia/ IT Industry)</b>						
	1. Policies and plans not integrated with the local requirements of citizens/ departments	1	2	3	4	5	
	2. Standalone state-level policies and applications not integrated with national requirements	1	2	3	4	5	
	3. Absence of policies and regulatory framework for critical issues like database creation, data sharing, security and privacy, Intellectual Property Rights, cyber crimes etc.	1	2	3	4	5	
	4. Insufficient employee training, officers motivation and public awareness	1	2	3	4	5	
	5. Policies do not lay down roadmaps for integration of services within and outside States at a later date	1	2	3	4	5	
	6. Local language interfaces not uniformly developed	1	2	3	4	5	
	7. Well defined policy framework for sustainability, scalability and profitability of E-Governance not in place	1	2	3	4	5	
	8. If you consider any factor important, please specify .....	1	2	3	4	5	
<b>31.</b>	<b>Your level of belief in the use of Technology and e-Governance is relevant in the Indian Scenario and, if properly implemented, would solve the problems of Indian Government Systems. Please tick (✓) one option. (This question is only for the Bureaucrats (33) / Professional/ Academia/ IT Industry)</b>						
	1. Fully solve the problems						
	2. Would solve the problems to a Large Extent						
	3. Would not make any difference						
	4. would make to little diffrence						
	5. Not At All						
<b>32.</b>	<b>Please rank the following factors on a scale of 1 to 5 , (1 being lowest and 5 being highest relevance) which you consider the pitfalls in the existing ICT led governance policies / projects.</b>						
	1. Basic Technology Infrastructure, its cost, open technology standards, reliability, robustness, upgradeability, AMC	1	2	3	4	5	
	2. Connectivity, Access to network services, its spread, costing, bandwidth, reliability	1	2	3	4	5	
	3. Use of the Internet in business, government, Educational Institutions and homes	1	2	3	4	5	
	4. Promotion and facilitation (industry led standards)	1	2	3	4	5	
	5. Skills and human resources (education, basic skills for operating PC, advance skills in IT)	1	2	3	4	5	
	6. Positioning for the digital economy in terms of taxes and tariffs, industry self regulation, government regulations, consumer trust etc.	1	2	3	4	5	
	7. Interest and Needs of the common man overlooked.	1	2	3	4	5	
	8. Lack of Accountability	1	2	3	4	5	
	9. Financial sustainability, Scalability and Profitability	1	2	3	4	5	
	10. Consumer and Business Adoption of Information and Communication Technology	1	2	3	4	5	
	11. Social and Cultural Infrastructure for using Information and Communication Technology	1	2	3	4	5	
	12. Legal and Policy Environment for promoting the use of ICT	1	2	3	4	5	

	13. Supporting e-Services by the Government	1	2	3	4	5	
	14. Development of Public Private Partnership and Private Enterprise	1	2	3	4	5	
	15. Capacity of private sector to handle projects of large size	1	2	3	4	5	
	16. If you consider any factor important, please specify .....	1	2	3	4	5	
<b>33.</b>	<b>What, in your opinion, is the importance of the following factors for measuring the Effectiveness/ impact/ success of an e-Governance project / service?</b> Please rank each factor on a 5 point scale of ( -2, -1, 0, 1, 2 ) by ticking (✓) one of the five boxes for each factor. ( -2 means not at all important, -1 not important, 0 means neutral, 1 means important, 2 means most important). Bureaucrat (34)						
	1. Citizen centric approach by all departments while redesigning/ providing service	-2	-1	0	1	2	
	2. Political Will, commitment and Leadership	-2	-1	0	1	2	
	3. Proper Policy formulation and its implementation	-2	-1	0	1	2	
	4. Making the procedures and Process people friendly rather than Government friendly through Government process re-engineering	-2	-1	0	1	2	
	5. Capacity Building at all level i.e. Imparting the proper training knowledge and empowerment to all stakeholders	-2	-1	0	1	2	
	6. Involving all stakeholders at all levels while redesigning and implementing services	-2	-1	0	1	2	
	7. Change Management- of Government staff, processes and services	-2	-1	0	1	2	
	8. Choice of Technology, its reliability, future roadmap, cost of ownership	-2	-1	0	1	2	
	9. Financial Model of service Delivery and its Self sustainability of service	-2	-1	0	1	2	
	10. Creating and maintaining ICT related infrastructure effectively	-2	-1	0	1	2	
	11. Availability of Adequate Funds for infrastructure/ manpower wherever required	-2	-1	0	1	2	
	12. Establishing and maintaining common access infrastructure specially for the poor	-2	-1	0	1	2	
	13. Rightsizing of Manpower (or not creation of additional posts for increased work)	-2	-1	0	1	2	
	14. Total savings to the Government through cost reduction	-2	-1	0	1	2	
	15. Additional revenue generation in the Government	-2	-1	0	1	2	
	16. Time-bound implementation of the e-Governance project	-2	-1	0	1	2	
	17. Project management during and after the implementation	-2	-1	0	1	2	
	18. Accountability resulting from the service	-2	-1	0	1	2	
	19. Transparency resulting from the service	-2	-1	0	1	2	
	20. Auditability of service by independent agencies	-2	-1	0	1	2	
	21. Scalability and Replicability of service	-2	-1	0	1	2	
	22. Responsiveness of the service to the changing needs of the people	-2	-1	0	1	2	
	23. Creation of Employment by Private Sector Partner / Self-Employment generation	-2	-1	0	1	2	
	24. Removal of digital divide / penetration of ICT at all levels of society	-2	-1	0	1	2	
	25. If you consider any factor is missed out, please specify .....	-2	-1	0	1	2	
<b>34.</b>	<b>What, in your opinion, is the importance of the following Direct / Indirect Risks or Threats Involved while implementing Good Governance through the use of IT/ e-Governance.</b> Please rank the following factors on a scale of 1 to 5 , (1 being lowest risk/ threat and 5 being highest risk/ threat ) (This question is only for the Bureaucrats(35) / Professional/ Academia/ IT Industry)						
	1. Resistance by political masters and bureaucracy	1	2	3	4	5	
	2. Resistance by citizen, Government staff to change	1	2	3	4	5	
	3. This may create Digital divide which may further widen disparity	1	2	3	4	5	
	4. Privacy of citizen may be intruded	1	2	3	4	5	
	5. High Dependency of technology mostly from MNCs	1	2	3	4	5	
	6. Quick obsolescence of technology, huge cost of upgradation	1	2	3	4	5	

	7. Threats of increasing Cyber crimes, Security, data protection and Privacy Laws	1	2	3	4	5
	8. There could be reduction in Jobs in the Government	1	2	3	4	5
	9. Risk of Failure of e-Governance projects based on which services are being provided	1	2	3	4	5
	10. Huge capital Costs Involved for providing basic infrastructure	1	2	3	4	5
	11. Affordability of service by the public	1	2	3	4	5
	12. Benefits of service may not reach the poor and down trodden	1	2	3	4	5
	13. If you consider any factor is missed out, please specify .....	1	2	3	4	5
<b>35. How the implementation of e- governance would affect your own career. Please rank each factor on a 5 point scale of ( -2, -1, 0, 1, 2 ) by ticking ( ✓ ) one of the five boxes for each factor. ( -2 means most adversely, -1 means adversely, 0 means neutral, 1 means positively, 2 means most positively)</b>						
	1. Implementation of e governance would create more problems than it solves. It would create unemployment and digital divide, specially amongst the poor strata of society	-2	-1	0	1	2
	2. Neither our infrastructure nor our government machinery is presently geared to provide e-Governance services which should be introduced slowly	-2	-1	0	1	2
	3. E-governance is not a solution to most of our problems. Implementation of a governance would therefore bring only cosmetic improvements in the delivery of citizen services	-2	-1	0	1	2
	4. With the implementation of the e-governance, the executive will lose control of the government as in the computerized environment nobody would have any discretion left.	-2	-1	0	1	2
	5. e-Governance will provide lot of political/ administrative mileage with voters/ citizens as the overall quality of government service to the citizen will improve	-2	-1	0	1	2
	6. Implementation of the governance would bring in the radical changes in the way government functions to the and would bring in real benefit to the citizen	-2	-1	0	1	2
	7. Implementation of e governance is absolutely essential for bringing the quality of citizen service delivery in line with expectations of a modern day Indian citizen. This would be an engine of growth.	-2	-1	0	1	2
<b>36. Please rate the effectiveness of the following methods in creating awareness and training the Government staff in the use of Information and Communication Technology for providing e- governance services RANK EACH FACTOR ON A SCALE OF 1 to 5 (1 being the least effective and 5 being most effective)</b>						
	1. Computer literacy should be made compulsory for all Group A, B and C government jobs in future	1	2	3	4	5
	2. Computer literacy is also important for the elected representatives	1	2	3	4	5
	3. Basic computer literacy should also be provided to the existing government staff	1	2	3	4	5
	4. Basic computer literacy should be made compulsory for all future promotions in Govt.	1	2	3	4	5
	5. Special computer literacy programs should be started for the citizens and business users	1	2	3	4	5
	6. Any other Method (please specify) .....	1	2	3	4	5

## APPENDIX – VI

### List of Publications

1. Kalsi, N.S., Ravi Kiran and Vaidya S. C (2009), ' Effective e-Governance for Good Governance in India,' International Journal of Business Research Papers, <http://www.bizresearchpapers.com>, Vol.5 No.1, Jan.
2. Kalsi, N.S., Ravi Kiran and Vaidya S. C. (2009), ' Changing Perspectives and Pragmatics of Good Governance and E- Governance in India: A Shared Vision of Citizens,' International Journal of E Governance, [www.inderscience.com/browse/index.php](http://www.inderscience.com/browse/index.php)
3. Kalsi, N.S., Ravi Kiran and Vaidya S. C. (2009), ICT And Good Governance: A Study Of Indian Environment, *E-Governance in Practice*, Gift Publications, Vol 1, No 2, pp10-25.
4. Kalsi, N.S., Ravi Kiran and Vaidya S. C. (2009), ICT Information and Communication Technology For Good Governance In India,' ICFAI journal of Public Administration accepted for Publication.